INITIAL STATEMENT OF REASONS FOR PROPOSED BUILDING STANDARDS OF THE STATE FIRE MARSHAL REGARDING THE 2025 CALIFORNIA MECHANICAL CODE CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 4 (SFM 01/24)

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.

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

The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies addressed in the 2024 Uniform Mechanical Code and be published as the 2025 California Mechanical Code.

The general purpose of this proposed action is principally intended to update and codify a new edition of the California Mechanical Code (California Code of Regulations, Title 24, Part 4) based upon a more current edition of a model code. The current California Mechanical Code in effect is the 2022 California Mechanical Code which is based upon the 2021 Uniform Mechanical Code of the International Association of Plumbing and Mechanical Officials.

ITEM 1

Chapter 1, Administration

The SFM proposes to carry forward existing California provisions contained in Sections 1.11 through 1.11.11 with modification as shown in Item 1-1.

ITEM 1-1

Division I, California Administration, Section 1.1.1 Title

The proposal is to replace the 2021 Uniform Mechanical Code with the current model code edition 2024 Uniform Mechanical Code of the International Association of Plumbing and Mechanical Officials (IAPMO).

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 2

Chapter 2, Definitions

The SFM proposes to adopt Chapter 2, carry forward existing amendments and repeal and replace amendments with model code language shown in Item 2-1.

ITEM 2-1

Section 202.0 -R-

The SFM proposes to repeal language that was brought in as any early adoption in the 2022 Intervening Code Cycle from the 2024 Uniform Mechanical Code and replace with model code language. There is no regulatory effect.

The IAPMO Standards council had requested a task group to address A2L refrigerant concerns for human comfort applications. The model code language as printed in the 2024 Uniform Mechanical Code were based on recommendations to address concerns of the committee regarding health and safety and enforceable code language.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 3

Chapter 3, General Regulations

The SFM proposes to adopt Chapter 3 carry forward existing amendments with modifications shown in Item 3-1, and to repeal California amendments that were brought in as any early adoption in the 2022 Intervening Code Cycle from the 2024 Uniform Mechanical Code and replace with model code language as shown in Items below. There is no regulatory effect.

ITEM 3-1

Section 303.8.5 Electrical Power.

The SFM proposes to amend the reference from NFPA 70 to the California Electrical Code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 3-2

Section 307.3 Heat Pump and Electric Cooling Appliances.

The SFM proposes to repeal and replace existing amendments with model code language.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 3-3

Section 307.4 Absorption Units.

The SFM proposes to repeal and replace existing amendments with model code language.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 4

Chapter 4, Ventilation Air

The SFM is proposing to adopt Chapter 4 and carry forward existing amendments.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 5

Chapter 5, Exhaust Systems

The SFM proposes to adopt Chapter 5 and carry forward existing amendments with modifications shown in Item 5-1.

ITEM 5-1

Section 505.7.3 Smoke Control Systems.

The SFM is proposing to amend the pointer to the California Building and Fire Code. This amendment further clarifies where the requirements for smoke control are located. This proposal's intent is to give the code user the correct location within the California Building Standards Code for the design and installation requirements for smoke control. There is no regulatory change.

CAC Recommendation:

Approve

Agency Response:

ITEM 6

Chapter 6, Duct Systems

The SFM proposes to adopt Chapter 6 and carry forward existing amendments with modifications shown in Item 6-1.

ITEM 6-1

Section 606.0 Smoke Dampers, Fire Dampers, and Ceiling Dampers.

The SFM proposes to carry forward existing amendments formally 606.8 and renumber as Section 606.4.1. The is no regulatory change.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 7

Chapter 7, Combustion Air

The SFM proposes to adopt Chapter 7 without amendment.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 8

Chapter 8, Chimneys and Vents

The SFM proposes to adopt Chapter 8 without amendment.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 9

Chapter 9, Installation of Specific Appliances

The SFM proposes to adopt Chapter 9 without amendment.

CAC Recommendation:

Approve

Agency Response:

ITEM 10

Chapter 10, Boilers and Pressure Vessels

The SFM proposes to adopt Chapter 10 without amendment.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11

Chapter 11, Refrigeration

The SFM proposes to adopt Chapter 11 and carry forward existing amendments in Section 1108.4, and repeal California amendments that were brought in as an early adoption in the 2022 Intervening Code Cycle from the 2024 Uniform Mechanical Code and replace with model code language as shown in Items 11-1 through 11-54. There is no regulatory effect.

ITEM 11-1

Section 1103.1.1 Safety Group.

The Items 11-1 through 11-54 are based on the scope of the Uniform Mechanical Code (UMC) A2L Task Group. The objective of the group was to develop recommendations to further this technology, determine the methods available to address A2L exposure risk to public health and safety, expand on the usage and control of A2L refrigerants associated with mechanical systems and equipment, and address related issues such as flammability risk, toxicity, permissible exposure limit, leak detection systems, chemical compatibility and stability, and maintenance procedures for mechanical systems. The task group recommendations were approved by the UMC Technical Committee for the development of the 2024 edition of the UMC.

Items 11-1 through 11-54 are proposed to repeal and replace amendments with model code language.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-2

Table 1103.1.1 Refrigerant Safety Group Classifications.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Table 1104.1 Permissible Refrigeration Systems.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-4

1104.2 Refrigent concentration limit (RCL)

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-5

Section 1104.5 Flammable Refrigerants.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-6

Section 1104.6 Group A2L Refrigerants for Human Comfort.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-7

Section 1104.6.1 Refrigerant concentration limits.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Section 1104.6.2 Listing and Installation Requirements.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-9

Section 1104.6.2.1 Nameplate.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-10

Section 1104.6.2.2 Labeling.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-11

Section 1104.6.2.3 Refrigerant Detection Systems.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-12

Section 1104.6.2.4 Refrigerant Concentration Above Limit.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Section 1104.6.3 Ignition Sources Located in Ductwork.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-14

Section 1104.6.4 Mechanical Ventilation.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-15

Section 1104.6.5 Compressors and Pressure Vessels Located Indoors.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-16

Section 1104.6.6 Sensors.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-17

Section 1104.7 Applications for Human Comfort and for Nonindustrial Occupanices

The SFM proposes to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Sections 1104.8, 1104.8.1, 1104.8.2, 1104.8.3, 1104.8.4.

Propose to repeal renumbering and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-19

Sections 1104.9 Changing Refrigerants.

The SFM proposes to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-20

Sections 1105.12 Storing Refrigerant.

The SFM proposes to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-21

Section 1106.2.2 Openings.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-22

Section 1106.2.3 Airflow.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Section 1106.2.4 Restricted Access.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-24

Section 1106.2.5 Detectors and Alarms.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-25

Section 1106.2.6 Refrigerant Detectors.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-26

Sections 1106.2.7 and 1106.2.8

Propose to repeal renumbering and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-27

Section 1106.2.9 and 1106.2.9.1

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Sections 1106.4, 1106.6, 1106.7, 1106.8, 1106.9, 1106.10.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-29

Section 1106.11 Machinery Room, A2L and B2L.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-30

Section 1106.11.1 Flame-Producing Device.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-31

Section 1106.11.2 Communicating Spaces.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-32

Section 1106.11.3 Noncombustible Construction-

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Section 1106.11.4 Exterior Openings.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-34

Section 1106.11.5 Pipe Penetrations.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-35

Section 1106.11.6, 1106.11.6.1, and 1106.11.6.2

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-36

Section 1106.11.7 Mechanical Equipment Control.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-37

Section 1106.11.8 Refrigerant Detectors.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Section 1106.11.9 Refrigerant Detector Requirements.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-39

Section 1106.11.10, 1106.11.10.1, and 1106.11.10.2.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-40

TABLE 1106.11.10.2 REFRIGERANT DETECTOR SET POINTS, RESPONSE TIMES, ALARMS, AND VENTILATION LEVELS [ASHRAE 15: TABLE 8-1]

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-41

Section 1106.11.10.3 Alarm Levels.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-42

Section 1106.11.10.4 Emergency.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Section 1106.11.11 Mechanical Ventilation.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-44

Section 1106.11.11.1 Mechanical Ventilation Requirements.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-45

Section 1106.11.11.2 Level 1 Ventilation Rate.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-46

TABLE 1106.11.11.2 LEVEL 1 VENTILATION RATE FOR CLASS 2L REFRIGERANTS [ASHRAE 15: Table 8-2]

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-47

Section 1106.11.11.3 Level 2 Ventilation.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Section 1106.11.11.4 Level 2 Ventilation Rate.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-49

Figure 1106.11.11.4 (1) LEVEL 2 VENTILATION RATE FOR CLASS 2L REFRIGERANTS [ASHRAE 15: FIGURE 8-1].

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-50

Section 1107.1,1107.1.7.1, 1107.1.7.2, 1107.1.7.3, 1107.1.9.

The SFM proposes to repeal and replace amendments with model code including modifications of Section 1107.1.7.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-51

Sections 1108.0, 1108.2, 1108.3, 1108.4

The SFM proposes to repeal and replace amendments with model code include modifications of Section 1108.2.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-52

Section 1112.11.1 Discharging Location Interior to Building.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 11-53

Section 1115.5 Nameplate.

Propose to repeal and replace amendments with model code.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 12

Chapter 12, Hydronics

The SFM proposes to not adopt Chapter 12.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 13

Chapter 13, Fuel Gas Piping

The SFM proposes to adopt Chapter 13 and carry forward existing amendments.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 14

Chapter 14, Process Piping

The SFM proposes to adopt Chapter 14.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 15

Chapter 15, Solar Energy Systems

The SFM proposes to not adopt Chapter 15.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 16

Chapter 16, Stationary Power Plants

The SFM proposes to adopt Chapter 16 and carry forward existing amendments.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 17

Chapter 17, Geothermal Energy Systems and Ambient Temperature Loops.

The SFM proposes to adopt Chapter 17.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 18

Chapter 18, Reference Standards

The SFM is proposing to adopt Chapter 18 and carry forward existing amendments with modifications shown below.

ITEM 18-1

AMCA 540, ASME B16.18, B16.22, B31.3, NFPA 2, 13, 17, 17A, 30A, 51, 52, 54, 58, 68, 70, 85, 86, 88A, 90A, 90B, 92, 99, 105, 211, 262, 750, 780

The proposed amendments are to adopt the latest edition of the standards. Adoption of the latest edition available provides the industry with the most advanced technology and trends within the applicable standards.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 19

Appendices A-J

The SFM proposes to not adopt Appendices A-J.

CAC Recommendation:

Approve

Agency Response:

Accept

ITEM 20

Useful Tables

The SFM proposes to adopt Useful Tables.

CAC Recommendation:

Approve

Agency Response:

Accept

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

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

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

STATEMENT OF JUSTIFICATION FOR PRESCRIPTIVE STANDARDS

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

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

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

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

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

CONSIDERATION OF REASONABLE ALTERNATIVES

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

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

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

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

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

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

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

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

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

Government Code Sections 11346.2(b)(2) and 11346.3(b)(1)

State Fire Marshal has assessed whether and to what extent this proposal will affect the following:

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

 These regulations will not affect the creation, or cause elimination, of jobs within the State of California.
- B. The creation of new businesses or the elimination of existing businesses within the State of California.

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

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

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

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

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

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

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

The SFM does not anticipate any significant cost of compliance with the proposed building standards. The regulations are based on the model code. Health & Safety section 18928 requires that building standard be essentially the same as the most recent edition of the uniform industry codes. These regulations benefits are to have clear, concise, complete and update text of the regulations and standards.

DUPLICATION OR CONFLICTS WITH FEDERAL REGULATIONS

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

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