

**INITIAL STATEMENT OF REASONS  
FOR PROPOSED BUILDING STANDARDS  
OF THE STATE FIRE MARSHAL  
REGARDING THE 2019 CALIFORNIA FIRE CODE  
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 9  
(SFM 04/19)**

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

**STATEMENT OF SPECIFIC PURPOSE, PROBLEM, RATIONALE and BENEFITS**

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

**Item 1. CHAPTER 1**

**DIVISION II**

**SCOPE AND ADMINISTRATION**

**SECTION 105  
PERMITS**

**Section: 105.6, 105.6.52 (New), 105.7.2, 105.7.3**

**Reason:**

The addition of energy storage system (ESS) requirements into the 2018 International Fire Code was an initial effort to address system (ESS) technologies for an expanded number of grid related energy storage applications. The new requirements were a huge step toward addressing modern ESS technologies and grid based applications. However as written the requirements made it difficult to apply appropriate safety requirements for different installations, each with their own risks and exposures. Case in point, a lead acid battery ESS installation in an unmanned rural telecommunications repeater doesn't present the same risks and exposures as a lithium-ion battery ESS installation in a mixed occupancy high rise in an urban area.

Since the 2018 ESS requirements were developed there has been a lot of work done by private and government stakeholders to enhance ESS installation requirements, including the initial drafting of the NFPA 855 Energy Storage System standard. The ICC Fire Code Action Committee's ESS work group, which includes 45+ code officials, manufacturers, users and industry experts identified several areas in the 2018 code that needed to be addressed to provide requirements that better address the hazards and exposures associated with various types of ESS installations, technologies and operations.

This section rewrite retains many of the basic protection concepts in the 2018 code, but also provide customized requirements for different types of installations and different types of ESS technologies in use today. We chose to replace the section in its entirety, rather than trying to edit existing text.

### **Section: 105.6.52 (New)**

Mobile ESS operations, consisting of lithium-ion batteries on trailers or skids are being deployed to locations to provide a temporary source of power. An operational permit is required for the mobile operations.

To summarize this proposal, developed by a large industry and code official work group, more effectively protects ESS installations based on knowledge gained since last code cycle. It provides protection customized for the types of installations that are being deployed today, instead of using the “one size fits all” type of protection in the 2018 code.

The code change to the section 105 refine the regulation to include different types of installations in use such as standalone systems or systems within a high-rise building.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. Some of the requirements in this proposal have the potential to increase the cost of providing ESS installations. However, some of the provisions in this proposal better address risks and owner/user needs in dedicated use (utility) buildings and outdoor remote installations, and will probably decrease the cost of those installations as compared to installations installed using the 2018 International Fire Code requirements. (F203-18)

### **[ENERGY STORAGE SYSTEMS 2019 INTERVEING PROPOSALS]**

#### **[Associated Sections in Part 9, California Fire Code]:**

105.6, 105.6.52 (New), 105.7.2, 105.7.3, 202 (New), TABLE 903.2.11.6, 907.2.22, 907.2.23 (Delete), 911.1, TABLE 911.1, 911.4 (New), 1201.1, 1201.3, 1202.1 (New), 1203.2.6, 1203.2.19, 1205.1, 1205.5, 1205.14 (New), 1206.1, 1206.1.1 (New), 1206.1.2 (New), 1206.1.2.1 (New), TABLE 1206.1 (New), 1206.1.3 (New), 1206.1.4 (New), 1206.1.4.1 (New), 1206.1.4.2 (New), 1206.1.4.3 (New), 1206.1.5 (New), 1206.1.6 (New), 1206.1.6.1 (New), 1206.1.6.2 (New), TABLE 1206.2 (Delete), 1206.2, 1206.2.1, 1206.2.1.1 (New), 1206.2.1.2 (New), 1206.2.2, 1206.2.2.1 (New), 1206.2.3, 1206.2.3.1 (Delete), 1206.2.3.2 (Delete), 1206.2.3.3 (Delete), 1206.2.4 (Delete), 1206.2.5 (Delete), 1206.2.6 (Delete), 1206.2.7 (Delete), 1206.2.8 (Delete), 1206.2.8.1 (Delete), 1206.2.8.2 (Delete), 1206.2.8.3 (Delete), 1206.2.8.4 (Delete), 1206.2.8.5 (Delete), 1206.2.8.5.1 (Delete), 1206.2.8.6 (Delete), 1206.2.8.6.1 (Delete), 1206.2.8.6.2 (Delete), 1206.2.8.7 (Delete), 1206.2.8.7.1 (Delete), 1206.2.8.7.2 (Delete), 1206.2.8.7.3 (Delete), 1206.2.8.7.4 (Delete), TABLE 1206.2.9 (Delete), 1206.2.9 (Delete), 1206.2.9.1 (Delete), 1206.2.10 (Delete), 1206.2.10.1 (Delete), 1206.2.10.2 (Delete), 1206.2.10.3 (Delete), 1206.2.10.4 (Delete), 1206.2.10.5 (Delete), 1206.2.10.6 (Delete), 1206.2.10.7 (Delete), 1206.2.10.8 (Delete), 1206.2.11 (Delete), 1206.2.11.1 (Delete), 1206.2.11.1.1 (Delete), 1206.2.11.2 (Delete), 1206.2.11.3 (Delete), 1206.2.11.3.1 (Delete), 1206.2.11.3.2 (Delete), 1206.2.11.4 (Delete), 1206.2.11.4.1 (Delete), 1206.2.11.5

(Delete), 1206.2.12 (Delete), 1206.2.12.1 (Delete), 1206.2.12.2 (Delete), 1206.2.12.3 (Delete), 1206.2.12.4 (Delete), 1206.2.12.5 (Delete), 1206.2.12.6 (Delete), 1206.3, 1206.3.1, 1206.3.2, 1206.3.2.1 (Delete), 1206.3.2.2 (Delete), 1206.3.2.3 (Delete), 1206.3.2.4 (Delete), 1206.3.2.5 (Delete), 1206.3.2.6 (Delete), 1206.3.2.6.1 (Delete), 1206.3.2.6.2 (Delete), 1206.3.2.6.3 (Delete), 1206.3.2.6.4 (Delete), 1206.3.3, 1206.3.4, 1206.3.4.1 (Delete), 1206.3.4.2 (Delete), 1206.3.4.3 (Delete), 1206.3.4.4 (Delete), 1206.3.4.5 (Delete), 1206.3.5, 1206.3.5.1 (Delete), 1206.3.5.1.1 (Delete), 1206.3.5.2 (Delete), 1206.3.5.3 (Delete), 1206.3.5.3.1 (Delete), 1206.3.5.4 (Delete), 1206.3.6, 1206.3.7 (New), 1206.3.7.1 (New), 1206.3.8 (New), 1206.3.9 (New), 1206.4 (New), 1206.4.1 (New), 1206.4.2 (New), 1206.4.3 (New), 1206.4.4 (New), 1206.4.5 (New), 1206.4.6 (New), 1206.4.7 (New), 1206.4.8 (New), 1206.4.9 (New), 1206.4.10 (New), 1206.4.11 (New), 1206.4.12 (New), 1206.5 (New), 1206.5.1 (New), 1206.5.2 (New), 1206.5.2.1 (New), TABLE 1206.5 (New), 1206.5.3 (New), 1206.5.4 (New), 1206.5.4.1 (New), 1206.5.5 (New), 1206.5.5.1 (New), 1206.5.6 (New), 1206.5.7 (New), 1206.5.8 (New), 1206.6 (New), TABLE 1206.6 (New), 1206.6.1 (New), 1206.6.1.1 (New), 1206.6.1.2 (New), 1206.6.1.2.1 (New), 1206.6.1.2.2 (New), 1206.6.1.2.3 (New), 1206.6.1.2.4 (New), 1206.6.2 (New), 1206.6.2.1 (New), 1206.6.2.2 (New), 1206.6.2.3 (New), 1206.6.3 (New), 1206.6.4 (New), 1206.6.5 (New), 1206.7 (New), 1206.7.1 (New), 1206.7.2 (New), TABLE 1206.7 (New), 1206.7.3 (New), 1206.7.4 (New), 1206.8 (New), 1206.8.1 (New), 1206.8.2 (New), TABLE 1206.8 (New), 1206.8.3 (New), 1206.8.4 (New), 1206.9 (New), 1206.9.1 (New), 1206.9.2 (New), TABLE 1206.9 (New), 1206.9.3 (New), 1206.9.4 (New), 1206.9.5 (New), 1206.9.6 (New), 1206.10 (New), 1206.10.1 (New), 1206.10.2 (New), 1206.10.3 (New), 1206.10.4 (New), 1206.10.4.1 (New), 1206.10.5 (New), 1206.10.6 (New), 1206.10.7 (New), 1206.10.7.1 (New), 1206.10.7.2 (New), 1206.10.7.3 (New), 1206.10.7.4 (New), 1206.10.7.5 (New), 1206.10.7.6 (New), 1206.10.7.7 (New), TABLE 1206.10 (New), 1206.11 (New), 1206.11.1 (New), 1206.11.2 (New), 1206.11.2.1 (New), 1206.11.3 (New), 1206.11.4 (New), 1206.11.5 (New), 1206.11.6 (New), 1206.11.7 (New), 1206.11.8 (New), 1206.11.9 (New), 1206.11.10 (New), TABLE 2204.1, [Chapter 80] NFPA 68 (New), NFPA 76 (New), UL 1974 (New, UL 9540A (New)

## **Item 2. CHAPTER 2 DEFINITIONS**

### **SECTION 202 GENERAL DEFINITIONS**

#### **Definitions: Battery Types, Lead-acid battery, Nickel-cadmium (Ni-Cd) battery**

Definitions: Battery Types, Lead-acid battery, Nickel-cadmium (Ni-Cd) battery, Capacitor Array (Delete), Capacitor Energy Storage System (Delete), Pre-engineered capacitor energy storage system (Delete), Pre-packaged capacitor energy storage system (Delete), Energy Storage Management System, Energy Storage System (ESS) (New), Energy Storage System Cabinet (New), Energy Storage System Commissioning (New), Energy Storage System Decommissioning (New), Energy Storage System Electrochemical (New), Energy Storage System, Mobile (New), Energy Storage System Stationary (New), Energy Storage System Walk-in Unit (New)

**Reason:**

The addition of energy storage system (ESS) requirements into the 2018 International Fire Code was an initial effort to address system (ESS) technologies for an expanded number of grid related energy storage applications. The new requirements were a huge step toward addressing modern ESS technologies and grid based applications. However as written the requirements made it difficult to apply appropriate safety requirements for different installations, each with their own risks and exposures. Case in point, a lead acid battery ESS installation in an unmanned rural telecommunications repeater doesn't present the same risks and exposures as a lithium-ion battery ESS installation in a mixed occupancy high rise in an urban area.

Since the 2018 ESS requirements were developed there has been a lot of work done by private and government stakeholders to enhance ESS installation requirements, including the initial drafting of the NFPA 855 Energy Storage System standard. The ICC Fire Code Action Committee's ESS work group, which includes 45+ code officials, manufacturers, users and industry experts identified several areas in the 2018 code that needed to be addressed to provide requirements that better address the hazards and exposures associated with various types of ESS installations, technologies and operations.

**Definitions: Battery Types, Lead-acid battery**

Lead acid batteries need water to operate. Only about 30% of the electrolyte is sulfuric acid. The balance is water.

**Definitions: Battery Types, Nickel-cadmium (Ni-Cd) battery**

Nickel Cadmium batteries require water to operate. Only about 30% of the electrolyte is comprised of potassium hydroxide. The balance is water.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. Some of the requirements in this proposal have the potential to increase the cost of providing ESS installations. However, some of the provisions in this proposal better address risks and owner/user needs in dedicated use (utility) buildings and outdoor remote installations, and will probably decrease the cost of those installations as compared to installations installed using the 2018 International Fire Code requirements. The code change proposal will not increase or decrease the cost of construction. This change simply adds information to Lead acid batteries and Nickel Cadmium definitions. (F3-18) (F203-18)

**[ENERGY STORAGE SYSTEMS 2019 INTERVEING PROPOSALS]**

**[Associated Sections in Part 9, California Fire Code]:**

105.6, 105.6.52 (New), 105.7.2, 105.7.3, 202 (New), TABLE 903.2.11.6, 907.2.22, 907.2.23 (Delete), 911.1, TABLE 911.1, 911.4 (New), 1201.1, 1201.3, 1202.1 (New), 1203.2.6, 1203.2.19, 1205.1, 1205.5, 1205.14 (New), 1206.1, 1206.1.1 (New), 1206.1.2 (New), 1206.1.2.1 (New), TABLE 1206.1 (New), 1206.1.3 (New), 1206.1.4 (New), 1206.1.4.1 (New), 1206.1.4.2 (New), 1206.1.4.3 (New), 1206.1.5

(New), 1206.1.6 (New), 1206.1.6.1 (New), 1206.1.6.2 (New), TABLE 1206.2 (Delete), 1206.2, 1206.2.1, 1206.2.1.1 (New), 1206.2.1.2 (New), 1206.2.2, 1206.2.2.1 (New), 1206.2.3, 1206.2.3.1 (Delete), 1206.2.3.2 (Delete), 1206.2.3.3 (Delete), 1206.2.4 (Delete), 1206.2.5 (Delete), 1206.2.6 (Delete), 1206.2.7 (Delete), 1206.2.8 (Delete), 1206.2.8.1 (Delete), 1206.2.8.2 (Delete), 1206.2.8.3 (Delete), 1206.2.8.4 (Delete), 1206.2.8.5 (Delete), 1206.2.8.5.1 (Delete), 1206.2.8.6 (Delete), 1206.2.8.6.1 (Delete), 1206.2.8.6.2 (Delete), 1206.2.8.7 (Delete), 1206.2.8.7.1 (Delete), 1206.2.8.7.2 (Delete), 1206.2.8.7.3 (Delete), 1206.2.8.7.4 (Delete), TABLE 1206.2.9 (Delete), 1206.2.9 (Delete), 1206.2.9.1 (Delete), 1206.2.10 (Delete), 1206.2.10.1 (Delete), 1206.2.10.2 (Delete), 1206.2.10.3 (Delete), 1206.2.10.4 (Delete), 1206.2.10.5 (Delete), 1206.2.10.6 (Delete), 1206.2.10.7 (Delete), 1206.2.10.8 (Delete), 1206.2.11 (Delete), 1206.2.11.1 (Delete), 1206.2.11.1.1 (Delete), 1206.2.11.2 (Delete), 1206.2.11.3 (Delete), 1206.2.11.3.1 (Delete), 1206.2.11.3.2 (Delete), 1206.2.11.4 (Delete), 1206.2.11.4.1 (Delete), 1206.2.11.5 (Delete), 1206.2.12 (Delete), 1206.2.12.1 (Delete), 1206.2.12.2 (Delete), 1206.2.12.3 (Delete), 1206.2.12.4 (Delete), 1206.2.12.5 (Delete), 1206.2.12.6 (Delete), 1206.3, 1206.3.1, 1206.3.2, 1206.3.2.1 (Delete), 1206.3.2.2 (Delete), 1206.3.2.3 (Delete), 1206.3.2.4 (Delete), 1206.3.2.5 (Delete), 1206.3.2.6 (Delete), 1206.3.2.6.1 (Delete), 1206.3.2.6.2 (Delete), 1206.3.2.6.3 (Delete), 1206.3.2.6.4 (Delete), 1206.3.3, 1206.3.4, 1206.3.4.1 (Delete), 1206.3.4.2 (Delete), 1206.3.4.3 (Delete), 1206.3.4.4 (Delete), 1206.3.4.5 (Delete), 1206.3.5, 1206.3.5.1 (Delete), 1206.3.5.1.1 (Delete), 1206.3.5.2 (Delete), 1206.3.5.3 (Delete), 1206.3.5.3.1 (Delete), 1206.3.5.4 (Delete), 1206.3.6, 1206.3.7 (New), 1206.3.7.1 (New), 1206.3.8 (New), 1206.3.9 (New), 1206.4 (New), 1206.4.1 (New), 1206.4.2 (New), 1206.4.3 (New), 1206.4.4 (New), 1206.4.5 (New), 1206.4.6 (New), 1206.4.7 (New), 1206.4.8 (New), 1206.4.9 (New), 1206.4.10 (New), 1206.4.11 (New), 1206.4.12 (New), 1206.5 (New), 1206.5.1 (New), 1206.5.2 (New), 1206.5.2.1 (New), TABLE 1206.5 (New), 1206.5.3 (New), 1206.5.4 (New), 1206.5.4.1 (New), 1206.5.5 (New), 1206.5.5.1 (New), 1206.5.6 (New), 1206.5.7 (New), 1206.5.8 (New), 1206.6 (New), TABLE 1206.6 (New), 1206.6.1 (New), 1206.6.1.1 (New), 1206.6.1.2 (New), 1206.6.1.2.1 (New), 1206.6.1.2.2 (New), 1206.6.1.2.3 (New), 1206.6.1.2.4 (New), 1206.6.2 (New), 1206.6.2.1 (New), 1206.6.2.2 (New), 1206.6.2.3 (New), 1206.6.3 (New), 1206.6.4 (New), 1206.6.5 (New), 1206.7 (New), 1206.7.1 (New), 1206.7.2 (New), TABLE 1206.7 (New), 1206.7.3 (New), 1206.7.4 (New), 1206.8 (New), 1206.8.1 (New), 1206.8.2 (New), TABLE 1206.8 (New), 1206.8.3 (New), 1206.8.4 (New), 1206.9 (New), 1206.9.1 (New), 1206.9.2 (New), TABLE 1206.9 (New), 1206.9.3 (New), 1206.9.4 (New), 1206.9.5 (New), 1206.9.6 (New), 1206.10 (New), 1206.10.1 (New), 1206.10.2 (New), 1206.10.3 (New), 1206.10.4 (New), 1206.10.4.1 (New), 1206.10.5 (New), 1206.10.6 (New), 1206.10.7 (New), 1206.10.7.1 (New), 1206.10.7.2 (New), 1206.10.7.3 (New), 1206.10.7.4 (New), 1206.10.7.5 (New), 1206.10.7.6 (New), 1206.10.7.7 (New), TABLE 1206.10 (New), 1206.11 (New), 1206.11.1 (New), 1206.11.2 (New), 1206.11.2.1 (New), 1206.11.3 (New), 1206.11.4 (New), 1206.11.5 (New), 1206.11.6 (New), 1206.11.7 (New), 1206.11.8 (New), 1206.11.9 (New), 1206.11.10 (New), TABLE 2204.1, [Chapter 80] NFPA 68 (New), NFPA 76 (New), UL 1974 (New, UL 9540A (New)

**Definition: Mass Timber (New)**

### **Reason:**

The ICC Tall Wood Buildings committee (TWB) was created by the International Code Council (ICC) Board to explore the science of tall wood buildings and act on developing code changes for tall wood buildings. The TWB has created several code change proposals with respect to the concept of tall buildings of mass timber and the background information is at the end of this statement. Within the statement are important links to information, including documents and videos, used in the deliberations which resulted in these proposals.

The ICC TWB committee and its various Work Groups held meetings, studied issues and sought input from various expert sources around the world. The TWB has posted those documents and input on its website for interested parties to follow its progress and to allow those parties to, in turn, provide input to the TWB.

### **Performance objectives**

At its first meeting, the TWB discussed several performance objectives to be met with the proposed criteria for tall wood buildings:

1. No collapse under reasonable scenarios of complete burn-out of fuel without automatic sprinkler protection being considered.
2. No unusually high radiation exposure from the subject building to adjoining properties to present a risk of ignition under reasonably severe fire scenarios.
3. No unusual response from typical radiation exposure from adjacent properties to present a risk of ignition of the subject building under reasonably severe fire scenarios.
4. No unusual fire department access issues.
5. Egress systems designed to protect building occupants during the design escape time, plus a factor of safety.
6. Highly reliable fire suppression systems to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the TWB committee meet these performance objectives. Included in the proposal for Section 602.4 are three new/revised definitions;

Wall, Load-Bearing; Mass Timber; and Noncombustible protection (for mass timber). They are important to understanding the subsequent proposed change to Section 602.4.

**Mass Timber:** The term “mass timber” is being proposed to represent both the legacy heavy timber (a.k.a. Type IV construction) and the three (3) new construction types that are proposed for Chapter 6 of the IBC. The purpose of creating this term and definition was to establish a single term which represented the various sawn and engineered timber products that are referenced in IBC Chapter 23 (Wood) and in PRG-320 “Standard for Performance-rated Cross-laminated Timber.”

### **Background information:**

The ICC Board approved the establishment of an ad hoc committee for tall wood buildings in December of 2015. The purpose of the ad hoc committee is to explore the science of tall wood buildings and to investigate the feasibility and act on developing code changes for tall wood buildings. The committee is comprised of a balance of stakeholders with additional opportunities for interested parties to participate in the four Work Groups established by the ad hoc committee, namely: Code; Fire; Standards/Definitions; and Structural. For more information, be sure to visit the ICC website [iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-on-tall-wood-buildings/](https://iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-on-tall-wood-buildings/) (link active and up to date as of 12/27/17). As seen in the “Meeting Minutes and Documents” and “Resource Documents” sections of the committee web page, the ad hoc committee reviewed a substantial amount of information in order to provide technical justification for code proposals.

The TWB committee believes the package of code change proposal will result in regulations that adequately address the fire and life safety issues of tall mass timber buildings.

California Governor Edmund G. Brown issued Executive Order B-52-18 on May 10, 2018 that became effective immediately. Among other directives, order number 13 charged the State Fire Marshal, the department of Housing and Community Development, the Division of the State Architect, the California Building Standards Commission and the Statewide Health Planning and Development to review the approved Tall Wood Building Proposals of the International Code Council's Ad Hoc Committee on Tall Wood Buildings and shall consider proposing its adoption into the California Building Standards Code in the subsequent intervening code cycle.

To review the Executive Order 5-52-18, please visit:

[fmtf.fire.ca.gov/media/1859/51018-forest-eo.pdf](https://fmtf.fire.ca.gov/media/1859/51018-forest-eo.pdf)

### **State Fire Marshal**

The State Fire Marshal initiated a workgroup to evaluate, discuss and make recommendations on the approved ICC Tall Wood Building proposals for adoption to the 2019 Title 24 intervening rulemaking cycle. Invitations were sent out to state agencies, stakeholders, fire service, building officials, interested parties and various industry organizations. The first meeting was held on April 2, 2019 at the State Fire Marshal headquarters at 2251 Harvard Street, Sacramento, CA 95815 from 0900 – 1500. There was a conference line and Skype computer meeting set up to accommodate widespread participation. The workgroup's last meeting was held on August 16, 2019, at which time all comments, presentations from industry, concerns and recommendations to the State Fire Marshal were finalized.

**Cost Impact:** The code change proposals will not increase or decrease the cost of construction. (G108-18)

**[TALL WOOD AND HEAVY TIMBER 2019 INTERVENING PROPOSALS]**  
**[Associated Sections in Part 9, California Fire Code]:**  
202, 701.6, 914.3.1.2, 3308.9

**Definition: Mechanical-Access Enclosed Parking Garage (New)**

**Reason:**

Enclosed mechanical-access parking garages are being constructed in the United States on an increasing basis, yet there are no prescriptive code requirements for these occupancies. These occupancies are unique from the traditional open mechanical-access parking garage in that there are no openings, the entire structure is enclosed. These occupancies are more similar to automated high rack storage systems, they have no floors, no stairwells and no above ground level access, except maintenance walkways and ladders. With these being a silent occupancy type, the Building or Fire Code does not provide the code official with prescriptive requirements. There are fires involving parked vehicles with the vehicle parked and the ignition system off. If a fire were to occur in an enclosed mechanical-access parking garage, unless the local code authority required additional fire protection during construction, they do not have a point-setter to code requirements. Where these systems have been installed, there is not a consistent fire protection methodology to protecting these structures from a fire.

An enclosed mechanical-access parking garage offers many firefighting challenges; most are constructed in a building shell, without a floor system. The vehicles are parked in a cage/rack system, with no safe elevated access to the interior of the structure. With firefighter safety in mind and to have the ability to use fixed fire suppression to extinguish and/or control these fires, the code proposal is presented.

The SFM is proposing a new definition of these occupancies which correlates with the NFPA 88A Standard for Parking Structures document and include all automatic parking systems. Open mechanical-access parking garages are defined in the codes, but do not pose the firefighting challenge as an enclosed mechanical access parking garage. An open parking garage has floors, stairwells, standpipe connections and natural ventilation. An enclosed garage is in a box, no stairwells or floors or standpipes for elevated firefighting, and no ventilation to remove the products of combustion, heat and superheated gases.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. This proposal is to provide prescriptive language for enclosed mechanical-access parking garages. These code requirements are being currently enforced as part of a performance-based design when approved and constructed. As the designer and builder will have prescriptive requirements, they will not be required to obtain an Alternative Materials and Methods approval for each project. (G39-18)

**[AUTOMATIC PARKING GARAGE 2019 INTERVENING PROPOSALS]**  
**[Associated Sections in Part 9, California Fire Code]:**  
202 (New), 903.2.10.2 (New)

**Definition: Factory Industrial F-1 Moderate-hazard occupancy**

**Reason:**



Add an additional example to Group F-1 in alphabetical order, after Electronics and before Engines. This proposal is a correlation issue with the CFC Section 1206 Energy Storage Systems (ESS) rewrite. The International Code Council Fire Code Advisory Committee looked at the hazards associated with dedicated use utility type ESS installations covered under the following section and decided that Group F-1 was an appropriate classification. For the most part they will serve the grid scale areas of ESS deployment and large facilities.

**California Fire Code section 1206.7.2 Dedicated use buildings.**

For the purpose of the California Fire Code Table 1206.7 dedicated use ESS buildings shall be classified as Group F-1 occupancies and comply with all the following.

The building shall only be used for ESS, electrical energy generation, and other electrical grid related operations.

Occupants in the rooms and areas containing ESS are limited to personnel that operate, maintain, service, test and repair the ESS and other energy systems.

No other occupancy types shall be permitted in the building.

Administrative and support personnel shall be permitted in areas within the buildings that do not contain ESS, provided:

The areas do not occupy more than 10 percent of the building area of the story in which they are located.

A means of egress is provided from the incidental use areas to the public way that does not require occupants to traverse through areas containing ESS or other energy system equipment. (Also the administrative support areas are separated from the ESS by a 2-hour fire separation.)

When looking at the group classifications and expected fuel loads the F-1 fits the ESS Dedicated Use Building from that standpoint, especially since Electric Generation Plants are already an F-1 Group. ESS are part of the overall electric generation and storage. If ESS is installed in a building occupied by another group, it will remain that Group and be required to have the increased fire protection features for the space the ESS occupies. That does not change from how the current code addresses ESS.

**Cost Impact:**

The code change proposal will decrease the cost of construction. This proposal provides correlation with an IFC proposal. The proposal will actually decrease the cost of construction because it will allow larger ESS installations in dedicated use indoor locations to be in Group F-1 occupancies, rather than in H-2 occupancies. (G17-18)

**[ENERGY STORAGE SYSTEMS 2019 INTERVEING PROPOSALS]**

**[Associated Sections in Part 9, California Fire Code]:**

105.6, 105.6.52 (New), 105.7.2, 105.7.3, 202 (New), TABLE 903.2.11.6, 907.2.22, 907.2.23 (Delete), 911.1, TABLE 911.1, 911.4 (New), 1201.1, 1201.3, 1202.1

(New), 1203.2.6, 1203.2.19, 1205.1, 1205.5, 1205.14 (New), 1206.1, 1206.1.1 (New), 1206.1.2 (New), 1206.1.2.1 (New), TABLE 1206.1 (New), 1206.1.3 (New), 1206.1.4 (New), 1206.1.4.1 (New), 1206.1.4.2 (New), 1206.1.4.3 (New), 1206.1.5 (New), 1206.1.6 (New), 1206.1.6.1 (New), 1206.1.6.2 (New), TABLE 1206.2 (Delete), 1206.2, 1206.2.1, 1206.2.1.1 (New), 1206.2.1.2 (New), 1206.2.2, 1206.2.2.1 (New), 1206.2.3, 1206.2.3.1 (Delete), 1206.2.3.2 (Delete), 1206.2.3.3 (Delete), 1206.2.4 (Delete), 1206.2.5 (Delete), 1206.2.6 (Delete), 1206.2.7 (Delete), 1206.2.8 (Delete), 1206.2.8.1 (Delete), 1206.2.8.2 (Delete), 1206.2.8.3 (Delete), 1206.2.8.4 (Delete), 1206.2.8.5 (Delete), 1206.2.8.5.1 (Delete), 1206.2.8.6 (Delete), 1206.2.8.6.1 (Delete), 1206.2.8.6.2 (Delete), 1206.2.8.7 (Delete), 1206.2.8.7.1 (Delete), 1206.2.8.7.2 (Delete), 1206.2.8.7.3 (Delete), 1206.2.8.7.4 (Delete), TABLE 1206.2.9 (Delete), 1206.2.9 (Delete), 1206.2.9.1 (Delete), 1206.2.10 (Delete), 1206.2.10.1 (Delete), 1206.2.10.2 (Delete), 1206.2.10.3 (Delete), 1206.2.10.4 (Delete), 1206.2.10.5 (Delete), 1206.2.10.6 (Delete), 1206.2.10.7 (Delete), 1206.2.10.8 (Delete), 1206.2.11 (Delete), 1206.2.11.1 (Delete), 1206.2.11.1.1 (Delete), 1206.2.11.2 (Delete), 1206.2.11.3 (Delete), 1206.2.11.3.1 (Delete), 1206.2.11.3.2 (Delete), 1206.2.11.4 (Delete), 1206.2.11.4.1 (Delete), 1206.2.11.5 (Delete), 1206.2.12 (Delete), 1206.2.12.1 (Delete), 1206.2.12.2 (Delete), 1206.2.12.3 (Delete), 1206.2.12.4 (Delete), 1206.2.12.5 (Delete), 1206.2.12.6 (Delete), 1206.3, 1206.3.1, 1206.3.2, 1206.3.2.1 (Delete), 1206.3.2.2 (Delete), 1206.3.2.3 (Delete), 1206.3.2.4 (Delete), 1206.3.2.5 (Delete), 1206.3.2.6 (Delete), 1206.3.2.6.1 (Delete), 1206.3.2.6.2 (Delete), 1206.3.2.6.3 (Delete), 1206.3.2.6.4 (Delete), 1206.3.3, 1206.3.4, 1206.3.4.1 (Delete), 1206.3.4.2 (Delete), 1206.3.4.3 (Delete), 1206.3.4.4 (Delete), 1206.3.4.5 (Delete), 1206.3.5, 1206.3.5.1 (Delete), 1206.3.5.1.1 (Delete), 1206.3.5.2 (Delete), 1206.3.5.3 (Delete), 1206.3.5.3.1 (Delete), 1206.3.5.4 (Delete), 1206.3.6, 1206.3.7 (New), 1206.3.7.1 (New), 1206.3.8 (New), 1206.3.9 (New), 1206.4 (New), 1206.4.1 (New), 1206.4.2 (New), 1206.4.3 (New), 1206.4.4 (New), 1206.4.5 (New), 1206.4.6 (New), 1206.4.7 (New), 1206.4.8 (New), 1206.4.9 (New), 1206.4.10 (New), 1206.4.11 (New), 1206.4.12 (New), 1206.5 (New), 1206.5.1 (New), 1206.5.2 (New), 1206.5.2.1 (New), TABLE 1206.5 (New), 1206.5.3 (New), 1206.5.4 (New), 1206.5.4.1 (New), 1206.5.5 (New), 1206.5.5.1 (New), 1206.5.6 (New), 1206.5.7 (New), 1206.5.8 (New), 1206.6 (New), TABLE 1206.6 (New), 1206.6.1 (New), 1206.6.1.1 (New), 1206.6.1.2 (New), 1206.6.1.2.1 (New), 1206.6.1.2.2 (New), 1206.6.1.2.3 (New), 1206.6.1.2.4 (New), 1206.6.2 (New), 1206.6.2.1 (New), 1206.6.2.2 (New), 1206.6.2.3 (New), 1206.6.3 (New), 1206.6.4 (New), 1206.6.5 (New), 1206.7 (New), 1206.7.1 (New), 1206.7.2 (New), TABLE 1206.7 (New), 1206.7.3 (New), 1206.7.4 (New), 1206.8 (New), 1206.8.1 (New), 1206.8.2 (New), TABLE 1206.8 (New), 1206.8.3 (New), 1206.8.4 (New), 1206.9 (New), 1206.9.1 (New), 1206.9.2 (New), TABLE 1206.9 (New), 1206.9.3 (New), 1206.9.4 (New), 1206.9.5 (New), 1206.9.6 (New), 1206.10 (New), 1206.10.1 (New), 1206.10.2 (New), 1206.10.3 (New), 1206.10.4 (New), 1206.10.4.1 (New), 1206.10.5 (New), 1206.10.6 (New), 1206.10.7 (New), 1206.10.7.1 (New), 1206.10.7.2 (New), 1206.10.7.3 (New), 1206.10.7.4 (New), 1206.10.7.5 (New), 1206.10.7.6 (New), 1206.10.7.7 (New), TABLE 1206.10 (New), 1206.11 (New), 1206.11.1 (New), 1206.11.2 (New), 1206.11.2.1 (New), 1206.11.3 (New), 1206.11.4 (New), 1206.11.5 (New), 1206.11.6 (New), 1206.11.7 (New), 1206.11.8 (New), 1206.11.9 (New), 1206.11.10 (New), TABLE 2204.1, [Chapter 80] NFPA 68 (New), NFPA 76 (New), UL 1974 (New, UL 9540A (New)

**Definition: Residential Group R-2.1**

**Reason:**

The example of Community correction reentry centers is proposed to be deleted from the Residential Group R-2.1 occupancy classification which is no longer applicable. The new R-2.2 occupancy classification was introduced in the 2018 Triennial code cycle for Community Correctional Reentry Centers. This code change is editorial and corrects an error.

**Cost Impact:** There will be no cost increase or decrease.

**[I-3 OCCUPANCY WORKGROUP 2019 INTERVENING PROPOSALS]**

**[Related Sections in Part 9, California Fire Code]:**

202,1004.5, TABLE 1004.5, TABLE 1020.2

**Definition: Puzzle Room (New)**

**Reason:**

Puzzle rooms are a new business model where people are placed in a room and asked either to find a way out of the room or to find their way to the next room in the puzzle. The rooms are typically small and might otherwise be classified as a B occupancy under the current code. Each of these are designed in a way to provide a unique experience for the customer. This unique design incorporates several possible features to disorient the occupants and/or disguise the exit route. Such a design is contrary to the foundations of code specified exiting provisions. This proposal seeks to establish criteria for puzzle rooms by incorporating them into the special amusement section. Since part of the appeal of this business model is that each experience is different, there is no way to prescriptively handle every situation. The language is generic but gives guidance on providing reliable exiting in an emergency.

**Definition: Special Amusement Area**

While researching this proposal, it was recognized that the special amusement building section needed some updating. The word "building" is changed to "area" and the fire alarm provisions were rewritten to correlate with section 907 of the fire code.

This proposal was heard and approved for the ICC 2021 codes. The SFM is proposing to bring these regulations in California to address the need for public and life safety, as well as give the code officials a tool for enforcement.

**Cost Impact**

The code change proposal will increase the cost of construction. Many of these rooms may be classified currently as a B occupancy as they are not specifically called out in the code. As such, there are very little requirements for fire alarm or sprinkler systems. Depending on the size and configuration of the room(s), this provision would increase the cost of construction. (G48-18)

**[PUZZLE ROOM 2019 INTERVENING PROPOSALS]**

**[Associated Sections in Part 9, California Fire Code]:**

202, TABLE 903.2.11.6, 907.2.11, 907.2.11.2, 907.2.11.3, 914.7, 914.7.1, 914.7.2,  
TABLE 1017.2, 3103.3.1, O103.1, INDEX

**Item 3. CHAPTER 3  
GENERAL REQUIREMENTS**

**SECTION 315  
GENERAL STORAGE**

**Section: TABLE 315.7.6(1)**

**Reason:**

This pallet proposal is to address incorrect distances presented in the 2018 International Fire Code. The proposal is to address an issue that happened when the original proposal was submitted and a couple of numbers were reversed. This proposal will correct this mistake.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. (F18-16) (F234-18)

**Item 4. CHAPTER 5  
FIRE SERVICE FEATURES**

**SECTION 508  
FIRE COMMAND CENTER**

**Section: 508.1.2**

**Reason:**

The current California fire Code requires the Fire Command Center (FCC) to have 1-hour separation from the rest of the building which means all the life safety equipment located in this room are only provided with 1-hour protection from a fire outside this room.

Since all the life safety and emergency systems required in new high-rise buildings employing partial evacuation or relocation of occupants require 2 Hour survivability for the pathways feeding these systems. It is extremely important to also protect the FCC with 2-hour fire resistant construction. It is not adequate to protect the rest of the life safety and emergency system pathways without protecting the main equipment and the emergency responder / firefighters using the FCC during fire emergencies. This proposal adds the satisfactory protection of the contents and operators that are required to be in this space.

**Cost Impact:** The code change proposal will increase the cost of construction slightly. Most jurisdictions and owners are already practicing creating a 2-hour separation due to the liability of the contents within the room.

**Item 5. CHAPTER 6  
BUILDING SERVICES AND SYSTEMS**

**SECTION 606  
ELEVATOR OPERATION,**

## MAINTENANCE AND FIRE SERVICE KEYS

### Section: 606.1.1 (New)

#### Reason:

606.1 There are existing provisions to prohibit storage of furniture and combustibles in fire service and occupant evacuation elevators. This proposal addresses combustible storage in other elevator lobbies requiring hoistway protection.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. This proposal clarifies that storage is not permitted in any protected hoistway and does not have an impact on construction costs. (F85-18)

**Sections: 606.2, 606.2.4, 606.2.5 (New), 606.8.6 (New), 606.8.6.1 (New), 606.8.6.2 (New), 606.8.6.3 (New), 606.8.6.4 (New)**

### Section: 606.2 – 606.8.6.4 (New)

#### Reason:

This proposal correlates with the a new section 3003.4 Emergency Hoistway Venting in the California Building Code. Emergency hoistway venting is required in hoistways containing driving-machine motors and associated electrical equipment. The purpose of this emergency hoistway vent is to remove smoke and hot gasses related to elevator equipment overheating and/or failure, and to protect passengers that may be trapped in elevator cars.

The vent is normally closed for the following reasons:

- To prevent the hoistway stack effect.
- To prevent loss of conditioned air.
- To not conflict with hoistway pressurization where provided.

The vent opens automatically when the FAID at the top of the hoistway is activated in response to smoke associated with elevator equipment installed in the hoistway.

**Cost Impact:** The code change proposal will not increase the cost of construction and will not reduce the energy savings.

### **[ELEVATOR WORK GROUP 2019 INTERVENING PROPOSALS]**

#### **[Related Sections in Part 9, California Fire Code]:**

606.2, 606.2.4, 606.2.5 (New), 606.8.6 (New), 606.8.6.1 (New), 606.8.6.2 (New), 606.8.6.3 (New), 606.8.6.4 (New), 1103.3, 1103.3.1, 1103.3.2, 1103.3.3 (New), [Chapter 80] ASME A17.1/CSA B44, ASME A17.3, [NFPA 13-16] 8.15.5.1, 8.15.5.2, 8.15.5.3, 8.15.5.7.1, 8.15.5.7.2, [Appendix K] K104.3.1, K104.3.2, K105

## Item 6. CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

## SECTION 701 GENERAL

### **Section: 701.6**

#### **Reason:**

The International Code Council (ICC) Ad Hoc Committee on Tall Wood Buildings (TWB) was created by the ICC Board to explore the science of tall wood buildings and act on developing code changes for tall wood buildings. The TWB has created several code change proposals with respect to the concept of tall buildings of mass timber and the background information is at the end of this Statement. Within the statement are important links to information, including documents and videos, used in the deliberations which resulted in these proposals.

The International Code Council (ICC) Tall Wood Buildings Committee (TWB) has discussed several proposals to potentially increase the permitted height and area for Type IV structures, specifically mass timber buildings. One of the basic requirements incorporated into these proposed increased heights and areas is the added active and passive protection features to these structures.

Specific to this code change proposal, in the related code change proposals for Type IV-A and Type IV-B, mass timber walls and ceilings, except where permitted, will be required to meet a fire-resistance performance with a specified amount provided with gypsum board or its equivalent.

The greater permitted heights and areas are being proposed based on the requirement of this added level of passive protection. It would seem obvious that we should incorporate a methodology to insure this passive protection remains in place.

This is not an undue burden to the building owner or management. Section 701.6 of the International Fire Code permits these inspections to be done by current building staff. Local jurisdictions may or may not require the annual inspection to be reported. The managing authority simply must keep a record of such inspections and take steps to correct any deficiencies identified.

Some have suggested that we do not require other types of construction to inspect the gypsum board annually to insure it has not been compromised. Other forms of construction do not contribute to the fuel load in the manner mass timber construction potentially will do. If we are going to permit mass timber construction to greater heights than previously permitted it means we are relying on the performance of active and passive protection to protect the occupants of the building in the event of a fire. We currently require the active protection to be inspected for performance it is time we require the same for the passive.

**Background information:** The ICC Board approved the establishment of an ad hoc committee for tall wood buildings in December of 2015. The purpose of the ad hoc committee is to explore the science of tall wood buildings and to investigate the feasibility and act on developing code changes for tall wood buildings. The committee is

comprised of a balance of stakeholders with additional opportunities for interested parties to participate in the four Work Groups established by the ad hoc committee, namely: Code; Fire; Standards/Definitions; and Structural. For more information, be sure to visit the ICC website

[iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-ontall-wood-buildings/](http://iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-ontall-wood-buildings/)

(link active and up to date as of 12/27/17). As seen in the “Meeting Minutes and Documents” and “Resource Documents” sections of the committee web page, the ad hoc committee reviewed a substantial amount of information in order to provide technical justification for code proposals.

The ad hoc committee developed proposals for the followings code sections. The committee believes this package of code changes will result in regulations that adequately address the fire and life safety issues of tall mass timber buildings.

In addition, fire tests designed to simulate the three new construction types (Types IVA, IVB and IVC) in the ad hoc committee proposals were conducted at the Alcohol Tobacco and Firearms test lab facility. The TWB was involved in the design of the tests, and many members witnessed the test in person or online. The results of the series of 5 fire tests provide additional support for these proposals, and validate the fire performance for each of the types of construction proposed by the committee. The fire tests consisted of one-bedroom apartments on two levels, with both apartments having a corridor leading to a stair. The purpose of the tests was to address the contribution of mass timber to a fire, the performance of connections, the performance of through-penetration fire stops, and to evaluate conditions for responding fire personnel.

To review a summary of the fire tests, please visit:  
[//bit.ly/ATF-firetestreport](http://bit.ly/ATF-firetestreport)

To watch summary videos of the fire tests, which are accelerated to run in 3 ½ minutes, please visit:  
[//bit.ly/ATF-firetestvideos](http://bit.ly/ATF-firetestvideos)

Both links were confirmed active on October 16, 2019.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. This section provides information that was not previously set forth in the code, and does not change the requirements of current code, thus there is no cost impact when compared with present requirements.

**[TALL WOOD AND HEAVY TIMBER 2019 INTERVENING PROPOSALS]  
[Associated Sections in Part 9, California Fire Code]:  
701.6, 914.3.1.2, 3308.9**

**Item 7. CHAPTER 9  
FIRE PROTECTION AND LIFE SAFETY SYSTEMS**

**SECTION 903  
AUTOMATIC SPRINKLER SYSTEMS**

**Section: 903.2.10.2 (New), TABLE 903.2.11.6**

**Reason:**

Enclosed mechanical-access parking garages are being constructed in the United States on an increasing basis, yet there are no prescriptive code requirements for these occupancies. These occupancies are unique from the traditional open mechanical-access parking garage in that there are no openings, the entire structure is enclosed. These occupancies are more similar to automated high rack storage systems, they have no floors, no stairwells and no above ground level access, except maintenance walkways and ladders. With these being a silent occupancy type, the Building or Fire Code does not provide the code official with prescriptive requirements. There are fires involving parked vehicles with the vehicle parked and the ignition system off. If a fire were to occur in an enclosed mechanical-access parking garage, unless the local code authority required additional fire protection during construction, they do not have a point-setter to code requirements. Where these systems have been installed, there is not a consistent fire protection methodology to protecting these structures from a fire.

An enclosed mechanical-access parking garage offers many firefighting challenges; most are constructed in a building shell, without a floor system. The vehicles are parked in a cage or rack system, with no safe elevated access to the interior of the structure. With firefighter safety in mind and to have the ability to use fixed fire suppression to extinguish and or control these fires, the code proposal is presented.

**Section: 903.2.10.2 (New)**

Section 903.2.10.2 is added to prescriptively require a performance-based designed sprinkler system. With the projected fire load in these occupancies and the inability to get water to the seat of the fire, a prescriptively designed sprinkler system is not anticipated to provide the required water for fire suppression.

**Section: TABLE 903.2.11.6 (Automatic Parking Garage Workgroup)**

The added Table 903.2.11.6 reference to the table gives the code user a pointer to the additional suppression requirements.

**Cost Impact:** The code change proposal will decrease the cost of construction. This proposal is to provide prescriptive language for enclosed mechanical-access parking garages. These code requirements are being currently enforced as part of a performance-based design when approved and constructed. As the designer and builder will have prescriptive requirements, they will not be required to obtain an Alternative Materials and Methods approval for each project. (G39-18)



**[AUTOMATIC PARKING GARAGE 2019 INTERVENING PROPOSALS]**  
**[Associated Sections in Part 9, California Fire Code]:**  
202 (New), 903.2.10.2 (New)

**Section: TABLE 903.2.11.6 (Energy Storage Workgroup)**

**Reason:**

The proposal adds a reference to the appropriate section in the California Fire Code for stationary and mobile energy storage systems.

Section 1206.10 covers two types of mobile ESS installations/operations, charging and storage of the mobile ESS at its home facility when it is not deployed to an event or facility, and deployment of the mobile ESS for temporary energy storage applications, such as providing power at an electric vehicle event. Mobile ESS charging and storage locations are treated the same as a stationary indoor or outdoor installation in accordance with Section 1206.7 or 1206.8, but can include temporary electrical and fire suppression system connections. This provides an acceptable level of protection based on the exposures at the facility, and prevents parties from using an ESS on wheels as a permanent ESS with less than effective protection.

To summarize this proposal, developed by a large industry and code official work group, more effectively protects ESS installations based on knowledge gained since last code cycle. It provides protection customized for the types of installations that are being deployed today, instead of using the “one size fits all” type of protection.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. Some of the requirements in this proposal have the potential to increase the cost of providing ESS installations. However, some of the provisions in this proposal better address risks and owner/user needs in dedicated use (utility) buildings and outdoor remote installations, and will probably decrease the cost of those installations as compared to installations using the current existing requirements. (F203-18)

**[ENERGY STORAGE SYSTEMS 2019 INTERVEING PROPOSALS]**

**[Associated Sections in Part 9, California Fire Code]:**

105.6, 105.6.52 (New), 105.7.2, 105.7.3, 202 (New), TABLE 903.2.11.6, 907.2.22, 907.2.23 (Delete), 911.1, TABLE 911.1, 911.4 (New), 1201.1, 1201.3, 1202.1 (New), 1203.2.6, 1203.2.19, 1205.1, 1205.5, 1205.14 (New), 1206.1, 1206.1.1 (New), 1206.1.2 (New), 1206.1.2.1 (New), TABLE 1206.1 (New), 1206.1.3 (New), 1206.1.4 (New), 1206.1.4.1 (New), 1206.1.4.2 (New), 1206.1.4.3 (New), 1206.1.5 (New), 1206.1.6 (New), 1206.1.6.1 (New), 1206.1.6.2 (New), TABLE 1206.2 (Delete), 1206.2, 1206.2.1, 1206.2.1.1 (New), 1206.2.1.2 (New), 1206.2.2, 1206.2.2.1 (New), 1206.2.3, 1206.2.3.1 (Delete), 1206.2.3.2 (Delete), 1206.2.3.3 (Delete), 1206.2.4 (Delete), 1206.2.5 (Delete), 1206.2.6 (Delete), 1206.2.7 (Delete), 1206.2.8 (Delete), 1206.2.8.1 (Delete), 1206.2.8.2 (Delete), 1206.2.8.3 (Delete), 1206.2.8.4 (Delete), 1206.2.8.5 (Delete), 1206.2.8.5.1 (Delete), 1206.2.8.6 (Delete), 1206.2.8.6.1 (Delete), 1206.2.8.6.2 (Delete), 1206.2.8.7 (Delete), 1206.2.8.7.1 (Delete), 1206.2.8.7.2 (Delete), 1206.2.8.7.3 (Delete), 1206.2.8.7.4 (Delete), TABLE 1206.2.9 (Delete), 1206.2.9 (Delete), 1206.2.9.1 (Delete), 1206.2.10 (Delete), 1206.2.10.1 (Delete), 1206.2.10.2 (Delete), 1206.2.10.3 (Delete), 1206.2.10.4

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**Section: TABLE 903.2.11.6 (Puzzle Room Workgroup)**

**Reason:**

The proposal is editorial correlates the change to the definition. It corrects the code reference section number.

**[PUZZLE ROOM 2019 INTERVENING PROPOSALS]**

**[Associated Sections in Part 9, California Fire Code]:**

202, TABLE 903.2.11.6, 907.2.11, 907.2.11.2, 907.2.11.3, 914.7, 914.7.1, 914.7.2, TABLE 1017.2, 3103.3.1, O103.1, INDEX

**Section: 903.3.1.1.1**

**Reason:**

The State Fire Marshal (SFM) with cooperation with Office of Statewide Health Planning Department (OSHPD) developed a series of code change proposals for fire and life safety regulations for I-2, I-2.1 and R-2.1 occupancies.

The proposed changes provide additional provisions identifying when the omission of sprinkler protection is permitted. The proposed changes eliminate provisions prohibiting the omission of sprinkler protection in Group I-2, I-2.1 and I-3 occupancies. The proposed changes relocate provisions related to fire sprinkler protection for solar photovoltaic power systems to a separate new CBC section. The changes also include editorial changes.

The proposed changes to CBC Section 903.3.1.1.1 delete language that exempts Group I-2, I-2.1 and I-3 occupancies from the enumerated items of this section that permit automatic fire detection systems to replace the requirement for automatic sprinkler protection. These proposed changes acknowledge that the potential for damage or failure of elevator operation caused by fire sprinkler activations is of a greater concern than the omission of sprinkler protection.

The proposed changes require that CBC Section 903.3.1.1.1, Item 1 require the approval of the fire code official. This is consistent with other items in Section 903.3.1.1.1. It is also of greater concern because such omissions could include Group I-2, I-2.1 or I-3 occupancies. Regardless of the occupancy group, it is inappropriate to permit the omission of fire sprinkler protection without fire code official approval.

The proposed changes to CBC Section 903.3.1.1.1 amend Item 3 to indicate that fire service access elevator requirements that omit fire sprinkler protection are also located in CBC Section 3007. The proposed change to CBC Section 903.3.1.1.1 amends Item 4 to also include hoistways. This is consistent with the provisions of the referenced CBC Section 3008 that permit the omission of fire sprinkler protection in hoistways. These SFM proposed changes coordinate CBC Section 903.3.1.1.1 with CBC Sections 3007 and 3008.

There are no proposed changes to CBC Section 903.3.1.1.1, Item 2, however; due to other SFM proposed changes, this item applies to Group I-2, I-2.1 and I-3 occupancies.

**[Office of Statewide Health Planning Department (OSHPD) 2019 INTERVENING PROPOSALS]**

**[Related Sections in Part 9, California Fire Code]**

903.3.1.1.1, 904.13, 907.2.6.2.2, 907.3.2, 907.3.2.1, 907.3.2.3, 907.3.2.4, 907.3.2.5 (New), 909.5.3, 1010.1.9.7, 1010.1.9.8, 1026.4.1

**SECTION 904  
ALTERNATIVE AUTOMATIC  
FIRE-EXTINGUISHING SYSTEMS**

**Section: 904.13**

**Reason:**

The State Fire Marshal (SFM) with cooperation with Office of Statewide Health Planning Department (OSHPD) developed a series of code change proposals for fire and life safety regulations for I-2, I-2.1 and R-2.1 occupancies.

In Section 904.13, Item 2, the SFM proposed change deletes Group I-2.1 from the provisions regulating domestic cooking facilities installed in accordance with CBC Section 407.2.6. Section 407.2.6 is specific to nursing homes. Group I-2.1 occupancies are not regulated by Section 407.2.6.

**[Office of Statewide Health Planning Department (OSHPD) 2019 INTERVENING PROPOSALS]**

**[Related Sections in Part 9, California Fire Code]**

903.3.1.1.1, 904.13, 907.2.6.2.2, 907.3.2, 907.3.2.1, 907.3.2.3, 907.3.2.4, 907.3.2.5 (New), 909.5.3, 1010.1.9.7, 1010.1.9.8, 1026.4.1

**SECTION 907  
FIRE ALARM AND DETECTION SYSTEMS**

**Section: 907.2.6.2.2**

**Reason:**

The State Fire Marshal (SFM) with cooperation with Office of Statewide Health Planning Department (OSHPD) developed a series of code change proposals for fire and life safety regulations for I-2, I-2.1 and R-2.1 occupancies.

The proposed change adds an exception that permits the omission of smoke detectors in patient sleeping rooms occupied by patients who are restrained. The CBC Section 308.1 permits the restraint or confinement of psychiatric patients in a Group I-2 occupancy. CBC Section 907.2.6.2.2 requires the installation of smoke detectors in patient and client sleeping rooms. The installation of smoke detectors in psychiatric patient and client sleeping rooms is associated with an unacceptable risk of damage to equipment, nuisance alarms and a potential for injury to psychiatric patients and clients. The proposed change also includes an amendment to CBC Section 907.2.6.2.2, Item 4 to correct an editorial error.

The proposed change adds CBC Section 907.2.6.2.2, Exception 2. When automatic sprinkler system protection is provided and smoke detectors are installed in corridors, other occupied areas and mechanical and electrical rooms in the smoke compartment, the proposed change exempts Group I-2 psychiatric patient and client sleeping rooms housing patients and clients who are restrained from the CBC Section 907.2.6.2.2, Item 1 requirement for the installation of smoke detectors in patient and client sleeping rooms.

The proposed change includes an editorial change that revises CBC Section 907.2.6.2.2, Item 4 to delete provisions applicable to delayed egress hardware. Delayed egress provisions are incorrectly included in Item 4. The delayed egress provision permitting a smoke compartment to egress through an adjacent smoke compartment is not applicable

where locked doors restrain patients.

The proposed change eliminates the requirement for smoke detectors in some patient rooms reducing the cost of projects.

**[Office of Statewide Health Planning Department (OSHPD) 2019 INTERVENING PROPOSALS]**

**[Related Sections in Part 9, California Fire Code]**

903.3.1.1.1, 904.13, 907.2.6.2.2, 907.3.2, 907.3.2.1, 907.3.2.3, 907.3.2.4, 907.3.2.5 (New), 909.5.3, 1010.1.9.7, 1010.1.9.8, 1026.4.1

**Section: 907.2.10.2.6 (New)**

**Reason:**

Section 907.2.10.2.6 is being added to comply with Health and Safety Code section 13131.5. The 2018 International Fire and Building Code proposal F196-16 removed the requirements for a manual fire alarm in Group R-4 facilities. The proponent's reason is to allow for group homes with residents capable of self-preservation to have an appropriate level of safety. A manual fire alarm system and an automatic smoke detection system for a facility with 16 or fewer residents is not warranted. These systems are required in apartment buildings with 16 or more apartments. Not only does that apartment building have significantly more residents, it consists of separate units. A Group R-4 facility is where the residents are effectively working together similar to a single-family home.

**Health and Safety Code Section 13131.5 for reference:**

HEALTH AND SAFETY CODE - HSC

DIVISION 12. FIRES AND FIRE PROTECTION [13000 - 14960]

*(Division 12 enacted by Stats. 1939, Ch. 60.)*

PART 2. FIRE PROTECTION [13100 - 13263]

*(Part 2 enacted by Stats. 1939, Ch. 60.)*

CHAPTER 1. State Fire Marshal [13100 - 13159.10]

*(Chapter 1 enacted by Stats. 1939, Ch. 60.)*

ARTICLE 1. General [13100 - 13135]

*(Heading of Article 1 added by Stats. 1945, Ch. 1173.)*

13131.5

(a) All of the following building standards shall apply to any single-story building housing non-ambulatory persons which is operated as a residential care facility for the elderly and licensed to care for more than six persons:

(1) The entire building shall have installed a State Fire Marshal approved fully automatic fire extinguishing system, designed and installed in accordance with Section 2-3801(d) of Chapter 2-38 of Part 2 of Title 24 of the California Code of Regulations.

(2) The entire building shall have installed a State Fire Marshal approved and listed manual fire alarm system.

(3) The entire building shall be of at least Type V one-hour fire resistive construction, as described in Chapter 2-22 of Part 2 of Title 24 of the California Code of Regulations.

(4) A building with individual floor areas over 6,000 square feet per floor shall have an approved smoke barrier dividing the floor approximately in half, unless there is direct exiting available from each dwelling unit.

(b) All of the following building standards shall apply to any two-story building housing non-ambulatory persons on a second floor, which is operated as a residential care facility for the elderly and licensed to care for more than six persons:

(1) The entire building shall have installed a State Fire Marshal approved fully automatic fire extinguishing system, designed and installed in accordance with Section 2-3801(d) of Chapter 2-38 of Part 2 of Title 24 of the California Code of Regulations.

(2) The entire building shall have installed a State Fire Marshal approved and listed automatic fire alarm system.

(3) The entire building shall be of at least Type V one-hour fire resistive construction, as described in Chapter 2-22 of Part 2 of Title 24 of the California Code of Regulations.

(4) A building with individual floor areas over 6,000 square feet per floor shall have an approved smoke barrier dividing the floor approximately in half, without regard to whether direct exiting is available from each dwelling unit.

(5) The entire building shall have at least two sets of enclosed stairways.

(c) All of the following building standards shall apply to any multistory building housing non-ambulatory persons on the third, fourth, or fifth floor, which is operated as a residential care facility for the elderly and licensed to care for more than six persons:

(1) The entire building, unless otherwise exempt pursuant to subdivision (d) of Section 13113, shall have installed a State Fire Marshal approved fully automatic fire extinguishing system, designed and installed in accordance with Section 2-3801(d) of Chapter 2-38 of Part 2 of Title 24 of the California Code of Regulations.

(2) The entire building shall have installed a State Fire Marshal approved and listed automatic fire alarm system.

(3) The entire building shall be of Type II fire resistive construction, as described in Chapter 2-19 of Part 2 of Title 24 of the California Code of Regulations.

(4) A building with individual floor areas over 6,000 square feet per floor shall have an approved smoke barrier dividing the floor approximately in half, without regard to whether direct exiting is available from each dwelling unit.

(5) The entire building shall have at least two sets of enclosed stairways.

(d) All of the following building standards shall apply to any multistory building housing non-ambulatory persons on floors above the fifth floor, which is operated as a residential care facility for the elderly and licensed to care for more than six persons:

(1) The entire building, unless otherwise exempt pursuant to subdivision (d) of Section 13113, shall have installed a State Fire Marshal approved fully automatic fire extinguishing system, designed and installed in accordance with Section 2-3801(d) of Chapter 2-38 of Part 2 of Title 24 of the California Code of Regulations.

(2) The entire building shall have installed a State Fire Marshal approved and listed automatic fire alarm system.

(3) The entire building shall be Type I fire resistive construction, as described in Chapter 2-18 of Part 2 of Title 24 of the California Code of Regulations.

(4) A building with individual floor areas over 6,000 square feet per floor shall have an approved smoke barrier dividing the floor approximately in half, without regard to whether direct exiting is available from each dwelling unit.

(5) The entire building shall have at least two sets of enclosed stairways.

(e) This section and the regulations adopted by the State Fire Marshal pursuant to subdivision (f) shall apply uniformly throughout the state and no city, county, city and county, or district shall adopt any ordinance, rule, or regulation which is inconsistent with this section or with the regulations adopted by the State Fire Marshal pursuant to subdivision (f).

(f) The State Fire Marshal shall adopt regulations establishing a reasonable fee, not to exceed the actual costs of inspection to the agency conducting the inspection, for the final inspection of any facility which is subject to the standards established pursuant to this section.

(g) This section shall be enforced in accordance with the division of authority prescribed in Section 13146.

*(Added by Stats. 1990, Ch. 436, Sec. 1.)*

**Sections: 907.2.11, 907.2.11.2, 907.2.11.3**

**Reason:**

Puzzle rooms are a new business model where people are placed in a room and asked either to find a way out of the room or to find their way to the next room in the puzzle. The rooms are typically small and might otherwise be classified as a B occupancy under the current code. Each of these are designed in a way to provide a unique experience for the customer. This unique design incorporates many possible features to disorient the occupants and or disguise the exit route. Such a design is contrary to the foundations of code specified exiting provisions.

This proposal seeks to establish criteria for puzzle rooms by incorporating them into the special amusement section. Since part of the appeal of this business model is that each experience is different, there is no way to prescriptively handle every situation. The language is generic but gives guidance on providing reliable exiting in an emergency.

The proposal is to correlate related sections in the code to the new proposed definition of special amusement area. The proposal removes the word “building” from the definition and adds the word “area”.

**[PUZZLE ROOM 2019 INTERVENING PROPOSALS]**

**[Associated Sections in Part 9, California Fire Code]:**

202, TABLE 903.2.11.6, 907.2.11, 907.2.11.2, 907.2.11.3, 914.7, 914.7.1, 914.7.2, TABLE 1017.2, 3103.3.1, O103.1, INDEX

**Section: 907.3.2, 907.3.2.1, 907.3.2.2, 907.3.2.3, 907.3.2.4, 907.3.2.5 (New)**

**Reason:**

The State Fire Marshal (SFM) with cooperation with Office of Statewide Health Planning Department (OSHPD) developed a series of code change proposals for fire and life safety regulations for I-2, I-2.1 and R-2.1 occupancies.

The proposed modifications coordinate the CBC section regulating the installation of smoke detectors associated with special locking devices with CFC requirements, corrects references and omissions and includes editorial corrections, reinstates a requirement permitting only automatic smoke detectors and identifies requirements for smoke detectors associated with the installation of controlled egress doors permitted elsewhere in the CBC.

**Section: 907.3.2**

The proposed changes to CBC Section 907.3.2 include requirements for both delayed egress locks and controlled egress doors. The proposed change to the title accurately identifies the scope of the section. The proposed changes include editorial revisions that amend the titles of the subsections to clearly indicate subsections that are applicable to delayed egress locks and subsections that are applicable to controlled egress doors. The proposed changes include editorial revisions to requirements for delayed egress locks installed in Group R-4 and Group A courthouse occupancies. The proposed changes include new provisions for the installation of smoke detectors required by CBC Section 1010.1.9.7 when controlled egress doors are installed. This proposed change specifies the location of necessary smoke detectors when they are required by CBC Section 1010.1.9.7. The proposed amendment reinstates the CFC requirement that an acceptable automatic detection system shall be only a smoke detection system. The IFC requirement permitting a heat detection system was placed into the text of the 2018 IFC without noting this



change. The proposed change is consistent with CFC Sections 907.3.2.1, 907.3.2.2, 907.3.2.3 and 907.3.2.4.

The proposed change does not establish a new requirement. The proposed change indicates where smoke detectors associated with controlled egress doors required by CBC Section 1010.1.9.7 must be located. This direction is necessary to avoid inadequate or unnecessarily excessive efforts of compliance.

**[Office of Statewide Health Planning Department (OSHPD) 2019 INTERVENING PROPOSALS]**

**[Related Sections in Part 9, California Fire Code]**

903.3.1.1.1, 904.13, 907.2.6.2.2, 907.3.2, 907.3.2.1, 907.3.2.3, 907.3.2.4, 907.3.2.5 (New), 909.5.3, 1010.1.9.7, 1010.1.9.8, 1026.4.1

**SECTION 909  
SMOKE CONTROL SYSTEMS**

**Section: 909.5.3**

**Reason:**

The State Fire Marshal (SFM) with cooperation with Office of Statewide Health Planning Department (OSHPD) developed a series of code change proposals for fire and life safety regulations for I-2, I-2.1 and R-2.1 occupancies.

The proposed change restores CBC requirements for fire rated smoke barrier doors installed across corridors, eliminates confusion regarding requirements for the installation of smoke barrier doors, and coordinates requirements with similar provisions included in CBC Section 709.5, Exceptions 1 and 2. The proposed change preserves exceptions prohibiting a center mullion.

The proposed change requires smoke barrier doors in Group I-2, I-2.1, R-2.1 and ambulatory care facilities, where installed across corridors, shall be in accordance with Section 716. CBC Section 716 requires that smoke barrier doors have a minimum fire protection rating of 20 minutes and shall be tested in accordance with NFPA 252 or UL 10C. CBC Section 909.5.3, Exceptions 3 and 4 contain criteria for cross-corridor doors that fail to meet CBC Section 716. The proposed change deletes the provisions in 909.5.3, Exceptions 3 and 4 that describe requirements for doors that do not comply with CBC Section 716.

The IBC has incrementally removed requirements for fire protection rated opening protection, however requirements for positive latching of doors installed across corridors in smoke barriers openings are still a requirement in CBC Section 909.5.3, Exception 3. As an unintended consequence, the IBC modifications also eliminate requirements for fire resistance rated doors across corridors in smoke barriers in Group I-2.1, R-2.1 and R-2.2 occupancies despite that the IBC does not recognize or regulate these occupancy groups. It has never been the intent of the SFM/OSHPD to permit doors in smoke barriers installed across corridors not be fire protection rated. The 1985 Triennial Edition of the State Building Code and subsequent editions of the CBC through the 2001 CBC required smoke

barrier doors in Group I-2 smoke barriers be fire protection rated and have positive latching.

Requiring fire protection rated smoke barrier doors in accordance with CBC Section 716 is consistent with the requirement in Section 709.5, Exception 2 that requires horizontal sliding doors be fire protection rated in accordance with CBC Section 716. The CBC contains no requirement for the substantial construction of swinging smoke barrier doors installed across corridors. The change restores a standard for swinging smoke barrier doors consistent with the CBC Section 709.5, Exception 2 requirement for horizontal sliding doors used for the same purpose and coordinates the requirements of Section 709.5, Exception 2 and Section 909.5.3, Exception 4.

A review of actual field conditions determined that it has been the actual practice of construction to install fire rated smoke barrier doors of labeled substantial construction at smoke barrier corridor openings. The proposed change reinstates the requirement in the California Building Code and reflects actual construction practice.

**[Office of Statewide Health Planning Department (OSHPD) 2019 INTERVENING PROPOSALS]**

**[Related Sections in Part 9, California Fire Code]**

903.3.1.1.1, 904.13, 907.2.6.2.2, 907.3.2, 907.3.2.1, 907.3.2.3, 907.3.2.4, 907.3.2.5 (New), 909.5.3, 1010.1.9.7, 1010.1.9.8, 1026.4.1

**SECTION 911  
EXPLOSION CONTROL**

**Sections: 911.1, TABLE 911.1, 911.4 (New)**

**Reason:**

Lithium-ion battery explosions have been occurring on a regular basis with a variety of products. These events are likely attributed to the release of flammable gases from batteries cells that vent flammable gases during thermal runaway and other off-normal conditions. This proposal provides correlation with a rewrite of Section 1206 ESS requirements. Specifically, new ESS explosion control requirements in Table 1206.6 and Section 1206.6.4 in the California Fire Code and [F] Table 414.5.1 of the California Building Code. The proposal also adds appropriate references to the NFPA 68 Standard on Explosion Protection by Deflagration Venting to add additional requirements and guidance on the installation of deflagration venting.

**Cost Impact:** The code change proposal will increase the cost of construction. The cost of construction will increase if explosion control is required, but that increase is not triggered by this proposal, but by the proposal that rewrites Section 1206. (F168-18)

**[ENERGY STORAGE SYSTEMS 2019 INTERVEING PROPOSALS]**

**[Associated Sections in Part 9, California Fire Code]:**

105.6, 105.6.52 (New), 105.7.2, 105.7.3, 202 (New), TABLE 903.2.11.6, 907.2.22, 907.2.23 (Delete), 911.1, TABLE 911.1, 911.4 (New), 1201.1, 1201.3, 1202.1 (New), 1203.2.6, 1203.2.19, 1205.1, 1205.5, 1205.14 (New), 1206.1, 1206.1.1

(New), 1206.1.2 (New), 1206.1.2.1 (New), TABLE 1206.1 (New), 1206.1.3 (New), 1206.1.4 (New), 1206.1.4.1 (New), 1206.1.4.2 (New), 1206.1.4.3 (New), 1206.1.5 (New), 1206.1.6 (New), 1206.1.6.1 (New), 1206.1.6.2 (New), TABLE 1206.2 (Delete), 1206.2, 1206.2.1, 1206.2.1.1 (New), 1206.2.1.2 (New), 1206.2.2, 1206.2.2.1 (New), 1206.2.3, 1206.2.3.1 (Delete), 1206.2.3.2 (Delete), 1206.2.3.3 (Delete), 1206.2.4 (Delete), 1206.2.5 (Delete), 1206.2.6 (Delete), 1206.2.7 (Delete), 1206.2.8 (Delete), 1206.2.8.1 (Delete), 1206.2.8.2 (Delete), 1206.2.8.3 (Delete), 1206.2.8.4 (Delete), 1206.2.8.5 (Delete), 1206.2.8.5.1 (Delete), 1206.2.8.6 (Delete), 1206.2.8.6.1 (Delete), 1206.2.8.6.2 (Delete), 1206.2.8.7 (Delete), 1206.2.8.7.1 (Delete), 1206.2.8.7.2 (Delete), 1206.2.8.7.3 (Delete), 1206.2.8.7.4 (Delete), TABLE 1206.2.9 (Delete), 1206.2.9 (Delete), 1206.2.9.1 (Delete), 1206.2.10 (Delete), 1206.2.10.1 (Delete), 1206.2.10.2 (Delete), 1206.2.10.3 (Delete), 1206.2.10.4 (Delete), 1206.2.10.5 (Delete), 1206.2.10.6 (Delete), 1206.2.10.7 (Delete), 1206.2.10.8 (Delete), 1206.2.11 (Delete), 1206.2.11.1 (Delete), 1206.2.11.1.1 (Delete), 1206.2.11.2 (Delete), 1206.2.11.3 (Delete), 1206.2.11.3.1 (Delete), 1206.2.11.3.2 (Delete), 1206.2.11.4 (Delete), 1206.2.11.4.1 (Delete), 1206.2.11.5 (Delete), 1206.2.12 (Delete), 1206.2.12.1 (Delete), 1206.2.12.2 (Delete), 1206.2.12.3 (Delete), 1206.2.12.4 (Delete), 1206.2.12.5 (Delete), 1206.2.12.6 (Delete), 1206.3, 1206.3.1, 1206.3.2, 1206.3.2.1 (Delete), 1206.3.2.2 (Delete), 1206.3.2.3 (Delete), 1206.3.2.4 (Delete), 1206.3.2.5 (Delete), 1206.3.2.6 (Delete), 1206.3.2.6.1 (Delete), 1206.3.2.6.2 (Delete), 1206.3.2.6.3 (Delete), 1206.3.2.6.4 (Delete), 1206.3.3, 1206.3.4, 1206.3.4.1 (Delete), 1206.3.4.2 (Delete), 1206.3.4.3 (Delete), 1206.3.4.4 (Delete), 1206.3.4.5 (Delete), 1206.3.5, 1206.3.5.1 (Delete), 1206.3.5.1.1 (Delete), 1206.3.5.2 (Delete), 1206.3.5.3 (Delete), 1206.3.5.3.1 (Delete), 1206.3.5.4 (Delete), 1206.3.6, 1206.3.7 (New), 1206.3.7.1 (New), 1206.3.8 (New), 1206.3.9 (New), 1206.4 (New), 1206.4.1 (New), 1206.4.2 (New), 1206.4.3 (New), 1206.4.4 (New), 1206.4.5 (New), 1206.4.6 (New), 1206.4.7 (New), 1206.4.8 (New), 1206.4.9 (New), 1206.4.10 (New), 1206.4.11 (New), 1206.4.12 (New), 1206.5 (New), 1206.5.1 (New), 1206.5.2 (New), 1206.5.2.1 (New), TABLE 1206.5 (New), 1206.5.3 (New), 1206.5.4 (New), 1206.5.4.1 (New), 1206.5.5 (New), 1206.5.5.1 (New), 1206.5.6 (New), 1206.5.7 (New), 1206.5.8 (New), 1206.6 (New), TABLE 1206.6 (New), 1206.6.1 (New), 1206.6.1.1 (New), 1206.6.1.2 (New), 1206.6.1.2.1 (New), 1206.6.1.2.2 (New), 1206.6.1.2.3 (New), 1206.6.1.2.4 (New), 1206.6.2 (New), 1206.6.2.1 (New), 1206.6.2.2 (New), 1206.6.2.3 (New), 1206.6.3 (New), 1206.6.4 (New), 1206.6.5 (New), 1206.7 (New), 1206.7.1 (New), 1206.7.2 (New), TABLE 1206.7 (New), 1206.7.3 (New), 1206.7.4 (New), 1206.8 (New), 1206.8.1 (New), 1206.8.2 (New), TABLE 1206.8 (New), 1206.8.3 (New), 1206.8.4 (New), 1206.9 (New), 1206.9.1 (New), 1206.9.2 (New), TABLE 1206.9 (New), 1206.9.3 (New), 1206.9.4 (New), 1206.9.5 (New), 1206.9.6 (New), 1206.10 (New), 1206.10.1 (New), 1206.10.2 (New), 1206.10.3 (New), 1206.10.4 (New), 1206.10.4.1 (New), 1206.10.5 (New), 1206.10.6 (New), 1206.10.7 (New), 1206.10.7.1 (New), 1206.10.7.2 (New), 1206.10.7.3 (New), 1206.10.7.4 (New), 1206.10.7.5 (New), 1206.10.7.6 (New), 1206.10.7.7 (New), TABLE 1206.10 (New), 1206.11 (New), 1206.11.1 (New), 1206.11.2 (New), 1206.11.2.1 (New), 1206.11.3 (New), 1206.11.4 (New), 1206.11.5 (New), 1206.11.6 (New), 1206.11.7 (New), 1206.11.8 (New), 1206.11.9 (New), 1206.11.10 (New), TABLE 2204.1, [Chapter 80] NFPA 68 (New), NFPA 76 (New), UL 1974 (New, UL 9540A (New)

**SECTION 914  
FIRE PROTECTION BASED ON SPECIAL DETAILED  
REQUIREMENTS OF USE AND OCCUPANCY**

**Sections: 914.7, 914.7.1, 914.7.2**

**Reason:**

Puzzle rooms are a new business model where people are placed in a room and asked either to find a way out of the room or to find their way to the next room in the puzzle. The rooms are typically small and might otherwise be classified as a B occupancy under the current code. Each of these are designed in a way to provide a unique experience for the customer. This unique design incorporates several possible features to disorient the occupants and/or disguise the exit route. Such a design is contrary to the foundations of code specified exiting provisions. This proposal seeks to establish criteria for puzzle rooms by incorporating them into the special amusement section. Since part of the appeal of this business model is that each experience is different, there is no way to prescriptively handle every situation. The language is generic but gives guidance on providing reliable exiting in an emergency. While researching this proposal, it was recognized that the special amusement building section needed some updating. The word "building" is changed to "area" and the fire alarm provisions were rewritten to correlate with section 907 of the fire code.

This proposal was heard and approved for the ICC 2021 code hearings. The SFM is proposing to bring these regulations in California to address the need for public and life safety, as well as give the code officials a tool for enforcement.

**Cost Impact:**

The code change proposal will increase the cost of construction. Many of these rooms may be classified currently as a B occupancy as they are not specifically called out in the code. As such, there are very little requirements for fire alarm or sprinkler systems. Depending on the size and configuration of the room(s), this provision would increase the cost of construction. (G48-18)

**[PUZZLE ROOM 2019 INTERVENING PROPOSALS]**

**[Associated Sections in Part 9, California Fire Code]:**

202, TABLE 903.2.11.6, 907.2.11, 907.2.11.2, 907.2.11.3, 914.7, 914.7.1, 914.7.2, TABLE 1017.2, 3103.3.1, O103.1, INDEX

**Item 8. CHAPTER 10  
MEANS OF EGRESS**

**SECTION 1004  
OCCUPANT LOAD**

**Section: TABLE 1004.5**

**Reason:**

The code change to the business area occupant load factor is editorial to correlate with the California Building Code. The change was missed in the 2018 Triennial rulemaking code

cycle. The proposal is to correct that error and create consistency in the codes.

## **Section: 1004.5, TABLE 1004.5**

### **Reason:**

The State Fire Marshal's I-3 occupancy work group is proposing 3 additional exceptions to section 1004.5, areas without fixed seating. The functions of institutional occupancies are not a one size fit all approach for an understanding of fire and life safety. The exceptions proposed point to applicable sections in the California Building Code Chapter 12 for unique institutional conditions that warrant different occupant load factors.

In many cases of the numbers are minimums, i.e. a safety cell must be at least 64 sf min and will end up about 70 sf, which does not mean there are two occupants. Holding cells for example need to be a minimum of 40 sf at 10 sf per inmate minimum, but in reality, it is the bench that defines the occupant load (18" min per inmate). If it is an ADA holding cell, we would add 1 occupant for the wheelchair spot.

There are other minimum areas for offices, exam rooms, etc. but those are nuanced because only one needs to meet those minimum sizes. Additional rooms might be provided which are under the minimums.

The State Fire Marshal is proposing to adopt the California Building Code sections 1227, 1230 and 1231, for construction and plan review compliance, even though the Board of Community Corrections will also enforce the regulations. This will allow designers to observe the requirements in the early phases of review and design. This will lead to less change orders when a space is found to not meet the requirements of another State agency. The adoption of these sections is within the authority of the State Fire Marshal's office as they pertain to fire and life safety of the building housing inmates of various degree in asylums, jails, prisons or institutions per Health and Safety Code 13143.

A footnote pointer to the new proposed California Building Code Table 408.3.13 to be added to Table 1004.5. California Building Code Table 408.13 is proposed to clarify the occupancy load factor to be used during the review of I-3 facilities, which include housing pods, refuge areas, safe dispersal areas as well as holding cells, and bench seating. Chapter 10, Table 1004.5 does not clearly list any occupant load factor for these functions of space that are unique to the I-3 facilities regulated by the California Building Code Chapter 4. This code change proposal is to address the need for a concise location for evaluating the exiting requirements based on occupant load factor for I-3 functions of space, which are scattered throughout the regulations in the California Building Code Chapter 4. The table format is a tool to bring all the different section requirements in one place for code user ease. By using a standard occupant load factor, the code user can then easily and consistently determine which condition is required to be met. The intent of the proposal is to give the code user a tool for calculating the number of required exits within a detention facility that may not otherwise be clear. A footnote reference is added to Table 1004.5 to point to California Building Code Table 408.3.13 for these special functions of space.

**Cost Impact:** This may be decrease in construction, due to the compliance early in the

design phase.

**[I-3 OCCUPANCY 2019 INTERVENING PROPOSALS]  
[Related Sections in Part 9, California Fire Code]:  
202,1004.5, TABLE 1004.5, TABLE 1020.2**

**SECTION 1010  
DOORS, GATES AND TURNSTILES**

**Section: 1010.1.9.7**

**Reason:**

The State Fire Marshal (SFM) with cooperation with Office of Statewide Health Planning Department (OSHPD) developed a series of code change proposals for fire and life safety regulations for I-2, I-2.1 and R-2.1 occupancies.

The proposed amendments identify the intent of the SFM/OSHPD to permit the locking of egress doors in a Group I-2 occupancy only when required to restrain or contain psychiatric or mental health patients. The proposed amendment also specifies that smoke detectors are required when the locking of doors is permitted.

The proposed change does not establish a new requirement. The proposed change provides additional clarification that controlled egress doors are permitted only for restraint or containment of psychiatric and mental health patients. The terms psychiatric and mental health appear elsewhere in the CBC and for clarification, both terms are used in the proposed change. The proposed change deletes CBC 1010.1.9.7, Exception 2. Exception 2 references egress control systems used to reduce the risk of child abduction. In a Group I-2 occupancy, the SFM permits restraint only for psychiatric and mental health patients therefore exception 2 is not applicable. Permitting only smoke detectors and not heat detectors is consistent with previous editions of the CBC and 2019 CFC Sections 907.3.2.1, 907.3.2.2, 907.3.2.3 and 907.3.2.4.

**[Office of Statewide Health Planning Department (OSHPD) 2019 INTERVENING PROPOSALS]**

**[Related Sections in Part 9, California Fire Code]**

903.3.1.1.1, 904.13, 907.2.6.2.2, 907.3.2, 907.3.2.1, 907.3.2.3, 907.3.2.4, 907.3.2.5 (New), 909.5.3, 1010.1.9.7, 1010.1.9.8, 1026.4.1

**Section: 1010.1.9.8**

**Reason:**

The State Fire Marshal (SFM) with cooperation with Office of Statewide Health Planning Department (OSHPD) developed a series of code change proposals for fire and life safety regulations for I-2, I-2.1 and R-2.1 occupancies.

The proposed amendment restores a California Building Code requirement modified by the International Building Code.

The proposed amendment deletes a heat detection system from the IBC provisions related to fire protection systems required for protecting occupancies when delayed egress locking

systems are installed. The proposed amendment reinstates the CBC requirement that an acceptable automatic detection system shall be only a smoke detection system. The IBC requirement permitting a heat detection system was placed into the text of the 2018 IBC without noting this change. The SFM proposed change is consistent with CBC Section 1010.1.9.8.1, Item 2.2.2 which references a smoke detection system and CFC Sections 907.3.2.1, 907.3.2.2, 907.3.2.3 and 907.3.2.4 which require smoke detectors.

The proposed amendment does not represent a change in requirements as other provisions in the CFC requires smoke detection systems.

**[Office of Statewide Health Planning Department (OSHPD) 2019 INTERVENING PROPOSALS]**

**[Related Sections in Part 9, California Fire Code]**

903.3.1.1.1, 904.13, 907.2.6.2.2, 907.3.2, 907.3.2.1, 907.3.2.3, 907.3.2.4, 907.3.2.5 (New), 909.5.3, 1010.1.9.7, 1010.1.9.8, 1026.4.1

**SECTION 1017  
EXIT ACCESS TRAVEL DISTANCE**

**Section: TABLE 1017.2**

**Reason:**

The proposal is to correlate and correct section number for special amusement areas. Reference pointer and important for code users to find additional requirements for design and enforcement.

**[PUZZLE ROOM 2019 INTERVENING PROPOSALS]**

**[Associated Sections in Part 9, California Fire Code]:**

202, TABLE 903.2.11.6, 907.2.11, 907.2.11.2, 907.2.11.3, 914.7, 914.7.1, 914.7.2, TABLE 1017.2, 3103.3.1, O103.1, INDEX

**SECTION 1020  
CORRIDORS**

**Section: TABLE 1020.1**

**Reason:**

The code change to the E occupancy corridor required fire resistance rating with a sprinkler system is editorial to correlate with the California Building Code. The change was missed in the 2018 Triennial rulemaking code cycle. The proposal is to correct that error and create consistency in the codes.

**Section: TABLE 1020.2**

**Reason:**

The purpose of the proposal is to clarify that the 96-inch-wide corridor dimension was only required for bed movement. The problem is the regulation is over restrictive for areas

where bed movement is not being used. This amendment as currently published conflicts with the 1991 Federal Americans with Disabilities Act (ADA) regarding the term non-ambulatory.

The amendment to the table proposed to be repealed is inconsistent with corridor requirements for I-2 occupancies, national standards, and Federal Law; the intent was for the requirements is to be the same and comply with Federal Law.

The benefit is to provide for reasonable corridor width where bed movement is not required.

**Cost Impact:** Construction cost may decrease, based on better utilization of space and increased efficiency. Up to 5 percent operational cost savings and up to 2 percent construction costs for correctional facilities without bed movement.

**[I-3 OCCUPANCY 2019 INTERVENING PROPOSALS]**  
**[Related Sections in Part 9, California Fire Code]:**  
202,1004.5, TABLE 1004.5, TABLE 1020.2

**Section: 1020.5**

**Reason:**

This proposal provide clarification on the regulations. When you have a pressurized room, there will be incidental air movement. It is not the intent of the regulations to prohibit any air movement, but to prohibit the corridor use as a supply or return air plenum. The exception provides the clarity for designing L occupancy laboratories.

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

**[L OCCUPANCY WORK GROUP 2019 INTERVENING PROPOSALS]**  
**[Related Sections in Part 9, California Fire Code]:**  
1020.5, Section Title 1116, 1116.7, 5003.10.2, 5003.10.4.1.1 (New), 5003.10.4.4, 5003.10.5 (New), 5003.10.5.1 (New), 5003.10.5.2 (New), 5003.10.5.2.1 (New), 5003.10.5.3 (New), 5003.10.5.5 (New), 5003.10.5.5 (New), 5003.10.5.6 (New), 5003.10.5.7 (New), 5003.10.6 (New), 5003.10.6.1 (New), 5003.10.6.2 (New)

**SECTION 1026**  
**HORIZONTAL EXITS**

**Section: 1026.4.1**

**Reason:**

The proposed change coordinates California Building Code requirements with reformatting of the 2018 International Building Code, Section 1026.4.1. The proposed change corrects errors to be consistent with occupancies that are unique to California, as well as update



code reference sections.

**[Office of Statewide Health Planning Department (OSHPD) 2019 INTERVENING PROPOSALS]**

**[Related Sections in Part 9, California Fire Code]**

903.3.1.1.1, 904.13, 907.2.6.2.2, 907.3.2, 907.3.2.1, 907.3.2.3, 907.3.2.4, 907.3.2.5 (New), 909.5.3, 1010.1.9.7, 1010.1.9.8, 1026.4.1

**SECTION 1030  
EMERGENCY ESCAPE AND RESCUE**

**Section: 1030.1**

**Reason:**

The clarification of where the requirements for emergency escape and rescue openings are required was added in the 2018 International Building Code. California has an existing amendment that requires emergency escape and rescue openings in all Group R occupancies. The California amendment was mistakenly dropped in publication. The proposal is to re-instate the requirement for all Group R occupancies in California.

The provision for Emergency Escape and Rescue windows in residential occupancies was first introduced into the Uniform Building Code in 1964. At that time, there was no requirement for either smoke detection or automatic sprinkler protection within residential occupancies. Currently, the California Building Code includes provisions for smoke detection in all residential occupancies, and automatic sprinkler protection in multi-family residential occupancies. Smoke detection provides demonstrated lifesaving advantages in the event of a fire. Automatic sprinkler systems with residential or quick response sprinklers limit fire growth and spread, combined with the requirement for occupant notification of a sprinkler system water flow condition also affords life safety advantages.

Furthermore, the California Building Code continues to be more restrictive than the International Building Code language by requiring one-hour fire-resistance rated corridor construction in all Group R occupancies having an occupant load greater than 10. This protection affords additional life safety advantages. Although the International Building Code language, recognizes the advantages afforded by these systems, California has historically continued to require the escape and rescue windows in all residential occupancies.

**Item 9. CHAPTER 11  
CONSTRUCTION REQUIREMENTS FOR EXISTING BUILDINGS**

**SECTION 1103  
FIRE SAFETY REQUIREMENTS  
FOR EXISTING BUILDINGS**

**Section: 1103.3. 1103.3.1, 1103.3.2**

**Reason:**

ASME A17.3 is not applicable in California for the installation of elevators, escalators and

moving walks per the California Code of Regulations, Title 8 Elevator Safety Orders. The applicable code standard for new and existing elevators in California is the California Code of Regulations, Title 8, Division I, Chapter 4, Subchapter 6, Elevator Safety Orders.

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

[dir.ca.gov/samples/search/query.htm](http://dir.ca.gov/samples/search/query.htm)

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

### **[ELEVATOR WORK GROUP 2019 INTERVENING PROPOSALS]**

#### **[Related Sections in Part 9, California Fire Code]:**

606.1.1 (New), 606.2, 606.2.4, 606.2.5 (New), 606.8.6 (New), 606.8.6.1 (New), 606.8.6.2 (New), 606.8.6.3 (New), 606.8.6.4 (New), 1103.3, 1103.3.1, 1103.3.2, 1103.3.3 (New), [Chapter 80] ASME A17.1/CSA B44, ASME A17.3, [NFPA 13-16] 8.15.5.1, 8.15.5.2, 8.15.5.3, 8.15.5.7.1, 8.15.5.7.2, [Appendix K] K104.3.1, K104.3.2, K105

#### **Section: 1103.3.3 (New)**

##### **Reason:**

The code change proposal is taking the intent of the exceptions from CBC 3002.4.1a for existing elevators to be able to demonstrate the gurney size requirements to the local authority having jurisdiction for compliance with the existing conditions. For existing elevators that are being proposed to be altered, repaired or replaced. If the cab is retained, then the gurney size requirements shall be those that were required at the time of original installation. In some cases, the replacement of the car does not warrant the construction of a new hoistway. When the elevator installer can demonstrate that the gurney size.

##### Model code International Building Code 2018 (FOR REFERENCE)

3002.4 Elevator car to accommodate ambulance stretcher. Where elevators are provided in buildings four or more stories above, or four or more stories below, grade plane, not fewer than one elevator shall be provided for fire department emergency access to all floors. The elevator car shall be of such a size and arrangement to accommodate an ambulance stretcher 24 inches by 84 inches (610 mm by 2134 mm) with not less than 5-inch (127 mm) radius corners, in the horizontal, open position and shall be identified by the international symbol for emergency medical services (star of life). The symbol shall be not less than 3 inches (76 mm) in height and shall be placed inside on both sides of the hoistway door frame.

##### California Building Code Section 11B-408.4 (FOR REFERENCE)

11B-408.4 Elevator cars. Elevator cars shall comply with Section I J B-408.4.

11B-408.4.1 Car dimensions and doors. Elevator cars shall provide a clear width 42 inches

(1067 mm) minimum and a clear depth 54 inches (1372 mm) minimum. Car doors shall be positioned at the narrow ends of cars and shall provide 32 inches (813 mm) minimum clear width.

Exceptions:

1. Cars that provide a clear width 51 inches (1295 mm) minimum shall be permitted to provide a clear depth 51 inches (1295 mm) minimum provided that car doors provide a clear opening 36 inches (914 mm) wide minimum.

### Stretcher Requirements for Elevators in California – Reference Material

Title 24, Part 2, California Building Code (CBC) was first published in 1981. The California Building Code was modeled after the 1979 edition of the Uniform Building Code (UBC).

Title 24, Part 2, CBC, Section 5108 - Medical Emergency Elevators (California addition to the UBC) became effective July 1, 1986.

Section 5108 required the following:

A minimum 22½-inch by 75-inch ambulance gurney or stretcher; and,

A minimum inside car platform of 6 feet 8 inches wide by 4 feet 3 inches deep, and minimum door size of 3 feet 6 inches wide by 6 feet 6 inches high.

Stretcher Requirements for elevators were first published in the 1988 edition of the Uniform Building Code.

The UBC prescribed:

A minimum 24-inch by 76-inch ambulance-style stretcher; and,

A minimum inside car platform of 6 feet 8 inches wide by 4 feet 3 inches deep (or 4 feet 6 inches from the wall to the doors), and minimum 3 feet 6 inch side slide doors.

In 2007, the UBC model was replaced by the International Building Code (IBC) standard.

The 2007 edition of Title 24, Part 2, CBC, was the first edition to be based on the International Building Code. The Medical Emergency Elevators requirements were moved to Chapter 30 section 3002.4a General stretcher requirements.

3002.4a General stretcher requirements require the following:

Minimum stretcher size was increased to the IBC standard of 24-inch by 84-inch with not less than 5-inch radius corners.

The minimum inside clear dimensions for the car and doors remained unchanged (minimum inside car platform of 6 feet 8 inches wide by 4 feet 3 inches deep (or 4 feet 6 inches from the wall to the doors), and minimum 3 feet 6-inch side slide doors.

Note: The IBC model standard did not prescribe a minimum car and door dimension.

**[ELEVATOR WORK GROUP 2019 INTERVENING PROPOSALS]**

**[Related Sections in Part 9, California Fire Code]:**

606.1.1 (New), 606.2, 606.2.4, 606.2.5 (New), 606.8.6 (New), 606.8.6.1 (New), 606.8.6.2 (New), 606.8.6.3 (New), 606.8.6.4 (New), 1103.3, 1103.3.1, 1103.3.2, 1103.3.3 (New), [Chapter 80] ASME A17.1/CSA B44, ASME A17.3, [NFPA 13-16] 8.15.5.1, 8.15.5.2, 8.15.5.3, 8.15.5.7.1, 8.15.5.7.2, [Appendix K] K104.3.1, K104.3.2, K105

**SECTION 1116**  
**EXISTING GROUP L AND GROUP H-8 OCCUPANCIES [SFM]**

**Sections: 1116, 1116.7**

**Reason:**

The proposal to add the reference to the term Group H-8 is to explain to the code user that for existing buildings approved prior to January 1, 2008 this code section could apply. On January 1, 2008, the 2007 California Building Code became effective and the L occupancy was introduced. The Tables reference in Chapter 11 are duplicated from the 2001 California Building Code which are applicable to the original intent of the original Group H-8 occupancy.

Definition of a Group H-8 from the 2001 California Building Code for reference:

Section 307.1 Group H Occupancies Defined.

Section 307.1.1

Group H Division 8 [SFM] Laboratories and similar areas used for scientific experimentation or research having quantities of materials not in excess of those listed in Tables 3-D.1 and 3-I and not otherwise classified as Group B Occupancies. Such laboratories may be classified as Group B occupancies when the quantities of materials are not in excess of those listed in Tables 3-D and 3-E. Laboratories having quantities of materials in excess of those listed in Table 3-E and which are located below the fourth story may be classified as a Group H, Division 7 Occupancy.

**[L OCCUPANCY WORK GROUP 2019 INTERVENING PROPOSALS]**

**[Related Sections in Part 9, California Fire Code]:**

1020.5, Section Title 1116, 1116.7, 5003.10.2, 5003.10.4.1.1 (New), 5003.10.4.4, 5003.10.5 (New), 5003.10.5.1 (New), 5003.10.5.2 (New), 5003.10.5.2.1 (New), 5003.10.5.3 (New), 5003.10.5.5 (New), 5003.10.5.5 (New), 5003.10.5.6 (New), 5003.10.5.7 (New), 5003.10.6 (New), 5003.10.6.1 (New), 5003.10.6.2 (New)

**Item 10. CHAPTER 12**  
**ENERGY SYSTEMS**

**Sections: 1201.1, 1201.3, 1202.1 (New), 1203.2.6, 1203.2.19, 1205.1, 1205.5, 1205.14**

(New), 1206.1, 1206.1.1 (New), 1206.1.2 (New), 1206.1.2.1 (New), TABLE 1206.1 (New), 1206.1.3 (New), 1206.1.4 (New), 1206.1.4.1 (New), 1206.1.4.2 (New), 1206.1.4.3 (New), 1206.1.5 (New), 1206.1.6 (New), 1206.1.6.1 (New), 1206.1.6.2 (New), TABLE 1206.2 (Delete), 1206.2, 1206.2.1, 1206.2.1.1 (New), 1206.2.1.2 (New), 1206.2.2, 1206.2.2.1 (New), 1206.2.3, 1206.2.3.1 (Delete), 1206.2.3.2 (Delete), 1206.2.3.3 (Delete), 1206.2.4 (Delete), 1206.2.5 (Delete), 1206.2.6 (Delete), 1206.2.7 (Delete), 1206.2.8 (Delete), 1206.2.8.1 (Delete), 1206.2.8.2 (Delete), 1206.2.8.3 (Delete), 1206.2.8.4 (Delete), 1206.2.8.5 (Delete), 1206.2.8.5.1 (Delete), 1206.2.8.6 (Delete), 1206.2.8.6.1 (Delete), 1206.2.8.6.2 (Delete), 1206.2.8.7 (Delete), 1206.2.8.7.1 (Delete), 1206.2.8.7.2 (Delete), 1206.2.8.7.3 (Delete), 1206.2.8.7.4 (Delete), TABLE 1206.2.9 (Delete), 1206.2.9 (Delete), 1206.2.9.1 (Delete), 1206.2.10 (Delete), 1206.2.10.1 (Delete), 1206.2.10.2 (Delete), 1206.2.10.3 (Delete), 1206.2.10.4 (Delete), 1206.2.10.5 (Delete), 1206.2.10.6 (Delete), 1206.2.10.7 (Delete), 1206.2.10.8 (Delete), 1206.2.11 (Delete), 1206.2.11.1 (Delete), 1206.2.11.1.1 (Delete), 1206.2.11.2 (Delete), 1206.2.11.3 (Delete), 1206.2.11.3.1 (Delete), 1206.2.11.3.2 (Delete), 1206.2.11.4 (Delete), 1206.2.11.4.1 (Delete), 1206.2.11.5 (Delete), 1206.2.12 (Delete), 1206.2.12.1 (Delete), 1206.2.12.2 (Delete), 1206.2.12.3 (Delete), 1206.2.12.4 (Delete), 1206.2.12.5 (Delete), 1206.2.12.6 (Delete), 1206.3, 1206.3.1, 1206.3.2, 1206.3.2.1 (Delete), 1206.3.2.2 (Delete), 1206.3.2.3 (Delete), 1206.3.2.4 (Delete), 1206.3.2.5 (Delete), 1206.3.2.6 (Delete), 1206.3.2.6.1 (Delete), 1206.3.2.6.2 (Delete), 1206.3.2.6.3 (Delete), 1206.3.2.6.4 (Delete), 1206.3.3, 1206.3.4, 1206.3.4.1 (Delete), 1206.3.4.2 (Delete), 1206.3.4.3 (Delete), 1206.3.4.4 (Delete), 1206.3.4.5 (Delete), 1206.3.5, 1206.3.5.1 (Delete), 1206.3.5.1.1 (Delete), 1206.3.5.2 (Delete), 1206.3.5.3 (Delete), 1206.3.5.3.1 (Delete), 1206.3.5.4 (Delete), 1206.3.6, 1206.3.7 (New), 1206.3.7.1 (New), 1206.3.8 (New), 1206.3.9 (New), 1206.4 (New), 1206.4.1 (New), 1206.4.2 (New), 1206.4.3 (New), 1206.4.4 (New), 1206.4.5 (New), 1206.4.6 (New), 1206.4.7 (New), 1206.4.8 (New), 1206.4.9 (New), 1206.4.10 (New), 1206.4.11 (New), 1206.4.12 (New), 1206.5 (New), 1206.5.1 (New), 1206.5.2 (New), 1206.5.2.1 (New), TABLE 1206.5 (New), 1206.5.3 (New), 1206.5.4 (New), 1206.5.4.1 (New), 1206.5.5 (New), 1206.5.5.1 (New), 1206.5.6 (New), 1206.5.7 (New), 1206.5.8 (New), 1206.6 (New), TABLE 1206.6 (New), 1206.6.1 (New), 1206.6.1.1 (New), 1206.6.1.2 (New), 1206.6.1.2.1 (New), 1206.6.1.2.2 (New), 1206.6.1.2.3 (New), 1206.6.1.2.4 (New), 1206.6.2 (New), 1206.6.2.1 (New), 1206.6.2.2 (New), 1206.6.2.3 (New), 1206.6.3 (New), 1206.6.4 (New), 1206.6.5 (New), 1206.7 (New), 1206.7.1 (New), 1206.7.2 (New), TABLE 1206.7 (New), 1206.7.3 (New), 1206.7.4 (New), 1206.8 (New), 1206.8.1 (New), 1206.8.2 (New), TABLE 1206.8 (New), 1206.8.3 (New), 1206.8.4 (New), 1206.9 (New), 1206.9.1 (New), 1206.9.2 (New), TABLE 1206.9 (New), 1206.9.3 (New), 1206.9.4 (New), 1206.9.5 (New), 1206.9.6 (New), 1206.10 (New), 1206.10.1 (New), 1206.10.2 (New), 1206.10.3 (New), 1206.10.4 (New), 1206.10.4.1 (New), 1206.10.5 (New), 1206.10.6 (New), 1206.10.7 (New), 1206.10.7.1 (New), 1206.10.7.2 (New), 1206.10.7.3 (New), 1206.10.7.4 (New), 1206.10.7.5 (New), 1206.10.7.6 (New), 1206.10.7.7 (New), TABLE 1206.10 (New), 1206.11 (New), 1206.11.1 (New), 1206.11.2 (New), 1206.11.2.1 (New), 1206.11.3 (New), 1206.11.4 (New), 1206.11.5 (New), 1206.11.6 (New), 1206.11.7 (New), 1206.11.8 (New), 1206.11.9 (New), 1206.11.10 (New)

## **SECTION 1201 GENERAL**

### **Sections: 1201.1, 1202.1**

**Reason:**

The addition of energy storage system (ESS) requirements into the 2018 code was an initial effort to address safety hazards associated with the increased use of lithium-ion batteries, capacitors and other modern energy storage system (ESS) technologies for an expanded number of grid related energy storage applications. The new requirements were a huge step toward addressing modern ESS technologies and grid based applications. However, as written the requirements made it difficult to apply appropriate safety requirements for different installations, each with their own risks and exposures. Case in point, a lead acid battery ESS installation in an unmanned rural telecommunications repeater doesn't present the same risks and exposures as a lithium-ion battery ESS installation in a mixed occupancy high rise in an urban area.

**SECTION 1202  
DEFINITIONS**

**Section:1202.1**

Since the 2018 ESS requirements were developed there has been a lot of work done by private and government stakeholders to enhance ESS installation requirements, including the initial drafting of the NFPA 855 Energy Storage System standard. The Fire Code Action Committee's ESS work group, which includes 45+ code officials, manufacturers, users and industry experts identified several areas in the 2018 code that needed to be addressed to provide requirements that better address the hazards and exposures associated with various types of ESS installations, technologies and operations.

**SECTION 1203  
EMERGENCY AND STANDBY POWER SYSTEMS**

**Section: 1203.2.6, 1203.2.19**

This section rewrite retains many of the basic protection concepts in the 2018 code, but also provide customized requirements for different types of installations and different types of ESS technologies in use today. We chose to replace the section in its entirety, rather than trying to edit existing text. Explanations of some of the more significant changes are included below.

Mobile ESS operations, consisting of lithium-ion batteries on trailers or skids are being deployed to locations to provide a temporary source of power. An operational permit is required for the mobile operations.

**SECTION 1205  
STATIONARY FUEL CELL POWER SYSTEMS**

**Section: 1205.1, 1205.5, 1205.14 (New)**

Section 1205 This proposal is intended to provide correlation with proposals updating the energy storage system provisions in Section 1206 and work being done with the initial NFPA 855 Energy Storage Systems Standard.

## **SECTION 1206 ELECTRICAL ENERGY STORAGE SYSTEMS (ESS)**

### **Section: 1206.1 through 1206.11.10 (New)**

Both the current draft of NFPA 855 and an updated proposal to Section 1206 will provide exceptions from the ESS language for temporary use of electric vehicles, (a fuel cell powered vehicle is an electric vehicle), to power R-3 or R-4 dwellings. The NFPA 855 language would also include IRC one- and two-family homes and townhouses.

The conditions are that the vehicles belong to an owner or occupant of the unit, not a third party. Third party applications of mobile ESS is proposed to be separately regulated by NFPA 855 and the IFC.

Additionally, the use must comply with the vehicle manufacturer's instructions and NFPA 70 to provide for an appropriate level of safety. The vehicle manufacturer's information covers the approved electric connection on the vehicle itself in accordance with federal standards and NFPA 70 covers the necessary requirements for the electrical connections to the dwelling.

Vehicles capable of being used in this manner already have been marketed. It is more than a convenience issue, in times of natural disasters with associated power outages the ability to utilize the energy provided by the owner/occupants personal vehicle could be critical.

Section 1206.1 includes general requirements for all ESS. No significant changes were made to the Construction Document and Hazard Mitigation Analysis requirements.

### **Section: 1206.1.5 (New)**

Section 1206.1.5 The 2018 IFC allowed certain variances be allowed based on large scale fire and fault condition testing, but the criteria for conducting such testing was undefined. The UL 9540A Test Method was specifically developed to cover this testing.

### **Section: 1206.1.6 (New)**

Section 1206.1.6 This section was developed to address fire events involving lithium-ion battery systems, since lithium ion battery fires have the potential to re-ignite hours or even days after initial extinguishment by the fire department, who cannot remain on scene indefinitely until the fire damaged ESS is safely removed from the premises. The fire remediation requirements, similar to fire watch requirements, make the owner responsible for sending mitigation personnel to the scene take over the remediation process.

## Section: 1206.2

Section 1206.2 covers commissioning, decommissioning, maintenance and testing requirements, which are important considerations for providing a safe, code compliant installation.

### Section: 1206.6.2.3 (New)

Section 1206.6.2.3 This proposal incorporates and clarifies the industry's basic quantity requirements for spill control as it applies to telecommunication utility facilities utilizing lead acid or nickel cadmium batteries. It provides a trigger for when to require spill control measures that corresponds to what is required for high hazard occupancies. In the IFC, you typically must be a high hazard occupancy before there is a requirement for spill control, then you must have individual containers exceeding 55 gallons in capacity or an aggregate amount exceeding 1,000 gallons. **5004.2.2 Secondary containment for hazardous material liquids and solids.** Where required by Table 5004.2.2 buildings, rooms or areas used for the storage of hazardous materials liquids or solids shall be provided with secondary containment in accordance with this section where the capacity of an individual vessel or the aggregate capacity of multiple vessels exceeds both of the following:

1. Liquids: Capacity of an individual vessel exceeds 55 gallons (208 L) or the aggregate capacity of multiple vessels exceeds 1,000 gallons (3785 L).

Since the lead-acid or nickel cadmium batteries regulated by this portion of the code do not exceed 50 gallons of electrolytes individually the 'exceeding 55 gallons' trigger would not come in to play, so only the "1,000-gallon aggregate" threshold is being brought over.

The suggested language has been restructured to leave the existing language as is and to instead add a section advising when to apply the spill control requirements to a telecommunications utility facility. This would apply only to spaces dedicated to the telecommunications activities, it would not apply in a mixed use occupancy.

### Section: 1206.6.3 (New)

Section 1206.3 covers the ESS equipment itself, and much of these requirements are unchanged from the 2018 code. New section on repairs, retrofits and replacements were added to address practices to be followed when systems need to be upgraded or serviced.

### Section: 1206.3.9 (New)

Section 1206.3.9 allows code officials to regulate installations of repurposed electric vehicle batteries that are converted for ESS use in buildings.

### Section: 1206.4 (New)

Section 1206.4 includes requirements that need to be met by all ESS installations, and much of these are unchanged from the 2018 requirements. The Walk-in unit section, with



associated definition, is new and recognizes that ISO type shipping containers are being used to house ESS in various outdoor and mobile applications.

### **Section: 1206.4.5 (New)**

Section 1206.5 describes ESS protection requirements that are only applicable for certain type of installations, such as indoor dedicated use ESS installations, outdoor ESS installations in remote locations, and rooftop installations. Section 1206.5 tells you how to provide a particular type of protection, and tables in Sections 1206.7 through 1206.10 tell you when this protection is required.

### **Section: 1206.5.1 (New)**

1206.5.1 The size and separation protection concept (formerly “arrays”) was introduced in the 2018 code. The term array was confusing and has been replaced. A maximum ESS unit size of 50 KWh previously only applied to unlisted ESS, but now all ESS are required to be listed due to the significant fire event that can be produced by 50 KWh of some ESS technologies.

### **Section: 1206.5.2 (New)**

1206.5.2 MAQs amounts are essentially the same as 2018 values. Due to introductions of facilities such as dedicated use ESS (utility size) requirements, and exemptions for increases based on large scale fire testing, it is no longer necessary to reference Group H-2 occupancies.

### **Section: 1206.5.3 (New)**

1206.5.3 Elevation requirements are similar to those in the 2018 IFC, but now restrict below grade installations except in underground vaults or when specifically approved by the code official. This is due to concerns raised by the fire service about responding to ESS fires in below grade locations.

### **Section: 1206.5.4 (New)**

1206.5.4 The previous smoke detection requirements have been modified to allow radiant energy-sensing fire detection as an option.

### **Section: 1206.5.5 (New)**

1206.5.5 The fire suppression requirements in the 2018 code only allowed NFPA 13 systems to be provided to protect ESS, but it was difficult or impossible to determine required design density. These requirements have been updated to specify a minimum 0.3 gpm/ft. design density, with options for lower densities based on large scale fire testing per UL 9540A. Also, an option for providing alternate fire suppression systems has been added, provided they have successfully passed UL 9540A fire testing.

**Section: 1206.5.6 (New)**

1206.5.6 A maximum enclosure size for walk-in units, corresponding to the largest ISO type containers used for these installations, was established to provide differentiation between a walk-in unit and an inside installation.

**Section: 1206.5.8 (New)**

1206.5.8 Separation from outdoor means of egress pathways leading to a public way were in the 2018 code.

**Section: 1206.6 (New)**

Section 1206.6 includes electrochemical ESS technology specific protection, in a new table format. Table 1206.6 identifies which technologies need technology specific protection, which may include exhaust ventilation, spill control and neutralization, explosion control, safety caps and thermal runaway.

**Section: 1206.6.3 (New)**

Section 1206.6.3 (explosion control) addresses a potentially significant hazard. Lithium-ion battery systems and other electrochemical ESS technologies have the potential to rapidly build up potentially explosive atmospheres in the battery or electrochemical ESS room or enclosure under thermal runaway and other conditions which could result in a catastrophic fire and or explosion. To protect against these hazards explosion control in accordance with IFC Section 911 is required for certain battery technologies.

**Section: 1206.7 (New)**

Section 1206.7 covers indoor locations, and identifies two types of indoor installations, dedicated use installations (typical of utility grid related facilities) and non-dedicated use installations (typical of ESS in mixed use buildings or incidental use areas of occupancies). Protection for each installation is commensurate with the related risk and exposures.

**Section: 1206.8 (New)**

Similarly, Section 1206.8 covers two types of outdoor installations, remote outdoor installations (more than 100 feet from exposures, and installations near exposures (<100 ft.) more typical of an urban environment.

**Section: 1206.9 (New)**

Section 1206.9 covers two special installations, rooftop ESS and open parking garage ESS.

**Section: 1206.10 (New)**

Section 1206.10 covers two types of mobile ESS installations/operations, charging and storage of the mobile ESS at its home facility when it is not deployed to an event or facility, and deployment of the mobile ESS for temporary energy storage applications, such as providing power at an electric vehicle event. Mobile ESS charging and storage locations are treated the same as a stationary indoor or outdoor installation in accordance with Section 1206.7 or 1206.8, but can include temporary electrical and fire suppression system connections. This provides an acceptable level of protection based on the exposures at the facility, and prevents parties from using an ESS on wheels as a permanent ESS with less than effective protection.

Section 1206.10 also includes requirements for deploying mobile ESS to a facility or event for providing up to 30 days of temporary power (with some exceptions). An operational permit is required for each mobile ESS deployment.

The proposal also eliminated references to providing ESS in incidental use areas. Modern load leveling and peak shaving ESS applications make the 10% floor area limitations of incidental use areas impractical for anticipated installations. However, the additional protection in this section, including equivalent Section 1206.7.5 fire-resistance rated separations, should effectively mitigate hazards with providing ESS on floor areas greater than 10% of the total floor area.

### **Section: 1206.11 (New)**

To summarize this proposal, developed by a large industry and code official work group, more effectively protects ESS installations based on knowledge gained since last code cycle. It provides protection customized for the types of installations that are being deployed today, instead of using the “one size fits all” type of protection in the 2018 code.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. Some of the requirements in this proposal have the potential to increase the cost of providing ESS installations. However, some of the provisions in this proposal better address risks and owner/user needs in dedicated use (utility) buildings and outdoor remote installations, and will probably decrease the cost of those installations as compared to installations installed using the 2018 IFC requirements. (F203-18)

### **[ENERGY STORAGE SYSTEMS 2019 INTERVEING PROPOSALS]**

#### **[Associated Sections in Part 9, California Fire Code]:**

105.6, 105.6.52 (New), 105.7.2, 105.7.3, 202 (New), TABLE 903.2.11.6, 907.2.22, 907.2.23 (Delete), 911.1, TABLE 911.1, 911.4 (New), 1201.1, 1201.3, 1202.1 (New), 1203.2.6, 1203.2.19, 1205.1, 1205.5, 1205.14 (New), 1206.1, 1206.1.1 (New), 1206.1.2 (New), 1206.1.2.1 (New), TABLE 1206.1 (New), 1206.1.3 (New), 1206.1.4 (New), 1206.1.4.1 (New), 1206.1.4.2 (New), 1206.1.4.3 (New), 1206.1.5 (New), 1206.1.6 (New), 1206.1.6.1 (New), 1206.1.6.2 (New), TABLE 1206.2 (Delete), 1206.2, 1206.2.1, 1206.2.1.1 (New), 1206.2.1.2 (New), 1206.2.2, 1206.2.2.1 (New), 1206.2.3, 1206.2.3.1 (Delete), 1206.2.3.2 (Delete), 1206.2.3.3 (Delete), 1206.2.4 (Delete), 1206.2.5 (Delete), 1206.2.6 (Delete), 1206.2.7 (Delete), 1206.2.8 (Delete), 1206.2.8.1 (Delete), 1206.2.8.2 (Delete), 1206.2.8.3 (Delete), 1206.2.8.4 (Delete), 1206.2.8.5 (Delete), 1206.2.8.5.1 (Delete), 1206.2.8.6 (Delete),

1206.2.8.6.1 (Delete), 1206.2.8.6.2 (Delete), 1206.2.8.7 (Delete), 1206.2.8.7.1 (Delete), 1206.2.8.7.2 (Delete), 1206.2.8.7.3 (Delete), 1206.2.8.7.4 (Delete), TABLE 1206.2.9 (Delete), 1206.2.9 (Delete), 1206.2.9.1 (Delete), 1206.2.10 (Delete), 1206.2.10.1 (Delete), 1206.2.10.2 (Delete), 1206.2.10.3 (Delete), 1206.2.10.4 (Delete), 1206.2.10.5 (Delete), 1206.2.10.6 (Delete), 1206.2.10.7 (Delete), 1206.2.10.8 (Delete), 1206.2.11 (Delete), 1206.2.11.1 (Delete), 1206.2.11.1.1 (Delete), 1206.2.11.2 (Delete), 1206.2.11.3 (Delete), 1206.2.11.3.1 (Delete), 1206.2.11.3.2 (Delete), 1206.2.11.4 (Delete), 1206.2.11.4.1 (Delete), 1206.2.11.5 (Delete), 1206.2.12 (Delete), 1206.2.12.1 (Delete), 1206.2.12.2 (Delete), 1206.2.12.3 (Delete), 1206.2.12.4 (Delete), 1206.2.12.5 (Delete), 1206.2.12.6 (Delete), 1206.3, 1206.3.1, 1206.3.2, 1206.3.2.1 (Delete), 1206.3.2.2 (Delete), 1206.3.2.3 (Delete), 1206.3.2.4 (Delete), 1206.3.2.5 (Delete), 1206.3.2.6 (Delete), 1206.3.2.6.1 (Delete), 1206.3.2.6.2 (Delete), 1206.3.2.6.3 (Delete), 1206.3.2.6.4 (Delete), 1206.3.3, 1206.3.4, 1206.3.4.1 (Delete), 1206.3.4.2 (Delete), 1206.3.4.3 (Delete), 1206.3.4.4 (Delete), 1206.3.4.5 (Delete), 1206.3.5, 1206.3.5.1 (Delete), 1206.3.5.1.1 (Delete), 1206.3.5.2 (Delete), 1206.3.5.3 (Delete), 1206.3.5.3.1 (Delete), 1206.3.5.4 (Delete), 1206.3.6, 1206.3.7 (New), 1206.3.7.1 (New), 1206.3.8 (New), 1206.3.9 (New), 1206.4 (New), 1206.4.1 (New), 1206.4.2 (New), 1206.4.3 (New), 1206.4.4 (New), 1206.4.5 (New), 1206.4.6 (New), 1206.4.7 (New), 1206.4.8 (New), 1206.4.9 (New), 1206.4.10 (New), 1206.4.11 (New), 1206.4.12 (New), 1206.5 (New), 1206.5.1 (New), 1206.5.2 (New), 1206.5.2.1 (New), TABLE 1206.5 (New), 1206.5.3 (New), 1206.5.4 (New), 1206.5.4.1 (New), 1206.5.5 (New), 1206.5.5.1 (New), 1206.5.6 (New), 1206.5.7 (New), 1206.5.8 (New), 1206.6 (New), TABLE 1206.6 (New), 1206.6.1 (New), 1206.6.1.1 (New), 1206.6.1.2 (New), 1206.6.1.2.1 (New), 1206.6.1.2.2 (New), 1206.6.1.2.3 (New), 1206.6.1.2.4 (New), 1206.6.2 (New), 1206.6.2.1 (New), 1206.6.2.2 (New), 1206.6.2.3 (New), 1206.6.3 (New), 1206.6.4 (New), 1206.6.5 (New), 1206.7 (New), 1206.7.1 (New), 1206.7.2 (New), TABLE 1206.7 (New), 1206.7.3 (New), 1206.7.4 (New), 1206.8 (New), 1206.8.1 (New), 1206.8.2 (New), TABLE 1206.8 (New), 1206.8.3 (New), 1206.8.4 (New), 1206.9 (New), 1206.9.1 (New), 1206.9.2 (New), TABLE 1206.9 (New), 1206.9.3 (New), 1206.9.4 (New), 1206.9.5 (New), 1206.9.6 (New), 1206.10 (New), 1206.10.1 (New), 1206.10.2 (New), 1206.10.3 (New), 1206.10.4 (New), 1206.10.4.1 (New), 1206.10.5 (New), 1206.10.6 (New), 1206.10.7 (New), 1206.10.7.1 (New), 1206.10.7.2 (New), 1206.10.7.3 (New), 1206.10.7.4 (New), 1206.10.7.5 (New), 1206.10.7.6 (New), 1206.10.7.7 (New), TABLE 1206.10 (New), 1206.11 (New), 1206.11.1 (New), 1206.11.2 (New), 1206.11.2.1 (New), 1206.11.3 (New), 1206.11.4 (New), 1206.11.5 (New), 1206.11.6 (New), 1206.11.7 (New), 1206.11.8 (New), 1206.11.9 (New), 1206.11.10 (New), TABLE 2204.1, [Chapter 80] NFPA 68 (New), NFPA 76 (New), UL 1974 (New), UL 9540A (New)

**Item 11. CHAPTER 22  
COMBUSTIBLE DUST-PRODUCING OPERATIONS**

**SECTION 2204  
ADDITIONAL REQUIREMENTS**

**Section: TABLE 2204.1**

**Reason:**

See the reason statement for Chapter 12 from the Energy Storage Systems proposals. The standard is incorporated into the table for specific hazards.

**[ENERGY STORAGE SYSTEMS 2019 INTERVEING PROPOSALS]**

**[Associated Sections in Part 9, California Fire Code]:**

105.6, 105.6.52 (New), 105.7.2, 105.7.3, 202 (New), TABLE 903.2.11.6, 907.2.22, 907.2.23 (Delete), 911.1, TABLE 911.1, 911.4 (New), 1201.1, 1201.3, 1202.1 (New), 1203.2.6, 1203.2.19, 1205.1, 1205.5, 1205.14 (New), 1206.1, 1206.1.1 (New), 1206.1.2 (New), 1206.1.2.1 (New), TABLE 1206.1 (New), 1206.1.3 (New), 1206.1.4 (New), 1206.1.4.1 (New), 1206.1.4.2 (New), 1206.1.4.3 (New), 1206.1.5 (New), 1206.1.6 (New), 1206.1.6.1 (New), 1206.1.6.2 (New), TABLE 1206.2 (Delete), 1206.2, 1206.2.1, 1206.2.1.1 (New), 1206.2.1.2 (New), 1206.2.2, 1206.2.2.1 (New), 1206.2.3, 1206.2.3.1 (Delete), 1206.2.3.2 (Delete), 1206.2.3.3 (Delete), 1206.2.4 (Delete), 1206.2.5 (Delete), 1206.2.6 (Delete), 1206.2.7 (Delete), 1206.2.8 (Delete), 1206.2.8.1 (Delete), 1206.2.8.2 (Delete), 1206.2.8.3 (Delete), 1206.2.8.4 (Delete), 1206.2.8.5 (Delete), 1206.2.8.5.1 (Delete), 1206.2.8.6 (Delete), 1206.2.8.6.1 (Delete), 1206.2.8.6.2 (Delete), 1206.2.8.7 (Delete), 1206.2.8.7.1 (Delete), 1206.2.8.7.2 (Delete), 1206.2.8.7.3 (Delete), 1206.2.8.7.4 (Delete), TABLE 1206.2.9 (Delete), 1206.2.9 (Delete), 1206.2.9.1 (Delete), 1206.2.10 (Delete), 1206.2.10.1 (Delete), 1206.2.10.2 (Delete), 1206.2.10.3 (Delete), 1206.2.10.4 (Delete), 1206.2.10.5 (Delete), 1206.2.10.6 (Delete), 1206.2.10.7 (Delete), 1206.2.10.8 (Delete), 1206.2.11 (Delete), 1206.2.11.1 (Delete), 1206.2.11.1.1 (Delete), 1206.2.11.2 (Delete), 1206.2.11.3 (Delete), 1206.2.11.3.1 (Delete), 1206.2.11.3.2 (Delete), 1206.2.11.4 (Delete), 1206.2.11.4.1 (Delete), 1206.2.11.5 (Delete), 1206.2.12 (Delete), 1206.2.12.1 (Delete), 1206.2.12.2 (Delete), 1206.2.12.3 (Delete), 1206.2.12.4 (Delete), 1206.2.12.5 (Delete), 1206.2.12.6 (Delete), 1206.3, 1206.3.1, 1206.3.2, 1206.3.2.1 (Delete), 1206.3.2.2 (Delete), 1206.3.2.3 (Delete), 1206.3.2.4 (Delete), 1206.3.2.5 (Delete), 1206.3.2.6 (Delete), 1206.3.2.6.1 (Delete), 1206.3.2.6.2 (Delete), 1206.3.2.6.3 (Delete), 1206.3.2.6.4 (Delete), 1206.3.3, 1206.3.4, 1206.3.4.1 (Delete), 1206.3.4.2 (Delete), 1206.3.4.3 (Delete), 1206.3.4.4 (Delete), 1206.3.4.5 (Delete), 1206.3.5, 1206.3.5.1 (Delete), 1206.3.5.1.1 (Delete), 1206.3.5.2 (Delete), 1206.3.5.3 (Delete), 1206.3.5.3.1 (Delete), 1206.3.5.4 (Delete), 1206.3.6, 1206.3.7 (New), 1206.3.7.1 (New), 1206.3.8 (New), 1206.3.9 (New), 1206.4 (New), 1206.4.1 (New), 1206.4.2 (New), 1206.4.3 (New), 1206.4.4 (New), 1206.4.5 (New), 1206.4.6 (New), 1206.4.7 (New), 1206.4.8 (New), 1206.4.9 (New), 1206.4.10 (New), 1206.4.11 (New), 1206.4.12 (New), 1206.5 (New), 1206.5.1 (New), 1206.5.2 (New), 1206.5.2.1 (New), TABLE 1206.5 (New), 1206.5.3 (New), 1206.5.4 (New), 1206.5.4.1 (New), 1206.5.5 (New), 1206.5.5.1 (New), 1206.5.6 (New), 1206.5.7 (New), 1206.5.8 (New), 1206.6 (New), TABLE 1206.6 (New), 1206.6.1 (New), 1206.6.1.1 (New), 1206.6.1.2 (New), 1206.6.1.2.1 (New), 1206.6.1.2.2 (New), 1206.6.1.2.3 (New), 1206.6.1.2.4 (New), 1206.6.2 (New), 1206.6.2.1 (New), 1206.6.2.2 (New), 1206.6.2.3 (New), 1206.6.3 (New), 1206.6.4 (New), 1206.6.5 (New), 1206.7 (New), 1206.7.1 (New), 1206.7.2 (New), TABLE 1206.7 (New), 1206.7.3 (New), 1206.7.4 (New), 1206.8 (New), 1206.8.1 (New), 1206.8.2 (New), TABLE 1206.8 (New), 1206.8.3 (New), 1206.8.4 (New), 1206.9 (New), 1206.9.1 (New), 1206.9.2 (New), TABLE 1206.9 (New), 1206.9.3 (New), 1206.9.4 (New), 1206.9.5 (New), 1206.9.6 (New), 1206.10 (New),

1206.10.1 (New), 1206.10.2 (New), 1206.10.3 (New), 1206.10.4 (New), 1206.10.4.1 (New), 1206.10.5 (New), 1206.10.6 (New), 1206.10.7 (New), 1206.10.7.1 (New), 1206.10.7.2 (New), 1206.10.7.3 (New), 1206.10.7.4 (New), 1206.10.7.5 (New), 1206.10.7.6 (New), 1206.10.7.7 (New), TABLE 1206.10 (New), 1206.11 (New), 1206.11.1 (New), 1206.11.2 (New), 1206.11.2.1 (New), 1206.11.3 (New), 1206.11.4 (New), 1206.11.5 (New), 1206.11.6 (New), 1206.11.7 (New), 1206.11.8 (New), 1206.11.9 (New), 1206.11.10 (New), TABLE 2204.1, [Chapter 80] NFPA 68 (New), NFPA 76 (New), UL 1974 (New, UL 9540A (New)

**Item 12. CHAPTER 31  
TENTS, TEMPORARY SPECIAL EVENT STRUCTURES AND OTHER MEMBRANE  
STRUCTURES**

**SECTION 3103  
TEMPORARY TENTS AND MEMBRANE STRUCTURES**

**Section: 3103.3.1**

**Reason:**

Puzzle rooms are a new business model where people are placed in a room and asked either to find a way out of the room or to find their way to the next room in the puzzle. The rooms are typically small and might otherwise be classified as a B occupancy under the current code. Each of these are designed in a way to provide a unique experience for the customer. This unique design incorporates many possible features to disorient the occupants and or disguise the exit route. Such a design is contrary to the foundations of code specified exiting provisions.

This proposal seeks to establish criteria for puzzle rooms by incorporating them into the special amusement section. Since part of the appeal of this business model is that each experience is different, there is no way to prescriptively handle every situation. The language is generic but gives guidance on providing reliable exiting in an emergency.

The proposal is to correlate related sections in the code to the new proposed definition of special amusement area. The proposal removes the word “building” from the definition and adds the word “area”.

**[PUZZLE ROOM 2019 INTERVENING PROPOSALS]**

**[Associated Sections in Part 9, California Fire Code]:**

202, TABLE 903.2.11.6, 907.2.11, 907.2.11.2, 907.2.11.3, 914.7, 914.7.1, 914.7.2, TABLE 1017.2, 3103.3.1, O103.1, INDEX

**Item 13. CHAPTER 33  
FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION**

**SECTION 3308  
OWNER’S RESPONSIBILITY**

## FOR FIRE PROTECTION

### Section: 3308.9 (New)

#### Reason:

The Ad Hoc Committee on Tall Wood Buildings (TWB) was created by the ICC Board to explore the science of tall wood buildings and take action on developing code changes for tall wood buildings. The TWB has created several code change proposals with respect to the concept of tall buildings of mass timber and the background information is at the end of this Statement. Within the statement are important links to information, including documents and videos, used in the deliberations which resulted in these proposals.

The TWB has developed a number of proposals to potentially increase the permitted height and area for Type IV structures, specifically mass timber buildings adding additional Types IV-A, IV-B & IV-C. One of the basic requirements incorporated into these proposed increased heights and areas is the added active and passive protection features to these structures.

The goal of this proposal is to provide guidance and requirements for when this combustible building is most vulnerable, while under construction prior to fire protection systems have been installed.

Over the recent years we have experienced a number of fires while combustible buildings have been under construction. It is understood the vast majority of these fires did occur in structures of light-frame structural wood members which present a significant fire hazard when exposed. Even with this fact we cannot simply ignore the potential risk of fire in combustible construction simply due to the size of the timber element and the potentially longer period of time for ignition as the potentially fuel load of a mass timber building can be substantial.

The TWB had a great deal of discussion regarding the proposed requirements regarding water supply to the buildings of combustible construction sites. On one hand, there was a desire to establish a minimum water flow of 250 gpm with a minimum pressure. But the counter discussion identified that these combustible building construction sites may have various degrees of hazards on the site and was not restrictive to just the structure. Mass timber construction typically proceeds with little stored combustible material on the site, mass timber is generally installed as it arrives. Thus, there may be more or fewer site hazards than on a typical construction site utilizing combustible materials. Moreover, protection of the installed material must occur before the project moves above certain specified numbers of levels. This is very different from conventional construction processes.

With this understanding, the TWB is proposing project developers meet and confer with the local fire service to establish the fire department's response needs, in terms of water flow and pressure, for the specific building, while under construction, and job site.

While sub-sections 1 and 2 apply to the delivery of water to the job site, and/or structure, sub-sections 3 and 4 are specific to the passive protection related to the structure. Due to

the proposed increased heights and areas, the TWB felt it was important to require interior and exterior passive protection as the construction progressed. This would insure the lower portions of the combustible structure had redundant, active and passive, protection as greater heights were added.

Committee's Modification: This proposal was approved as part of the tall wood building proposals and provides the necessary construction fire safety related provisions. The modification merely makes it clear as to how the exceptions are to apply. The intention is that they only affect items 3 and 4. Shafts and vertical exit enclosures are not constructed with CLT and are not considered when reviewing the progress of construction.

Two figures are shown below to illustrate the requirements of sub-sections 3 and 4 of this proposal. Since both buildings will exceed six-stories, protection must be provided during construction. The solid thick lines indicate building elements that are required to be protected. Solid thin lines indicate elements that are in-place, but are not required to be protected and dashed lines indicate elements that have not yet been placed. Figure 1 is shown to illustrate when protection is first required on a building under construction. When level 6 is the active level of mass timber construction, protection of the building elements and the exterior wall coverings are required before level 7 panels can be placed. In Figure 2, the progress of protection on each successive level is indicated as construction continues. In this example, level 14 is the active level of mass timber construction, so prior to placement of floor panels at level 15, protection is required on level 9.

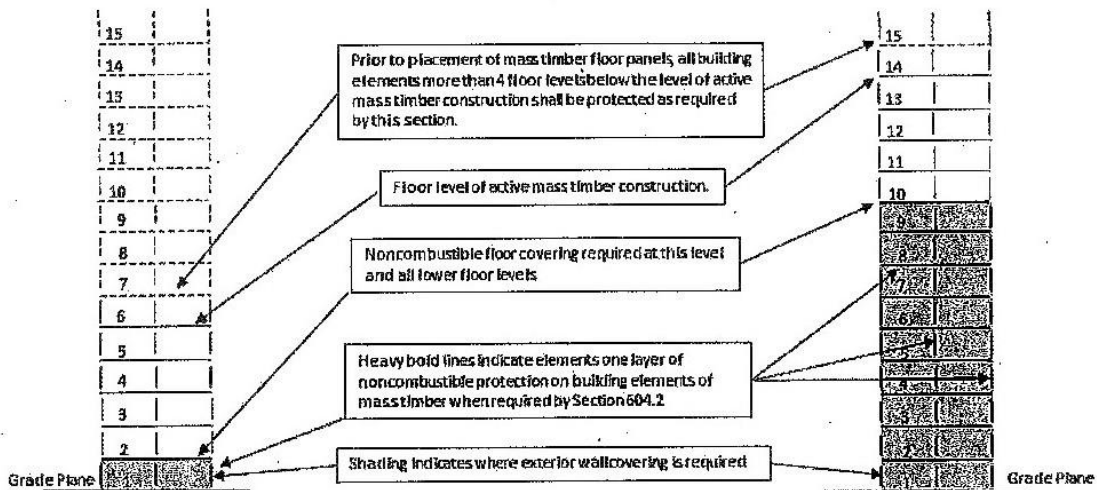


Figure 1

Figure 2

**Examples of Protection During Construction  
For Mass Timber Buildings Greater Than  
6 Stories Above Grade Plane**

Public comment 1: The original code change proposal was approved by the committee. However, during committee discussions, there was concern that Item 2, which discusses the water supply required for fire department operations during construction, should



require also approval by the fire code official. There is concern that, with the many various ways that jurisdictions administer the fire code, not including the fire code official could be make the review and approval process awkward in some instances. This Public Comment simply adds the fire code official to Item 2, to satisfy this concern.

**Item 14. CHAPTER 50  
HAZARDOUS MATERIALS—GENERAL PROVISIONS**

**SECTION 5003  
GENERAL REQUIREMENTS**

Sections: 5003.10.2, 5003.10.4.1.1 (New), 5003.10.4.4, 5003.10.5 (New), 5003.10.5.1 (New), 5003.10.5.2 (New), 5003.10.5.2.1 (New), 5003.10.5.3 (New), 5003.10.5.5 (New), 5003.10.5.5 (New), 5003.10.5.6 (New), 5003.10.5.7 (New), 5003.10.6 (New), 5003.10.6.1 (New), 5003.10.6.2 (New)

**Sections: 5003.10.2 through 2003.10.6.2 (New)**

**Reason:**

The purpose of the proposals to Chapter 50, section 5003 is to provide safety in a confined space in an elevator for the transport of hazardous materials. The high risk of cryogenics in an elevator can lead to asphyxiation and extraordinary health hazard. The hazardous materials must be transported to alternate floor levels. The benefit of this proposal is to provide a safe means of transport of hazardous materials in elevators.

**Cost:** The cost of construction may increase depending on the type and amount of hazardous materials. Small business may have a cost increase.

**[L OCCUPANCY WORK GROUP 2019 INTERVENING PROPOSALS]**

**[Related Sections in Part 9, California Fire Code]:**

1020.5, Section Title 1116, 1116.7, 5003.10.2, 5003.10.4.1.1 (New), 5003.10.4.4, 5003.10.5 (New), 5003.10.5.1 (New), 5003.10.5.2 (New), 5003.10.5.2.1 (New), 5003.10.5.3 (New), 5003.10.5.5 (New), 5003.10.5.5 (New), 5003.10.5.6 (New), 5003.10.5.7 (New), 5003.10.6 (New), 5003.10.6.1 (New), 5003.10.6.2 (New)

**Item 15. CHAPTER 80  
REFERENCED STANDARDS**

**ASME**

**Section: ASME/A17.1**

**Reason:**

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

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

[dir.ca.gov/samples/search/query.htm](http://dir.ca.gov/samples/search/query.htm)

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

### **[ELEVATOR WORK GROUP 2019 INTERVENING PROPOSALS]**

#### **[Related Sections in Part 9, California Fire Code]:**

606.1.1 (New), 606.2, 606.2.4, 606.2.5 (New), 606.8.6 (New), 606.8.6.1 (New), 606.8.6.2 (New), 606.8.6.3 (New), 606.8.6.4 (New), 1103.3, 1103.3.1, 1103.3.2, 1103.3.3 (New), [Chapter 80] ASME A17.1/CSA B44, ASME A17.3, [NFPA 13-16] 8.15.5.1, 8.15.5.2, 8.15.5.3, 8.15.5.7.1, 8.15.5.7.2, [Appendix K] K104.3.1, K104.3.2, K105

### **ASTM**

#### **Section: D3498-03**

#### **Reason:**

The International Code Council (ICC) Ad Hoc Committee on Tall Wood Buildings (TWB) was created by the ICC Board to explore the science of tall wood buildings and take action on developing code changes for tall wood buildings. The ICC TWB has created several code change proposals with respect to the concept of tall buildings of mass timber. Mass timber has inherent properties of fire resistance, serving both to provide structural fire resistance and to safeguard against the spread of fire and smoke within a building or the spread of fire between structures.

The inclusion of the ASTM standard in the new proposed section 703.9 requires the adoption of an edition for the code user. The proposal for adoption is to correlate with the requirements for the standard as referenced.

**Cost Impact:** The code change proposal will not increase or decrease the cost of construction. This section provides information that was not previously set forth in the code, and does not change the requirements of current code, thus there is no cost impact when compared with present requirements. (FS6-18)

### **[TALL WOOD AND HEAVY TIMBER 2019 INTERVENING PROPOSALS]**

#### **[Associated Sections in Part 9, California Fire Code]:**

701.6, 914.3.1.2, 3308.9

### **California Code of Regulations**

#### **Section: Title 8**

#### **Reason:**

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

of Regulations, Title 8, Division I, Chapter 4, Subchapter 6, Elevator Safety Orders.

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

[dir.ca.gov/samples/search/query.htm](http://dir.ca.gov/samples/search/query.htm)

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

### **[ELEVATOR WORK GROUP 2019 INTERVENING PROPOSALS]**

#### **[Related Sections in Part 9, California Fire Code]:**

606.1.1 (New), 606.2, 606.2.4, 606.2.5 (New), 606.8.6 (New), 606.8.6.1 (New), 606.8.6.2 (New), 606.8.6.3 (New), 606.8.6.4 (New), 1103.3, 1103.3.1, 1103.3.2, 1103.3.3 (New), [Chapter 80] ASME A17.1/CSA B44, ASME A17.3, [NFPA 13-16] 8.15.5.1, 8.15.5.2, 8.15.5.3, 8.15.5.7.1, 8.15.5.7.2, [Appendix K] K104.3.1, K104.3.2, K105

## **CSA**

### **Section: ASME A17.1**

#### **Reason:**

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

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

[dir.ca.gov/samples/search/query.htm](http://dir.ca.gov/samples/search/query.htm)

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

### **[ELEVATOR WORK GROUP 2019 INTERVENING PROPOSALS]**

#### **[Related Sections in Part 9, California Fire Code]:**

606.1.1 (New), 606.2, 606.2.4, 606.2.5 (New), 606.8.6 (New), 606.8.6.1 (New), 606.8.6.2 (New), 606.8.6.3 (New), 606.8.6.4 (New), 1103.3, 1103.3.1, 1103.3.2, 1103.3.3 (New), [Chapter 80] ASME A17.1/CSA B44, ASME A17.3, [NFPA 13-16] 8.15.5.1, 8.15.5.2, 8.15.5.3, 8.15.5.7.1, 8.15.5.7.2, [Appendix K] K104.3.1, K104.3.2, K105

## **NFPA**

### **Section: 02-20**

### **02—1620: Hydrogen Technologies Code**

**Reason:**

The State Fire Marshal is proposing to adopt the latest edition of the National Fire Protection Association (NFPA) 2. The technology of hydrogen has advanced since the last edition. As California creates more initiatives for the use of hydrogen energy it is important for public safety to stay to recognized the best safety standards that are available.

The State Fire Marshal is proposing to adopt the latest edition of the NFPA 289 and 1124. As the standards advance, it is important to recognized the best safety standards are available to ensure public safety.

**Section: 13-16**

**13—16: Standard for Installation of Sprinkler Systems as amended\***

**Reason:**

This section has the same requirements as in NFPA 13-2016 Section 8.15.5.3 and there is no need to repeat this requirement in California Fire Code or Building Code.

The requirement for top of hoistway smoke detection for all machine room-less (MRL) elevators is included in California Code of Regulation (CCR) Title 8, Elevator Safety Orders based on ASME A17.1-2013.

(FOR REFERENCE from CCR Title 8)

**2.27.3.2 Phase I Emergency Recall Operation by Fire Alarm Initiating Devices**

2.27.3.2.1 In jurisdictions not enforcing the NBCC, smoke detectors or other automatic fire detectors in environments not suitable for smoke detectors (fire alarm initiating devices) used to initiate Phase I Emergency Recall Operation shall be installed in conformance with the requirements of NFPA 72, and shall be located at each elevator lobby served by the elevator in the associated elevator machine room, machinery space containing a motor controller or driving machine, control space, or control room.

(c) in the elevator hoistway, when sprinklers are located in those hoistways

NOTE [2.27.3.2.1(b)]: A machinery space containing a motor controller or driving machine located in the elevator hoistway, or a control space located in the elevator hoistway requires a fire alarm initiating device regardless of the presence of sprinklers.

Sprinklers should not be removed from hydraulic elevator machine rooms. These rooms are accessible, the machine rooms contain combustible materials (hydraulic oils, etc.) There is no negative impact having sprinklers in hydraulic machine rooms with associated shunt trip function since firefighters typically don't use hydraulic elevators (serving max 5-6 stories). This will eliminate the conflict with NFPA 13 requiring sprinkler in hydraulic machine rooms, it will eliminate inconsistencies between California jurisdictions and will eliminate potential retroactive enforcement issues. The California elevator division supports the sprinkler protection in hydraulic machine rooms only. This has been the common practice for a long time with no negative impact or safety concerns.

**[ELEVATOR WORK GROUP 2019 INTERVENING PROPOSALS]**

**[Related Sections in Part 9, California Fire Code]:**

606.2, 606.2.4, 606.2.5 (New), 606.8.6 (New), 606.8.6.1 (New), 606.8.6.2 (New), 606.8.6.3 (New), 606.8.6.4 (New), 1103.3, 1103.3.1, 1103.3.2, 1103.3.3 (New), [Chapter 80] ASME A17.1/CSA B44, ASME A17.3, [NFPA 13-16] 8.15.5.1, 815.5.2, 8.15.5.3, 815.5.7.1, 8.15.5.7.2, [Appendix K] K104.3.1, K104.3.2, K105

**Section: 68-13 (New)**

**Section: 76-16 (New)**

**Reason:**

The proposed adoption of the standard NFPA 76 is to correlate to the sections 1206.2.1, 1206.3.1, 1206.3.7.1, 1206.4.1, 1206.5.1, 1206.5.2, 1206.5.3, 1206.5.5 for energy storage systems that refer to it for compliance. The proposal also adds an appropriate reference to the NFPA 68 Standard on Explosion Protection by Deflagration Venting to correlate the requirements and guidance on the installation of deflagration venting in section 2204.1.

**[ENERGY STORAGE SYSTEMS 2019 INTERVEING PROPOSALS]**

**[Associated Sections in Part 9, California Fire Code]:**

105.6, 105.6.52 (New), 105.7.2, 105.7.3, 202 (New), TABLE 903.2.11.6, 907.2.22, 907.2.23 (Delete), 911.1, TABLE 911.1, 911.4 (New), 1201.1, 1201.3, 1202.1 (New), 1203.2.6, 1203.2.19, 1205.1, 1205.5, 1205.14 (New), 1206.1, 1206.1.1 (New), 1206.1.2 (New), 1206.1.2.1 (New), TABLE 1206.1 (New), 1206.1.3 (New), 1206.1.4 (New), 1206.1.4.1 (New), 1206.1.4.2 (New), 1206.1.4.3 (New), 1206.1.5 (New), 1206.1.6 (New), 1206.1.6.1 (New), 1206.1.6.2 (New), TABLE 1206.2 (Delete), 1206.2, 1206.2.1, 1206.2.1.1 (New), 1206.2.1.2 (New), 1206.2.2, 1206.2.2.1 (New), 1206.2.3, 1206.2.3.1 (Delete), 1206.2.3.2 (Delete), 1206.2.3.3 (Delete), 1206.2.4 (Delete), 1206.2.5 (Delete), 1206.2.6 (Delete), 1206.2.7 (Delete), 1206.2.8 (Delete), 1206.2.8.1 (Delete), 1206.2.8.2 (Delete), 1206.2.8.3 (Delete), 1206.2.8.4 (Delete), 1206.2.8.5 (Delete), 1206.2.8.5.1 (Delete), 1206.2.8.6 (Delete), 1206.2.8.6.1 (Delete), 1206.2.8.6.2 (Delete), 1206.2.8.7 (Delete), 1206.2.8.7.1 (Delete), 1206.2.8.7.2 (Delete), 1206.2.8.7.3 (Delete), 1206.2.8.7.4 (Delete), TABLE 1206.2.9 (Delete), 1206.2.9 (Delete), 1206.2.9.1 (Delete), 1206.2.10 (Delete), 1206.2.10.1 (Delete), 1206.2.10.2 (Delete), 1206.2.10.3 (Delete), 1206.2.10.4 (Delete), 1206.2.10.5 (Delete), 1206.2.10.6 (Delete), 1206.2.10.7 (Delete), 1206.2.10.8 (Delete), 1206.2.11 (Delete), 1206.2.11.1 (Delete), 1206.2.11.1.1 (Delete), 1206.2.11.2 (Delete), 1206.2.11.3 (Delete), 1206.2.11.3.1 (Delete), 1206.2.11.3.2 (Delete), 1206.2.11.4 (Delete), 1206.2.11.4.1 (Delete), 1206.2.11.5 (Delete), 1206.2.12 (Delete), 1206.2.12.1 (Delete), 1206.2.12.2 (Delete), 1206.2.12.3 (Delete), 1206.2.12.4 (Delete), 1206.2.12.5 (Delete), 1206.2.12.6 (Delete), 1206.3, 1206.3.1, 1206.3.2, 1206.3.2.1 (Delete), 1206.3.2.2 (Delete), 1206.3.2.3 (Delete), 1206.3.2.4 (Delete), 1206.3.2.5 (Delete), 1206.3.2.6 (Delete), 1206.3.2.6.1 (Delete), 1206.3.2.6.2 (Delete), 1206.3.2.6.3 (Delete), 1206.3.2.6.4 (Delete), 1206.3.3, 1206.3.4, 1206.3.4.1 (Delete), 1206.3.4.2 (Delete), 1206.3.4.3 (Delete), 1206.3.4.4 (Delete), 1206.3.4.5 (Delete), 1206.3.5, 1206.3.5.1 (Delete),

1206.3.5.1.1 (Delete), 1206.3.5.2 (Delete), 1206.3.5.3 (Delete), 1206.3.5.3.1 (Delete), 1206.3.5.4 (Delete), 1206.3.6, 1206.3.7 (New), 1206.3.7.1 (New), 1206.3.8 (New), 1206.3.9 (New), 1206.4 (New), 1206.4.1 (New), 1206.4.2 (New), 1206.4.3 (New), 1206.4.4 (New), 1206.4.5 (New), 1206.4.6 (New), 1206.4.7 (New), 1206.4.8 (New), 1206.4.9 (New), 1206.4.10 (New), 1206.4.11 (New), 1206.4.12 (New), 1206.5 (New), 1206.5.1 (New), 1206.5.2 (New), 1206.5.2.1 (New), TABLE 1206.5 (New), 1206.5.3 (New), 1206.5.4 (New), 1206.5.4.1 (New), 1206.5.5 (New), 1206.5.5.1 (New), 1206.5.6 (New), 1206.5.7 (New), 1206.5.8 (New), 1206.6 (New), TABLE 1206.6 (New), 1206.6.1 (New), 1206.6.1.1 (New), 1206.6.1.2 (New), 1206.6.1.2.1 (New), 1206.6.1.2.2 (New), 1206.6.1.2.3 (New), 1206.6.1.2.4 (New), 1206.6.2 (New), 1206.6.2.1 (New), 1206.6.2.2 (New), 1206.6.2.3 (New), 1206.6.3 (New), 1206.6.4 (New), 1206.6.5 (New), 1206.7 (New), 1206.7.1 (New), 1206.7.2 (New), TABLE 1206.7 (New), 1206.7.3 (New), 1206.7.4 (New), 1206.8 (New), 1206.8.1 (New), 1206.8.2 (New), TABLE 1206.8 (New), 1206.8.3 (New), 1206.8.4 (New), 1206.9 (New), 1206.9.1 (New), 1206.9.2 (New), TABLE 1206.9 (New), 1206.9.3 (New), 1206.9.4 (New), 1206.9.5 (New), 1206.9.6 (New), 1206.10 (New), 1206.10.1 (New), 1206.10.2 (New), 1206.10.3 (New), 1206.10.4 (New), 1206.10.4.1 (New), 1206.10.5 (New), 1206.10.6 (New), 1206.10.7 (New), 1206.10.7.1 (New), 1206.10.7.2 (New), 1206.10.7.3 (New), 1206.10.7.4 (New), 1206.10.7.5 (New), 1206.10.7.6 (New), 1206.10.7.7 (New), TABLE 1206.10 (New), 1206.11 (New), 1206.11.1 (New), 1206.11.2 (New), 1206.11.2.1 (New), 1206.11.3 (New), 1206.11.4 (New), 1206.11.5 (New), 1206.11.6 (New), 1206.11.7 (New), 1206.11.8 (New), 1206.11.9 (New), 1206.11.10 (New), TABLE 2204.1, [Chapter 80] NFPA 68 (New), NFPA 76 (New), UL 1974 (New, UL 9540A (New)

**Section: 289-18**

**Reason:**

Repeal the California amendment and replace with the adopted edition in the 2018 International Fire Code. The California amendment was carried over and missed in the regular Triennial rulemaking cycle. The adoption of the current standard has been vetted through the State Fire Marshal Engineering Division and is current with industry practice.

**Section: 1124-17**

**Reason:**

Repeal the California amendment and replace with the adopted edition in the 2018 International Fire Code. The California amendment was carried over and missed in the regular Triennial rulemaking cycle. The adoption of the current standard has been vetted through the State Fire Marshal Engineering Division and is current with industry practice.

**UL**

**Section: 1974-17 (New)**

**Section: 9540A-17 (New)**

**Reason:**

The proposed adoption of the standard UL 1974 and 9540A is to correlate to the California Fire Code sections for energy storage systems that refer to it for compliance. The benefit is to create consistency in the codes.

## **[ENERGY STORAGE SYSTEMS 2019 INTERVEING PROPOSALS]**

### **[Associated Sections in Part 9, California Fire Code]:**

105.6, 105.6.52 (New), 105.7.2, 105.7.3, 202 (New), TABLE 903.2.11.6, 907.2.22, 907.2.23 (Delete), 911.1, TABLE 911.1, 911.4 (New), 1201.1, 1201.3, 1202.1 (New), 1203.2.6, 1203.2.19, 1205.1, 1205.5, 1205.14 (New), 1206.1, 1206.1.1 (New), 1206.1.2 (New), 1206.1.2.1 (New), TABLE 1206.1 (New), 1206.1.3 (New), 1206.1.4 (New), 1206.1.4.1 (New), 1206.1.4.2 (New), 1206.1.4.3 (New), 1206.1.5 (New), 1206.1.6 (New), 1206.1.6.1 (New), 1206.1.6.2 (New), TABLE 1206.2 (Delete), 1206.2, 1206.2.1, 1206.2.1.1 (New), 1206.2.1.2 (New), 1206.2.2, 1206.2.2.1 (New), 1206.2.3, 1206.2.3.1 (Delete), 1206.2.3.2 (Delete), 1206.2.3.3 (Delete), 1206.2.4 (Delete), 1206.2.5 (Delete), 1206.2.6 (Delete), 1206.2.7 (Delete), 1206.2.8 (Delete), 1206.2.8.1 (Delete), 1206.2.8.2 (Delete), 1206.2.8.3 (Delete), 1206.2.8.4 (Delete), 1206.2.8.5 (Delete), 1206.2.8.5.1 (Delete), 1206.2.8.6 (Delete), 1206.2.8.6.1 (Delete), 1206.2.8.6.2 (Delete), 1206.2.8.7 (Delete), 1206.2.8.7.1 (Delete), 1206.2.8.7.2 (Delete), 1206.2.8.7.3 (Delete), 1206.2.8.7.4 (Delete), TABLE 1206.2.9 (Delete), 1206.2.9 (Delete), 1206.2.9.1 (Delete), 1206.2.10 (Delete), 1206.2.10.1 (Delete), 1206.2.10.2 (Delete), 1206.2.10.3 (Delete), 1206.2.10.4 (Delete), 1206.2.10.5 (Delete), 1206.2.10.6 (Delete), 1206.2.10.7 (Delete), 1206.2.10.8 (Delete), 1206.2.11 (Delete), 1206.2.11.1 (Delete), 1206.2.11.1.1 (Delete), 1206.2.11.2 (Delete), 1206.2.11.3 (Delete), 1206.2.11.3.1 (Delete), 1206.2.11.3.2 (Delete), 1206.2.11.4 (Delete), 1206.2.11.4.1 (Delete), 1206.2.11.5 (Delete), 1206.2.12 (Delete), 1206.2.12.1 (Delete), 1206.2.12.2 (Delete), 1206.2.12.3 (Delete), 1206.2.12.4 (Delete), 1206.2.12.5 (Delete), 1206.2.12.6 (Delete), 1206.3, 1206.3.1, 1206.3.2, 1206.3.2.1 (Delete), 1206.3.2.2 (Delete), 1206.3.2.3 (Delete), 1206.3.2.4 (Delete), 1206.3.2.5 (Delete), 1206.3.2.6 (Delete), 1206.3.2.6.1 (Delete), 1206.3.2.6.2 (Delete), 1206.3.2.6.3 (Delete), 1206.3.2.6.4 (Delete), 1206.3.3, 1206.3.4, 1206.3.4.1 (Delete), 1206.3.4.2 (Delete), 1206.3.4.3 (Delete), 1206.3.4.4 (Delete), 1206.3.4.5 (Delete), 1206.3.5, 1206.3.5.1 (Delete), 1206.3.5.1.1 (Delete), 1206.3.5.2 (Delete), 1206.3.5.3 (Delete), 1206.3.5.3.1 (Delete), 1206.3.5.4 (Delete), 1206.3.6, 1206.3.7 (New), 1206.3.7.1 (New), 1206.3.8 (New), 1206.3.9 (New), 1206.4 (New), 1206.4.1 (New), 1206.4.2 (New), 1206.4.3 (New), 1206.4.4 (New), 1206.4.5 (New), 1206.4.6 (New), 1206.4.7 (New), 1206.4.8 (New), 1206.4.9 (New), 1206.4.10 (New), 1206.4.11 (New), 1206.4.12 (New), 1206.5 (New), 1206.5.1 (New), 1206.5.2 (New), 1206.5.2.1 (New), TABLE 1206.5 (New), 1206.5.3 (New), 1206.5.4 (New), 1206.5.4.1 (New), 1206.5.5 (New), 1206.5.5.1 (New), 1206.5.6 (New), 1206.5.7 (New), 1206.5.8 (New), 1206.6 (New), TABLE 1206.6 (New), 1206.6.1 (New), 1206.6.1.1 (New), 1206.6.1.2 (New), 1206.6.1.2.1 (New), 1206.6.1.2.2 (New), 1206.6.1.2.3 (New), 1206.6.1.2.4 (New), 1206.6.2 (New), 1206.6.2.1 (New), 1206.6.2.2 (New), 1206.6.2.3 (New), 1206.6.3 (New), 1206.6.4 (New), 1206.6.5 (New), 1206.7 (New), 1206.7.1 (New), 1206.7.2 (New), TABLE 1206.7 (New), 1206.7.3 (New), 1206.7.4 (New), 1206.8 (New), 1206.8.1 (New), 1206.8.2 (New), TABLE 1206.8 (New), 1206.8.3 (New), 1206.8.4 (New), 1206.9 (New), 1206.9.1 (New), 1206.9.2 (New), TABLE 1206.9 (New), 1206.9.3 (New), 1206.9.4 (New), 1206.9.5 (New), 1206.9.6 (New), 1206.10 (New),

1206.10.1 (New), 1206.10.2 (New), 1206.10.3 (New), 1206.10.4 (New), 1206.10.4.1 (New), 1206.10.5 (New), 1206.10.6 (New), 1206.10.7 (New), 1206.10.7.1 (New), 1206.10.7.2 (New), 1206.10.7.3 (New), 1206.10.7.4 (New), 1206.10.7.5 (New), 1206.10.7.6 (New), 1206.10.7.7 (New), TABLE 1206.10 (New), 1206.11 (New), 1206.11.1 (New), 1206.11.2 (New), 1206.11.2.1 (New), 1206.11.3 (New), 1206.11.4 (New), 1206.11.5 (New), 1206.11.6 (New), 1206.11.7 (New), 1206.11.8 (New), 1206.11.9 (New), 1206.11.10 (New), TABLE 2204.1, [Chapter 80] NFPA 68 (New), NFPA 76 (New), UL 1974 (New, UL 9540A (New)

**Item 16. APPENDIX K  
CONSTRUCTION REQUIREMENTS FOR  
EXISTING AMBULATORY CARE FACILITIES**

**SECTION K104  
MEANS OF EGRESS REQUIREMENTS FOR  
EXISTING AMBULATORY CARE FACILITIES**

**Section: K104.3.1, K104.3.2, K105**

**Reason:**

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

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

[dir.ca.gov/samples/search/query.htm](http://dir.ca.gov/samples/search/query.htm)

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

**[ELEVATOR WORK GROUP 2019 INTERVENING PROPOSALS]**

**[Related Sections in Part 9, California Fire Code]:**

606.1.1 (New), 606.2, 606.2.4, 606.2.5 (New), 606.8.6 (New), 606.8.6.1 (New), 606.8.6.2 (New), 606.8.6.3 (New), 606.8.6.4 (New), 1103.3, 1103.3.1, 1103.3.2, 1103.3.3 (New), [Chapter 80] ASME A17.1/CSA B44, ASME A17.3, [NFPA 13-16] 8.15.5.1, 8.15.5.2, 8.15.5.3, 8.15.5.7.1, 8.15.5.7.2, [Appendix K] K104.3.1, K104.3.2, K105

**Item 17. APPENDIX O  
TEMPORARY HAUNTED HOUSES,  
GHOST WALKS AND SIMILAR AMUSEMENT USES**

**SECTION O103**



## GENERAL REQUIREMENTS

### Section: O103.1

#### Reason:

The proposal is editorial correlates the change to the definition. It corrects the code reference section number.

#### [PUZZLE ROOM 2019 INTERVENING PROPOSALS]

#### [Associated Sections in Part 9, California Fire Code]:

202, TABLE 903.2.11.6, 907.2.11, 907.2.11.2, 907.2.11.3, 914.7, 914.7.1, 914.7.2, TABLE 1017.2, 3103.3.1, O103.1, INDEX

#### Item 18. INDEX

A

#### AMUSEMENT BUILDING, SPECIAL

S

#### SPECIAL AMUSEMENT-BUILDING AREA

#### Reason:

Correlate with the changes in the special amusement.

#### [PUZZLE ROOM 2019 INTERVENING PROPOSALS]

#### [Associated Sections in Part 9, California Fire Code]:

202, TABLE 903.2.11.6, 907.2.11, 907.2.11.2, 907.2.11.3, 914.7, 914.7.1, 914.7.2, TABLE 1017.2, 3103.3.1, O103.1, INDEX

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

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

The SFM used the justification that was provided through the International Code Council (ICC) rulemaking process. The text is included in the this document.

#### STATEMENT OF JUSTIFICATION FOR PRESCRIPTIVE STANDARDS

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

The SFM proposals have prescriptive regulations that recognized national testing standards. Alternates were considered and included where appropriate where the level of safety needed to be maintained.

### **CONSIDERATION OF REASONABLE ALTERNATIVES**

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

The SFM has determined that no reasonable alternative considered by the SFM or that has otherwise been identified and brought to the attention of the SFM would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provisions of law.

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

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

The SFM has determined that no reasonable alternative considered by SFM or that has otherwise been identified and brought to the attention of the SFM would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected on small business than the proposed action, or would be more cost-effective to affected small business and equally effective in implementing the statutory policy or other provisions of law.

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

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

The impact to business is described in the Economic and Fiscal Impact Statement.

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

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

The State Fire Marshal has assessed whether or not and to what extent this proposal will affect the following:

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

The Tall Wood Building (TWB) proposals will create the opportunity for the increased use of mass timber. The use of mass timber can deliver significant cost savings. The cost of the materials is the same or higher. The time of construction at the site can be reduced by 20% and the on-site skilled labor is reduced. The regulations may create an increase in the demand for specialists, designers, and engineers in mass timber. They may also increase the demand for workers in manufacturing plants of mass timber if they are built in California.

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

The Tall Wood Building proposals will create the opportunity for the increased use of mass timber. The use of mass timber can deliver significant cost savings. The cost of the materials is the same or higher. The time of construction at the site can be reduced by 20% and the on-site skilled labor is reduced. This may increase the mass timber manufactures, designers, and construction firms in California.

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

The Tall Wood Building proposals will create the opportunity for the increased use of mass timber. This may create the increased use of wood products. Inversely, this may create a reduction in the traditional use of concrete and steel in construction.

This is new to the industry and the expanded use of mass timber is unknown and difficult to calculate for the 18-month effective period of analysis. The manufacturing of the product is currently done in other states. According to the Beck Group, as of 2018 there are five certified manufactures of Cross Laminated Timber (CLT) in the North America. This will provide the incentive to produce CLT in California, but it is unlikely to occur within the 18-month time frame. The proposals may create the opportunity for manufacturing to move into the state, but to what extent is unknown.

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

The SFM worked with various stakeholders to propose regulations that provide an acceptable level of fire and life safety. These proposals include standards for the protection from wildland fires; safety for the use and movement of hazardous materials; safe egress; protections for fire service personnel; worker and public safety in elevators.

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

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

### **Tall Wood Building (TWB)**

The Tall Wood Building (TWB) proposed regulations do not mandate the use of the three new Type IV construction categories. The proposal only recognizes their use as a design option. Therefore, there is no cost increase to industry.

The use of mass timber possibly will deliver significant cost savings to construction due to the cost of materials, the period of project construction timelines and a possible reduction by 20% by on-site skilled labor.

### **SFM Elevator Workgroup**

The SFM elevator workgroup proposal will require venting for smoke, temperature and humidity control. The requirements for venting were previously in the 2012 model code, but were removed in the 2015 edition. There is a cost for the installation of venting. The cost is absorbed or neutral because the equipment manufacture listing requires the temperature and humidity standards to be met for their warranty.

The cost of forecasting for the venting at the beginning of construction is more cost effective than having to add the venting later to meet the equipment standards. This is also more effective than voiding the manufacturer's warranty. The workgroup found the overall cost neutral because of the offsetting factors.

The SFM elevator workgroup proposal for medical emergency elevators will allow different elevators to meet the requirements. The costs are unknown, because they are based on a designer's ability to utilize different elevator systems to meet the specific building design and function.

### **SFM L Occupancy Workgroup**

The SFM L Occupancy Workgroup proposals for the transporting of hazardous materials in elevators limits the quantities and defines methods to do so, which is currently prohibited by regulation. This does not add additional cost in the construction, but does require the proposed methods to be used.

The proposal allows larger quantities and types of hazardous materials to be transported in the elevator than is currently allowed, with additional equipment and the defined process. The proposed requirements on the elevator will require modifications to an existing elevator, which will add significant cost. As this is currently not allowed, the adoption of the proposal does not add any cost for new construction, but allows businesses to address their specific needs within the new regulations, if they choose.

### **Escape rooms**

The escape room regulations were approved for the ICC 2021 edition of model codes. The proposal is to adopt these regulations in California early before the triennial adoption. The ICC proposals did identify that there could be an increase in the cost of construction.

The main cost will be standalone special amusement areas that exceed the 1,000 square feet that intentionally confound the egress path. The regulations will provide a fire protection system and detection system. The code does allow temporary systems and alternate means to address the life safety issues upon approval of the fire official. The cost can vary greatly based on the size and the circumstances. It may add an additional cost that is minimum to several thousand dollars.

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

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

The SFM has determined that there are no comparable federal regulations or statutes addressing the fire and life safety requirements as presented in this notice.