# APPROVED BY THE CALIFORNIA BUILDING STANDARDS COMMISSION

# December 14, 2021

# FINAL EXPRESS TERMS FOR PROPOSED BUILDING STANDARDS OF THE STATE FIRE MARSHAL REGARDING THE 2022 CALIFORNIA MECHANICAL CODE,

# CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART **4**

# (SFM 01/21)

The State agency shall draft the regulations in plain, straightforward language, avoiding technical terms as much as possible and using a coherent and easily readable style. The agency shall draft the regulation in plain English. A notation shall follow the express terms of each regulation listing the specific statutes authorizing the adoption and listing specific statutes being implemented, interpreted, or made specific (Government Code Section 11346.2(a)(1)).

If using assistive technology, please adjust your settings to recognize underline, strikeout, italic and ellipsis.

## LEGEND for EXPRESS TERMS (Based on model codes - Parts 2, 2.5, 3, 4, 5, 9, 10)

* Model Code language appears upright
* Existing California amendments appear in *italic*
* Amended model code or new California amendments appear *underlined & italic*
* Repealed model code language appears ~~upright and in strikeout~~
* Repealed California amendments appear in *~~italic and strikeout~~*
* Ellipsis ( ...) indicate existing text remains unchanged

The Office of the State Fire Marshal (SFM) proposes to adopt the 2021 edition of the Uniform Mechanical Code (UMC) into the 2022 edition of the California Mechanical Code (CMC). SFM further proposes to:

Repeal the adoption by reference of the 2018 Uniform Mechanical Code and incorporate and adopt by reference in its place the 2021 Uniform Mechanical Code for application and effectiveness in the 2022 California Mechanical Code.

Repeal certain amendments to the 2018 Uniform Mechanical Code and/or California Building Standards not addressed by the model code that are no longer necessary.

Adopt new building standards or necessary amendments to the 2021 Uniform Mechanical Code that address inadequacies of the 2021 Uniform Mechanical Code as they pertain to California laws.

Bring forward previously existing California building standards or amendments, which represent no change in their effect from the 2019 California Building Standards Code.

Codify non-substantive editorial and formatting amendments from the format based upon the 2018 Uniform Mechanical Code to the format of the 2021 Uniform Mechanical Code.

**FINAL EXPRESS TERMS**

**CHAPTER 1**

**ADMINISTRATION**

***DIVISION I***

***CALIFORNIA ADMINISTRATION***

## Item 1-1 Chapter 1, Administration, Division I, California Administration, Section 1.1.1 Title

***1.1.1 Title.*** *These regulations shall be known as the California Mechanical Code, may be cited as such and will be referred to herein as “this code.” The California Mechanical Code is Part 4 of thirteen parts of the official compilation and publication of the adoption, amendment, and repeal of building regulations to the California Code of Regulations, Title 24, also referred to as the California Building Standards Code. This part incorporates by adoption the ~~2018~~ 2021 Uniform Mechanical Code of the International Association of Plumbing and Mechanical Officials with necessary California amendments.*

## Item 1-2 Chapter 1, Administration, Division I, California Administration, Section 1.1.0 General through 1.1.12

[The SFM is proposing to maintain the adoption of those existing California provisions contained Sections 1.1.0 through 1.1.12.]

## Item 1-3 Chapter 1, Administration, Division I, California Administration, Section 1.11.1, Institutional, educational or any similar occupancy

[For Items 1-3 through Item 1-8, the SFM is proposing to maintain the adoption of those existing California provisions contained in Sections 1.11.0 through 1.11.11 with modifications as shown below.]

[The SFM is proposing to amended section listed below]

***1.11.1 SFM-Office of the State Fire Marshal.*** *Specific scope…*

***Application:***

***Institutional, educational or any similar occupancy.*** *Any building or structure used or intended for use as an asylum, jail, prison, mental hospital, hospital, sanitarium, home for the ~~aged~~ elderly, children’s nursery, children’s home or institution, school or any similar occupancy of any capacity.*

***Authority cited—****Health and Safety Code Section 13143.*

***Reference—****Health and Safety Code Section 13143.*

## Item 1-4 Chapter 1, Administration, Division I, California Administration, Section 1.11.4.4 Fire Clearance Preinspection

[The SFM is proposing to amend the section listed below]

***1.11.4.4 Fire Clearance Preinspection.*** *Pursuant to Health and Safety Code Section 13235, Fire Clearance Preinspection, fee, upon receipt of a request from a prospective licensee of a community care facility, as defined in Section 1502, of a residential care facility for the elderly, as defined in Section 1569.2, or of a child day care facility, as defined in Section 1596.750, the local fire enforcing agency, as defined in Section 13244, or State Fire Marshal, whichever has primary jurisdiction, shall conduct a preinspection of the facility prior to the final fire clearance approval. At the time of the preinspection, the primary fire enforcing agency shall price consultation and interpretation of the fire safety regulations and shall notify the prospective licensee of the facility in writing of the specific fire safety regulations which shall be enforced in order to obtain fire clearance approval. A fee equal to, but not exceeding, the actual cost of the of the preinspection services ~~not more than $50.00~~ may be charged for the preinspection of a facility. ~~with a capacity to serve 25 or fewer persons. A fee of not more than $100.00 may be charged for a preinspection of a facility with a capacity to serve 26 or more persons.~~*

## Item 1-5 Chapter 1, Administration, Division I, California Administration, Section 1.11.4.5 Care Facilities

[The SFM is proposing to amend the section listed below]

***1.11.4.5 Care Facilities.*** *The primary fire enforcing agency shall complete the final fire clearance inspection for a community care facility, residential care facility for the elderly, or child day care facility within 30 days of receipt of the request for the final inspection, or as of the date the prospective facility requests the final prelicensure inspection by the State Department of Social Services, whichever is later.*

*Pursuant to Health and Safety Code Section 13235, a preinspection fee equal to, but not exceeding, the actual cost of the of the preinspection services ~~of not more than $50.00~~ may be charged for the preinspection of a facility. ~~with a capacity to serve 25 or less clients. A fee of not more than $100.00 may be charged for a preinspection of a facility with a capacity to serve 26 or more clients.~~*

*Pursuant to Health and Safety Code Section 13131.5, a reasonable final inspection fee, not to exceed the actual cost of inspection services necessary to complete a final*

*inspection may be charged for occupancies classified as residential-care facilities for the elderly (RCFE).*

*Pursuant to Health and Safety Code Section 1569.84, neither the State Fire Marshal nor any local public entity shall charge any fee for enforcing fire inspection regulations*

*pursuant to state law or regulation or local ordinance, with respect to residential-care facilities for the elderly (RCFE) which service six or fewer persons.*

## Item 1-6 Chapter 1, Administration, Division I, California Administration, Section 1.11.6 Certificate of Occupancy

[The SFM is proposing to amend the section listed below]

***1.11.6 Certificate of Occupancy.*** *A Certificate of Occupancy shall be issued as specified in Title 24, Part 2, California Building Code, Section 111.*

***Exception:*** *~~Group R, Division 3 and Group U occupancies.~~ Certificates of occupancy are not required for work exempt from permits in accordance with Section 105.2 of the California Building Code.*

## Item 1-7 Chapter 1, Administration, Division I, California Administration, Section 1.11.7 Temporary Structures and Uses

[The SFM is proposing to amend the section listed below]

***1.11.7 Temporary Structures and Uses.*** *See Title 24, Part 2, California Building Code, Section 10~~7~~8.*

**CHAPTER 1**

**ADMINISTRATION**

***DIVISION II***

**ADMINISTRATION**

## Item 1-8 Chapter 1, Administration, Division II, Administration, Section 1.11.7

[The SFM proposes to not adopt Chapter 1, Administration, Division II Administration]

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 2**

**DEFINITIONS**

## Item 2-1 Chapter 2, Definitions

[The SFM proposes to adopt Chapter 2 and carry forward existing amendments.]

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 3**

**GENERAL REGULATIONS**

## Item 3-1 Chapter 3, General Regulations

[The SFM proposes to adopt Chapter 3 and carry forward existing amendments.]

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 4**

**VENTILATION AIR SUPPLY**

## Item 4-1 Chapter 4, Ventilation Air Supply

[The SFM proposes to adopt Chapter 4 and carry forward existing amendments.]

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 5**

**EXHAUST SYSTEMS**

## Item 5-1 Chapter 5, Exhaust Systems

[The SFM proposes to adopt Chapter 5 and carry forward existing amendments.]

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 6**

**DUCT SYSTEMS**

## Item 6-1 Chapter 6, Duct Systems

[The SFM proposes to adopt Chapter 6 and carry forward existing amendments.]

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 7**

**COMBUSTION AIR**

## Item 7-1 Chapter 7, Combustion Air

[The SFM proposes to adopt Chapter 7 without amendments.]

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 8**

**CHIMNEYS AND VENTS**

## Item 8-1 Chapter 8, Chimney and Vents

[The SFM proposes to adopt Chapter 8 without amendments.]

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 9**

**INSTALLATION OF SPECIFIC EQUIPMENT**

## Item 9-1 Chapter 9, Installation of Specific Equipment

[The SFM proposes to adopt Chapter 9 without amendments.]

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 10**

**BOILERS AND PRESSURE VESSELS**

## Item 10-1 Chapter 10, Boilers and Pressure Vessels

[The SFM proposes to adopt Chapter 10 without amendments.]

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 11**

**REFRIGERATION**

## Item 11-1 Chapter 11, Refrigeration

[The SFM proposes to adopt Chapter 11 and carry forward existing amendments.]

## Item 11-2 Chapter 11, Refrigeration, Section 1104.6 Applications for Human Comfort and for Nonindustrial Occupanices

**1104.0 Requirements for Refrigerant and Refrigeration**

**System Use.**

…

**1104.6 Applications for Human Comfort and for Nonindustrial Occupancies**. In nonindustrial occupancies, Group A2, A2L, A3, B1, B2L, B2, and B3 refrigerants shall not be used in high-probability systems for human comfort.

***Exceptions:***

*(1) Listed equipment, units having a factory-sealed refrigerating system, containing no more than 2.2 lbs. (1kg) of A2L refrigerant installed in accordance with the listing and the manufacturer’s installation instructions.*

*(2) Listed equipment for non-residential applications, having a factory-sealed refrigerating system and containing no more than 4 lbs. (1.8 kg) of A2L refrigerant installed in accordance with the listing and the manufacturer’s installation instructions.*

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 12**

**HYDRONICS**

## Item 12-1 Chapter 12, Hydronics

[The SFM proposes to not adopt Chapter 12.]

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 13**

**FUEL GAS PIPING**

## Item 13-1 Chapter 13, Fuel Gas Piping

[The SFM proposes to adopt Chapter 13 without amendments.]

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 14**

**PROCESS PIPING**

## Item 14-1 Chapter 14, Process Piping

[The SFM proposes to adopt Chapter 14 without amendments.]

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 15**

**SOLAR ENERGY SYSTEMS**

## Item 15-1 Chapter 15, Solar Energy Systems

[The SFM proposes to not adopt Chapter 15.]

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 16**

**STATIONARY POWER PLANTS**

## Item 16-1 Chapter 16, Stationary Power Plants

[The SFM proposes to adopt Chapter 16 without amendments.]

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 17**

**REFERENCED STANDARDS**

[The SFM proposes to adopt Chapter 17 with amendments.]

## Item 17-1 Chapter 17, NFPA 2 Hydrogen Technologies Code

NFPA 2-20~~16~~*19*

## Item 17-2 Chapter 17, NFPA 10 Portable Fire Extinguishers

NFPA 10-20~~18~~*21*

## Item 17-3 Chapter 17, NFPA 13 Installation of Sprinkler Systems

NFPA 13-20~~19~~*22*

*\*See California Fire Code for amendments*

## Item 17-4 Chapter 17, NFPA 17 Dry Chemical Extinguishing Systems

NFPA 17-20~~17~~*20*

## Item 17-5 Chapter 17, NFPA 17A Wet Chemical Extinguishing Systems

NFPA 17A-20~~17~~*20*

## Item 17-6 Chapter 17, NFPA 30A Motor Fuel Dispensing Facilities and Repair Garages

NFPA 30A-20~~18~~*21*

## Item 17-7 Chapter 17, NFPA 58 Liquefied Petroleum Gas Code

NFPA 58-20~~17~~*20*

## Item 17-8 Chapter 17, NFPA 70 National Electrical Code

NFPA 70-20~~17~~*20*

*\*See California Electrical Code for amendments*

## Item 17-9 Chapter 17, NFPA 654 Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids

NFPA 654-20~~17~~*20*

## Item 17-10 Chapter 17, NFPA 853 Installation of Stationary Fuel Cell Power Systems

NFPA 853-20~~15~~*20*

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**APPENDICES**

## Item 18-1 Appendices, Appendix A- H

[The SFM proposes to not adopt Appendix A - H.]

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**USEFUL TABLES**

## Item 19-1 Useful Tables

[The SFM proposes to adopt Useful Tables without amendment.]

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204