

**EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT**

**REGARDING PROPOSED CHANGES TO
CALIFORNIA MECHANICAL CODE
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 4**

LEGEND FOR EXPRESS TERMS

1. Existing California amendments or code language being modified: All such language appears in *italics*, modified language is underlined.
2. New California amendments: All such language appears underline and in italics.
3. Repealed text: All such language appears in ~~strikeout~~.

EXPRESS TERMS

**CHAPTER 1
ADMINISTRATION**

Carry forward existing California Chapter 1 of the 2007 California Mechanical Code (CMC) for OSHPD 1, 2, 3 & 4 with the following modifications:

~~**CALIFORNIA CHAPTER 1
GENERAL CODE PROVISIONS**~~

CHAPTER 1
CALIFORNIA ADMINISTRATION
DIVISION I

~~**401-0 1.1.0 General**~~

~~**401-1 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 twelve parts of the official compilation and publication of the adoptions, 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 ~~2006~~ 2009 Uniform Mechanical Code of the International Association of Plumbing and Mechanical Officials with necessary California amendments.*

~~**401-2 1.1.2 Purpose.**~~ *The purpose of this code is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, access to persons with disabilities, sanitation, adequate lighting and ventilation, and energy conservation; safety to life and property from fire and other hazards attributed to the built environment; and to provide safety to fire fighters and emergency responders during emergency operations.*

~~**401-3 1.1.3 Scope.**~~ *The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout the State of California.*

~~**401-3.1 1.1.3.1 Nonstate-regulated buildings, structures, and applications.**~~ *Except as modified by local ordinance pursuant to Section ~~401-8 1.1.8~~, the following standards in the California Code of Regulations, Title 24, Parts 2, 2.5, 3, 4, 5, 6, 9, ~~and 10~~ and 11 shall apply to all occupancies and applications not regulated by a state agency.*

1.1.3.2 State-regulated buildings, structures, and applications. The model code, state amendments to the model code, and/or state amendments where there are no relevant model code provisions shall apply to the following buildings, structures, and applications regulated by state agencies as referenced in the Matrix Adoption Tables and as specified in Sections 1.2 through 1.14, except where modified by local ordinance pursuant to Section 1.1.8. When adopted by a state agency, the provisions of this code shall be enforced by the appropriate enforcing agency, but only to the extent of authority granted to such agency by the State Legislature.

Note: See Preface to distinguish the model code provisions from the California provisions.

1. State-owned buildings, including buildings constructed by the Trustees of the California State University, and to the extent permitted by California laws, buildings designed and constructed by the Regents of the University of California, and regulated by the Building Standards Commission. See Section 1.2 for additional scope provisions.
2. Local detention facilities regulated by the Corrections Standards Authority. See Section 1.3 for additional scope provisions.
3. Barbering, cosmetology or electrolysis establishments, acupuncture offices, pharmacies, veterinary facilities, and structural pest control locations regulated by the Department of Consumer Affairs. See Section 1.4 for additional scope provisions.
4. Reserved for the California Energy Commission. See Section 1.5 for additional scope provisions.
5. Dairies and places of meat inspection regulated by the Department of Food and Agriculture. See Section 1.6 for additional scope provisions.
6. Organized camps, laboratory animal quarters, public swimming pools, radiation protection, commissaries serving mobile food preparation vehicles, and wild animal quarantine facilities regulated by the Department of Public Health Services. See Section 1.7 for additional scope provisions.
7. Hotels, motels, lodging houses, apartment houses, dwellings, dormitories, condominiums, shelters for homeless persons, congregate residences, employee housing, factory-built housing, and other types of dwellings containing sleeping accommodations with or without common toilets or cooking facilities. See Section 1.8.2.1.1 for additional scope provisions.
8. Accommodations for persons with disabilities in buildings containing newly constructed covered multifamily dwellings, new common use spaces serving existing covered multifamily dwellings, additions to existing buildings where the addition alone meets the definition of a Covered multifamily dwelling "COVERED MULTIFAMILY DWELLINGS," and common-use spaces serving covered multifamily dwellings which are regulated by the Department of Housing and Community Development. See Section 1.8.2.1.2 for additional scope provisions.
9. Permanent buildings and permanent accessory buildings or structures constructed within mobilehome parks and special occupancy parks regulated by the Department of Housing and Community Development. See Section 1.8.2.1.3 for additional scope provisions.
10. Accommodations for persons with disabilities regulated by the Division of the State Architect. See Section 1.9.1 for additional scope provisions.
11. Public elementary and secondary schools, community college buildings, and state-owned or state-leased essential service buildings regulated by the Division of the State Architect. See Section 1.9.2 for additional scope provisions.
12. Reserved for the State Historical Building Safety Board with the Division of the State Architect. See Section 1.9.3 for additional scope provisions.
13. General acute care hospitals, acute psychiatric hospitals, skilled nursing and/or intermediate care facilities, clinics licensed by the Department of Public Health Services and correctional treatment centers regulated by the Office of Statewide Health Planning and Development. See Section 1.10 for additional scope provisions.

14. Applications regulated by the Office of State Fire Marshal include but are not limited to the following in accordance with Section 444 1.11:

~~44.1. Buildings or structures used or intended for use as an:~~

~~44.1.1. Asylum, jail.~~

~~44.1.2. Mental hospital, hospital, home for the elderly, children's nursery, children's home or institution, school or any similar occupancy of any capacity.~~

~~44.1.3. Theater, dancehall, skating rink, auditorium, assembly hall, meeting hall, nightclub, fair building, or similar place of assemblage where 50 or more persons may gather together in a building, room or structure for the purpose of amusement, entertainment, instruction, deliberation, worship, drinking or dining, awaiting transportation, or education.~~

~~44.1.4. Small family day care homes, large family day-care homes, residential facilities and residential facilities for the elderly, residential care facilities.~~

~~44.1.5. State institutions or other state-owned or state-occupied buildings.~~

~~44.1.6. High rise structures.~~

~~44.1.7. Motion picture production studios.~~

~~44.1.8. Organized camps.~~

~~44.1.9. Residential structures.~~

~~44.2. Tents, awnings or other fabric enclosures used in connection with any occupancy.~~

~~44.3. Fire alarm devices, equipment and systems in connection with any occupancy.~~

~~44.4. Hazardous materials, flammable and combustible liquids.~~

~~44.5. Public school automatic fire detection, alarm, and sprinkler systems.~~

~~44.6. Wildland-urban interface fire areas.~~

15. Public libraries constructed and renovated using funds from the California Library Construction and Renovation Bond Act of 1988 and regulated by the State Librarian. See Section 442 1.12 for additional scope provisions.

16. Graywater systems regulated by the Department of Water Resources. See Section 443 1.13 for additional scope provisions.

17. For applications listed in Section ~~409.4~~ 1.9.1 regulated by the Division of the State Architect – Access Compliance, outdoor environments and uses shall be classified according to accessibility uses described in Chapter 11A, 11B and 11C.

18. Marine Oil Terminals regulated by the California State Lands Commission. See Section 444 1.14 for additional scope provisions.

~~401.4 1.1.4~~ Appendices. Provisions contained in the appendices of this code shall not apply unless specifically adopted by a state agency or adopted by a local enforcing agency in compliance with Health and Safety Code Section ~~48938 (b)~~ 18901 et. seq. for Building Standards Law, Health and Safety Code Section 17950 for State Housing Law and Health and Safety Code Section 13869.7 for Fire Protection Districts. See Section ~~401.8~~ 1.1.8 of this code.

401.5 1.1.5 Referenced codes. The codes, standards and publications adopted and set forth in this code, including other codes, standards and publications referred to therein are, by title and date of publication, hereby adopted as standard reference documents of this code. When this code does not specifically cover any subject related to building design and construction, recognized architectural or engineering practices shall be employed. The National Fire Codes, standards, and the Fire Protection Handbook of the National Fire Protection Association are permitted to be used as authoritative guides in determining recognized fire prevention engineering practices.

401.6 1.1.6 NonBuilding standards, orders and regulations. Requirements contained in the Uniform Mechanical Code or in any other referenced standard, code or document, which are not building standards as defined in Health and Safety Code Section 18909, shall not be construed as part of the provisions of this code. For nonbuilding standards, orders, and regulations, see other titles of the California Code of Regulations.

401.7 1.1.7 Order of precedence and use.

401.7.1 1.1.7.1 Differences. In the event of any differences between these building standards and the standard reference documents, the text of these building standards shall govern.

401.7.2 1.1.7.2 Specific provisions. Where a specific provision varies from a general provision, the specific provision shall apply.

401.7.3 1.1.7.3 Conflicts. When the requirements of this code conflict with the requirements of any other part of the California Building Standards Code, Title 24, the most restrictive requirements shall prevail.

401.8 1.1.8 City, county, or city and county amendments, additions or deletions.

The provisions of this code do not limit the authority of city, county, or city and county governments to establish more restrictive and reasonably necessary differences to the provisions contained in this code pursuant to complying with Section ~~401.8.4~~ 1.1.8.1. The effective date of amendments, additions, or deletions to this code ~~by of cities a city,~~ ~~counties county,~~ or city and ~~counties county~~ filed pursuant to Section ~~401.8.4~~ 1.1.8.1 shall be the date filed. However, in no case shall the amendments, additions or deletions to this code be effective any sooner than the effective date of this code.

Local modifications shall comply with Health and Safety Code Section 18941.5 for Building Standards Law, Health and Safety Code Section 17958 for State Housing Law or Health and Safety Code Section 13869.7 for Fire Protection Districts.

401.8.4 1.1.8.1 Findings and filings.

1. The city, county, or city and county shall make express findings for each amendment, addition or deletion based upon climatic, topographical, or geological conditions.

Exception: Hazardous building ordinances and programs mitigating unreinforced masonry buildings.

2. The city, county, or city and county shall file the amendments, additions, or deletions expressly marked and identified as to the applicable findings. Cities, counties, cities and counties, and fire departments shall file the amendments, additions or deletions, and the findings with the California Building Standards Commission at 2525 Natomas Park Drive, Suite 130, Sacramento, CA 95833.
3. Findings prepared by fire protection districts shall be ratified by the local city, county, or city and county and filed with the California Department of Housing and Community Development, Division of Codes and Standards, P.O. Box 1407, Sacramento, CA 95812-1407 or ~~at~~ 1800 3rd Street, Room 260, Sacramento, CA ~~95814~~ 95811.

401.9 1.1.9 Effective date of this code. Only those standards approved by the California Building Standards Commission that are effective at the time an application for building permit is submitted shall apply to the plans and specifications for, and to the construction performed under, that permit. For the effective dates of the provisions contained in this code, see the History Note page of this code.

401.40 1.1.10 Availability of codes. At least one ~~entire~~ complete copy each of Titles 8, 19, 20, 24, and 25 with all revisions shall be maintained in the office of the building official responsible for the administration and enforcement of this code. Each state department concerned and each city, county or city and county shall have an up-to-date copy of the code available for public inspection. See Health and Safety Code Section 18942 (d)(1) and (2).

401.44 1.1.11 Format. This part fundamentally adopts the Uniform Mechanical Code by reference on a chapter-by-chapter basis. Such adoption is reflected in the Matrix Adoption Table of each chapter of this part. When the Matrix Adoption Tables make no reference to a specific chapter of the International Building Code such chapter of the International Building Code is not adopted as a portion of this code.

401.42 1.1.12 Validity. If any chapter, section, subsection, sentence, clause or phrase of this code is for any reason held to be unconstitutional, contrary to statute, exceeding the authority of the state as stipulated by statutes or otherwise inoperative, such decision shall not affect the validity of the remaining portion of this code.

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SECTION 440 1.10

OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT

440.4. 1.10.1 OSHPD 1. Specific scope of application of the agency responsible for enforcement, enforcement agency, specific authority to adopt and enforce such provisions of this code, unless otherwise stated.

OSHPD 1

Application — General acute-care hospitals and acute psychiatric hospitals, excluding distinct part units or distinct part freestanding buildings providing skilled nursing or intermediate-care services. For Structural Regulations: Skilled nursing facilities and/or intermediate-care facilities except those skilled nursing facilities and intermediate care facilities of single story, Type V, wood or light steel-frame construction.

Enforcing Agency — Office of Statewide Health Planning and Development (OSHPD). The office shall enforce the Division of the State Architect access compliance regulations and the regulations of the Office of the State Fire Marshal for the above stated facility types.

~~440.4.4~~ 1.10.1.1 Applicable administrative standards.

1. Title 24, Part 1, California Code of Regulations: Chapters 6 & 7.
2. Title 24, Part 2, California Code of Regulations: Sections ~~404 1.1 and 440 1.10,~~ of Chapter 1, ~~and Appendix Division I, and Sections 101-117,~~ Chapter 1, Division II.

440.4.2 1.10.1.2 Applicable building standards. California Building Standards Code, Title 24, Parts 2, 3, 4, 5, 9, 10 and ~~42~~ 11.

NOTATION

Authority: Health and Safety Code Sections 127010, 127015, 1275 and 129850.

Reference: Health and Safety Code Sections 19958, 127010, 127015, 129680, 1275 and 129675 through 130070.

440.2. 1.10.2 OSHPD 2. Specific scope of application of the agency responsible for enforcement, enforcement agency, specific authority to adopt and enforce such provisions of this code, unless otherwise stated.

OSHPD 2

Application — Skilled nursing facilities and intermediate-care facilities, including distinct part skilled nursing and intermediate-care services on a general acute-care or acute psychiatric hospital license, provided either in a separate unit or a freestanding building. For Structural Regulations: Single-story, Type V skilled nursing facility and/or intermediate-care facilities utilizing wood or light steel-frame construction.

Enforcing Agency — Office of Statewide Health Planning and Development (OSHPD). The office shall also enforce the Division of the State Architect access compliance regulations and the regulations of the Office of the State Fire Marshal for the above stated facility type.

440.2.1 1.10.2.1 Applicable administrative standards:

1. Title 24, Part 1, California Code of Regulations: Chapter 7.
2. Title 24, Part 2, California Code of Regulations: Sections ~~404~~ 1.1 and ~~440~~ 1.10, of Chapter 1, ~~and Appendix Division I, and Sections 101-117, Chapter 1, Division II.~~

440.2.2 1.10.2.2 Applicable building standards. California Building Standards Code, Title 24, Parts 2, 3, 4, 5, 9, 10 and ~~42~~ 11.

NOTATION

Authority: Health and Safety Code Sections 127010, 127015, 1275 and 129850.

References: Health and Safety Code Sections 127010, 127015, 1275 and 129680.

~~440.3. 1.10.3~~ **OSHPD 3.** Specific scope of application of the agency responsible for enforcement, enforcement agency, specific authority to adopt and enforce such provisions of this code, unless otherwise stated.

OSHPD 3

Application — Licensed clinics and any freestanding building under a hospital license where outpatient clinical services are provided.

Enforcing Agency — Local building department.

440.3.1 1.10.3.1 Applicable administrative standards.

1. Title 24, Part 1, California Code of Regulations: Chapter 7.
2. Title 24, Part 2, California Code of Regulations: Sections ~~404~~ 1.1 and ~~440~~ 1.10, of Chapter 1, ~~and Appendix Division I, and Sections 101-117, Chapter 1, Division II.~~

440.3.2 1.10.3.2 Applicable building standards. California Building Standards Code, Title 24, Parts 2, 3, 4, 5, 9, 10 and ~~42~~ 11.

NOTATION

Authority: Health and Safety Code Sections 127010, 127015 and 1226.

References: Health and Safety Code Sections 127010, 127015, 129885 and 1226, Government Code Section 54350, and State Constitution Article 11, Section 7.

~~440.4 1.10.4~~ **OSHPD 4.** Specific scope of application of the agency responsible for enforcement, enforcement agency, specific authority to adopt and enforce such provisions of this code, unless otherwise stated.

OSHPD 4

Application — Correctional Treatment Centers.

Enforcing Agency — Office of Statewide Health Planning and Development (OSHPD). The Office shall also enforce the Division of the State Architect access compliance regulations and the regulations of the Office of the State Fire Marshal for the above stated facility types.

110-4.1 1.10.4.1 Applicable administrative standards.

- 1. Title 24, Part 1, California Code of Regulations: Chapter 7.
- 2. Title 24, Part 2, California Code of Regulations: Sections ~~404~~ 1.1 and ~~440~~ 1.10, of Chapter 1, and Appendix Division I, and Sections 101-117, Chapter 1, Division II.

110-4.2 1.10.4.2 Applicable building standards. California Building Standards Code, Title 24, Parts 2, 3, 4, 5, 9, 10 and ~~42~~ 11.

NOTATION

Authority: Health and Safety Code Sections 127010, 127015 and 129790.

References: Health and Safety Code Sections 127010, 127015, 1275 and 129675 through 130070.

APPENDIX CHAPTER 1

ADMINISTRATION

DIVISION II

Chapter 1, Administration is relocated from Appendix Chapter 1 and renamed Division II.

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103.2 Conflicts. Where, in any specific case, different sections of this code or referenced standards specify different materials, methods of construction, or other requirements, the most restrictive shall govern as determined by the Authority Having Jurisdiction. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable. **[OSHPD 1, 2, 3 & 4]** See Chapter 1, Division I, Section ~~404.7~~ 1.1.7.

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NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government Code Section 11152.5

Reference: Health and Safety Code Section 129850

**CHAPTER 2
DEFINITIONS**

Adopt entire 2009 Uniform Mechanical Code (UMC) Chapter 2 and carry forward existing amendments of the 2007 California Mechanical Code (CMC) for OSHPD 1, 2, 3 & 4. Repeal existing amendments and modify existing amendments as follows:

...

203.0 -A-

...

AIR, RELIEF – **[OSHPD 1, 2, 3 & 4]** is ~~a~~ Air being exhausted directly from a building or a return duct system...

...

AUTHORITY HAVING JURISDICTION - The organization, office, or individual responsible ... **[OSHPD 1, 2, 3 & 4]** “Authority Having Jurisdiction” shall mean “Enforcing Agency” as defined in Section 207.0 of this code.

...

204.0 -B-

BUILDING CODE – The building code that is adopted by this jurisdiction. **[OSHPD 2, 2, 3 & 4]** ~~For the purpose of the California Mechanical Code, “Building Code” shall be the most recent edition of the~~ mean the California Building Code, Title 24, Part 2.

BUILDING OFFICIAL – See Authority Having Jurisdiction. ~~[For OSHPD 1, 2, 3 & 4] “Building Official” shall be the “Enforcing Agency as specified in California Chapter 1, Section 110.~~

...

209.0 -G-

GALVANIZED STEEL – Any steel conforming to the requirements of ~~UMC Standard No. 2-2~~ ASTM A653/A653M-03 Standard Specification for Steel Sheet, Zinc-Coat (Galvanized) or Zinc-Iron Alloy-Coat (Galvanized) by the Hot Dip Process.

...

210.0 -H-

HEALTH FACILITIES [OSHPD 1, 2, 3 & 4] ~~are those b~~ Buildings specified within the statutory authority of the Office of Statewide Health Planning and Development.

...

217.0 -O-

OCCUPANCY CLASSIFICATION – Classifications are defined in the Building Code. ~~[OSHPD 1, 2, 3 & 4] Occupancy Classification shall be those as shown in the California Building Code. For the purpose of this code, certain occupancies are defined as follows:~~

NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government Code Section 11152.5

Reference: Health and Safety Code Section 129850

CHAPTER 3 GENERAL REQUIREMENTS

Adopt entire 2009 Uniform Mechanical Code (UMC) Chapter and carry forward existing amendments of the 2007 California Mechanical Code (CMC) for OSHPD 1, 2, 3 & 4 with the following modifications:

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303.2 Room Large in Comparison to Size of Equipment.

Relocate California Amendments from Section 304.2 of the 2007 California Mechanical Code to Section 303.2 to be consistent with the 2009 Uniform Mechanical Code.

...

312.0 Water Supply.

Water supplies and backflow protection shall be as required by the Uniform [OSHPD 1, 2, 3 & 4] California Plumbing Code.

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315.0 Air Conditioning and Heating Systems

315.1 Requirements for Hospitals and Optional Services Provided in Correctional Treatment Centers. ~~[For OSHPD 1 & 4]~~

~~315.1.1~~ The systems shall be designed to provide the temperatures and humidity for sensitive areas or rooms shown in Table 315. When outdoor humidity and internal moisture sources are not sufficient to meet the requirements of Table 315, humidification shall be provided by means of the health-care facility air-handling systems.

~~315.1.2~~ Individual temperature and humidity controls shall be provided for each designated sensitive area or room shown in Table 315. Temperature shall be individually controlled for each operating and delivery room. Burn unit patient rooms that require humidifiers to comply with Table 315 shall be provided with individual humidity control.

Exceptions:

- ~~(1)~~ Dew-point control with individual overriding room humidistat will be acceptable as a substitute when justification is provided.
- ~~(2)~~ Rooms with similar exposure function and humidity requirements may have humidity control with zone humidifier where designs are specifically approved by the enforcing agency.

~~315.1.3~~ **315.1.2** For occupied areas not shown in Table 315...

~~315.1.4~~ **315.1.3** For occupied areas not shown in Table 315...

...

Table 315 – Heating, Cooling, and Relative Humidity Requirements for Sensitive Areas or Rooms

AREA OR ROOM DESIGNATION	TEMPERATURE RANGE ^{1, 2}	RELATIVE HUMIDITY ^{1, 3}
	°F	Percent
Operating room	68 - 73 75	30-60
Cystoscopy	68 - 73 75	30-60
Cardiac catheterization lab	70 -75	30-60 max 60
Delivery room	68 - 73 75	30-60
Recovery room	70 -75	30-60
Newborn nursery	75-72 -78	30-60
Newborn intensive-care newborn-nursery unit	75-80 70-75	30-60
Intensive care ⁴	70-75	30-60
Burn unit	70-75	40-60

¹ Thermostats and humidistat shall be either locally resettable and of the non-locking type or remotely resettable and of the locking type.

² ~~Where temperature ranges are indicated, the system shall be capable of maintaining the rooms at any point within the range. A single figure indicates a heating or cooling capacity of at least the indicated temperature. Temperatures different than those shown will be allowed when approved by the authority having jurisdiction. Systems shall be capable of maintaining the rooms within the range during normal operation. Lower or higher temperature shall be permitted when patients' comfort and/or medical conditions require those conditions.~~

³ The ranges listed are the minimum and maximum limits where control is specifically needed.

⁴ Types of intensive care service spaces are listed in the California Building Code.

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316.0 Essential Mechanical Provisions. [~~For~~ OSHPD 1, 2, 3 (Surgical Clinics only) & 4]

During periods of power outages ~~emergency~~ essential electrical power shall be provided for the following equipment:

...

316.5 All control components and control systems necessary for the normal operation of equipment required to have ~~emergency~~ essential electrical power.

NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government Code Section 11152.5

Reference: Health and Safety Code Section 129850

**CHAPTER 4
VENTILATION AIR SUPPLY**

Adopt entire 2009 Uniform Mechanical Code (UMC) Chapter and carry forward existing amendments of the 2007 California Mechanical Code (CMC) for OSHPD 1, 2, 3 & 4 with the following modifications:

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407.0 Ventilation System Details. [~~For~~ OSHPD 1, 2, 3 & 4]

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407.4 Air Circulation.

407.4.1 Air shall be introduced at the cleanest areas and removed at the dirtiest areas in order to reduce chances of airborne cross-infection as follows: Design of the ventilation system shall provide air movement that is generally from clean to less clean areas.

...

407.5 Variable Air Volume.

407.5.1 Variable Air Volume Systems (VAV). Variable air volume systems subjecting the patient to a

fluctuating air movement are not acceptable for airborne infection isolation rooms, protective environment rooms or ~~those critically-sensitive areas listed in Table 315~~. For nonsensitive areas with no requirement for continuous directional control as identified in Table 4-A, variable air volume systems ~~meeting the following criteria can be considered~~ shall comply with the minimum air changes per hour shown in Table 4-A through the full range of operation. For nonsensitive areas requiring a positive or negative air balance relationship as identified in Table 4-A, variable air volume systems shall comply with the following:

407.5.1.1 The VAV system shall comply with code requirements for outside air, total air, and pressure relationship through the full range of operation from minimum to maximum.

407.5.1.2 The central return or exhaust fan shall be controlled to accomplish the variable air volume requirements of the individual rooms served by the fan as described in Section 407.5.1.3.

407.5.1.3 Variable air volume for return or exhaust air shall be accomplished by utilizing an automatic modulating damper in the return or exhaust air for each zone. The damper ~~will~~ shall modulate from full open to minimum position in conjunction with the supply air VAV terminal box.

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410.0 Laboratories [For OSHPD 1, 2, 3 & 4]

410.1 ~~The minimum amount of outdoor air in laboratories shall be provided in accordance with Table 4-A. A filter with 90 percent average efficiency based on ASHRAE Standard 52.1-1992 or a minimum efficiency reporting value (MERV) of 14, based on ASHRAE Standard 52.2-1999 shall be installed in the air supply system at its entrance to the media transfer room.~~

410.2 ~~Laboratory hoods for general use shall have a minimum average face velocity of 75 feet per minute (380 m/s). Hoods in which infectious or highly radioactive materials are processed shall have a face velocity of 100 feet per minute (510 m/s). Bacteriological safety cabinets used for processing infectious materials shall have an average face velocity of 50 to 70 feet per minute (255 m/s to 355 m/s) and shall be equipped with a means for disinfection.~~

410.3 ~~Laboratory hoods shall not be connected to the general building exhaust system. Hoods in which infectious, incompatible or highly radioactive materials are processed each shall have an independent exhaust system with the fan installed at the discharge point of the system. Duct systems serving laboratory hoods shall be constructed of stainless steel of a type which will resist corrosion by materials normally handled. Duct systems serving laboratory hoods used for purposes other than those needed for routine diagnostic laboratory procedures and in which highly radioactive materials or a significant volume of highly oxidizing agents are used shall be constructed of USS 18-8 stainless steel or the equivalent for a minimum distance of 10 feet (3048 mm) from the hood. Such ducts shall be equipped with wash-down facilities and shall be consistent with fire safety requirements. Fire dampers and smoke dampers shall not be installed in laboratory hood exhaust systems.~~

410.4 ~~The exhaust from all laboratory hoods in which infectious or radioactive materials are processed shall be equipped with filters having a 99 percent efficiency based on the DOP (dioctylphthalate) test method or a minimum efficiency reporting value (MERV) of 15, based on ASHRAE Standard 52.2-1999. Filter frames shall be durable and carefully dimensioned, and shall provide an airtight fit with the enclosing duct work. All joints between filter segments and the enclosing duct work shall be gasketed or sealed to provide a positive seal against air leakage.~~

410.0 Laboratory Ventilating Systems and Hoods. [OSHPD 1, 2, 3 & 4]

410.1 Laboratory Ventilating Systems. Laboratory ventilating systems shall comply with NFPA 99, as required by Section 1224.4.6.4 of the California Building Code.

410.2 Exhaust Hoods and Safety Cabinets. Hoods and safety cabinets may be used for normal exhaust of a space provided minimum air change rates are maintained. If air change standards in Table 4-A do not provide sufficient air for proper operation of exhaust hoods and safety cabinets (when in use), supplementary makeup air (filtered and preheated) shall be provided around these units to maintain the required airflow direction and exhaust velocity. Makeup systems for hoods shall be arranged to minimize "short circuiting" of air and to avoid reduction in air velocity at the point of contaminant capture.

410.3 Laboratory Fume Hoods. Laboratory fume hoods shall meet the following standards:

410.3.1 General Standard. Average face velocity shall be at least 75 feet per minute (0.38 meters per second). Exhaust system shall be separate from the building exhaust system. Exhaust fan shall be located at the discharge end of the system. Exhaust duct system shall be of noncombustible corrosion-resistant material as required to meet the planned usage of the hood.

410.3.2 Special Standards for Use with Strong Oxidants. Fume hoods and their associated equipment in the air stream intended for use with perchloric acid and other strong oxidants shall be constructed of stainless steel or other

material consistent with special exposures. Hoods and equipment shall be provided with a water wash and drain system to permit periodic flushing of duct and hood. When perchloric acid or other strong oxidants are only transferred from one container to another, standard laboratory fume hoods and the associated equipment may be used in lieu of stainless steel construction.

410.3.3 Special Standards for Use with Infectious or Radioactive Materials. Each hood shall have a minimum face velocity of 90 to 110 feet per minute (0.45 to 0.56 meters per second) with suitable pressure-independent air-modulating devices and alarms to alert staff of fan shutdown or loss of airflow. Each hood shall have filters with a 99.97 percent efficiency (based on the DOP test method) in the exhaust stream and be designed and equipped to permit the safe removal, disposal, and replacement of contaminated filters. Filters shall be as close to the hood as practical to minimize duct contamination. Fume hoods intended for use with radioactive isotopes shall be constructed of stainless steel or other material suitable for the particular exposure.

...

416.0 Alarms – Airborne Infection Isolation Rooms and Protective Environment Rooms [OSHPD 1, 2, 3 & 4]

416.1 ~~An alarm system which is based on static pressure control, volumetric control, or directional flow measurement shall be provided for each isolation room. The alarm system shall consist of a display monitor located on the corridor wall near the door to the room and a visual and audible alarm which annunciates at the room and at a nurses' station or other suitable location that will provide responsible surveillance. A time delay shall be provided to allow for routine openings of doors. The alarm shall annunciate when the supply, return, or exhaust fans are interrupted and when one of the following conditions is not met during closed door conditions:~~

- ~~1. When the minimum air quantity difference of 75 cfm (35.4 L/s) required by Table 4-A is not being maintained; or~~
- ~~2. When a minimum pressure differential of 0.001 inch (0.003 kPa) of water and a minimum inward (outward for protective environment rooms) air velocity of 100 feet per minute (0.508 m/s) is not being maintained at the air transfer opening required by Table 4-A.~~

416.1 Each Airborne Infection Isolation Room and Protective Environment Room shall have a permanently installed device and/or mechanism to constantly monitor the differential air pressure between the Room and the Anteroom. A local visual means shall be provided to indicate whenever negative differential pressure (Airborne Infection Isolation Rooms) or positive differential pressure (Protective Environment Rooms) is not maintained. Differential pressure between Room and Anteroom shall be a minimum of -0.01 in. wc (-2.5 Pa) for Airborne Infection Isolation Rooms and a minimum of +0.01 in. wc (2.5 Pa) for Protective Environment Rooms.

...

417.0 Testing and Balancing Airborne Infection Isolation Rooms and Protective Environment Rooms [For OSHPD 1, 2, 3 & 4] ~~Prior to acceptance of the rooms, all mechanical systems shall be tested, balanced All testing and balancing shall be performed by a qualified independent agency certified by the Associated Air Balance Council (AABC); or the National Environmental Balancing Bureau (NEBB); or the Testing, Adjusting and Balancing Bureau (TABB).~~

NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5

Reference: Health and Safety Code Section 129850

CHAPTER 5 EXHAUST SYSTEMS

Adopt entire 2009 Uniform Mechanical Code (UMC) Chapter and carry forward existing amendments of the 2007 California Mechanical Code (CMC) for OSHPD 1, 2, 3 & 4 with the following modifications

...

506.2 Construction. Ducts used for conveying products shall be of substantial airtight construction and shall not have openings other than those required for operation and maintenance of the system. Ducts constructed of steel shall comply with Table 5-5 or 5-6.

Exceptions:

(1) Class 1 product-conveying ducts that operate at less than four (4) inches (102 mm) water column (995.6 Pa) negative pressure and convey noncorrosive, nonflammable, and nonexplosive materials at temperatures not exceeding 250°F (121°C) may be constructed in accordance with ~~Tables 6-1, 6-2, 6-3, 6-4, 6-5, 6-7, 6-8, or, with prior approval, UMC Standard No. 6-2~~ ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible or another approved duct construction standard.

(2) Ducts used in central vacuuming systems within a dwelling unit shall be constructed of materials in compliance with the applicable standards referenced in Chapter 17. Penetrations of fire-resistive walls, or floor-ceiling or roof-ceiling assemblies shall comply with the Building Code. Copper or ferrous pipes or conduit extending from within the separation between a garage and dwelling unit to the central vacuum unit may be used.

The use of rectangular ducts conveying particulates shall be subject to approval of the building official. The design of rectangular ducts shall consider the adhesiveness and buildup of products being conveyed within the duct.

Aluminum construction may be used in Class 1 duct systems only. The thickness of aluminum ducts shall be at least two Brown and Sharpe gauges thicker than the gauges required for steel ducts set forth in Tables 5-5 and 5-6.

Aluminum construction may be used in Class 1 duct systems only. The thickness of aluminum ducts shall be at least two Brown and Sharpe gauges thicker than the gauges required for steel ducts set forth in Tables 5-5 and 5-6.

NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government Code Section 11152.5

Reference: Health and Safety Code Section 129850

CHAPTER 6 DUCT SYSTEMS

Adopt entire 2009 Uniform Mechanical Code (UMC) Chapter and carry forward existing amendments of the 2007 California Mechanical Code (CMC) for OSHPD 1, 2, 3 & 4 with the following modifications:

...

601.3 *The performance criteria and requirements herein contemplate a duct that is a structural assembly having the capacity to support occupant health and safety while minimizing its own contribution to property damage under emergency conditions. Ducts can supply fresh or treated air in support of life and health, can convey products of combustion away from a fire zone, can maintain a pressure differential that facilitates evacuation and reduces the spread of fire and smoke, and can facilitate firefighter access to a fire source.*

602.0 Material.

602.1 General. Supply air, return air, and outside air for heating, cooling, or evaporative cooling systems shall be conducted through duct systems constructed of metal as set forth in ~~Tables 6-1, 6-2, 6-3, 6-4, 6-7, 6-8, 6-9, and 6-10, or metal ducts complying with UMC Standard No. 6-2 or the referenced HVAC duct construction standard 2 or the referenced HVAC duct construction standard in Chapter 17~~ ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible, or other approved duct construction standard. Rectangular ducts in excess of two (2) inches w.g. shall comply with ~~UMC Standard No. 6-2 or the referenced HVAC duct construction standard in Chapter 17~~ ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible, or other approved duct construction standard. Ducts, plenums, and fittings may be constructed of concrete, clay, or ceramics when installed in the ground or in a concrete slab, provided the joints are tightly sealed.

...

602.3 Factory-Made Air Ducts. Factory-made air ducts shall be approved for the use intended or shall conform to the requirements of the referenced standard for air ducts in Chapter 17. Each portion of a factory-made air duct system shall be identified by the manufacturer with a label or other suitable identification indicating compliance with the referenced standard for air ducts in Chapter 17 and its class designation. These ducts shall be listed and shall be installed in accordance with the terms of their listing, ~~and the requirements of UMC Standard No. 6-5.~~ Flexible air connectors are not permitted.

602.4 Joints and Seams of Ducts. Joints of duct systems shall be made substantially air-tight by means of tapes,

mastics, gasketing, or other means.

Crimp joints for round ducts shall have a contact lap of at least 1-1/2 inch (38 mm) and shall be mechanically fastened by means of at least three (3) sheet-metal screws equally spaced around the joint, or an equivalent fastening method.

Joints and seams for 0.016 inch (0.41 mm) (No. 28 gauge) and 0.013 inch (0.33 mm) (No. 30 gauge) residential rectangular ducts shall be as specified in ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible Table 6-4 for 0.019 inch (0.48 mm) (No. 26 gauge) material.

Joints and seams for rectangular duct systems shall be as specified in ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible Table 6-4.

Joints and seams for flat oval ducts and round ducts in other than single-dwelling units shall be as specified in Table 6-8 ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible.

Joints and seams and all reinforcements for factory-made air ducts and plenums shall meet with the conditions of prior approval in accordance with the installation instructions that shall accompany the product. Closure systems for rigid air ducts and plenums shall be listed in accordance with UL 181A, *Standard for Closure Systems for Use with Rigid Air Ducts and Air Connectors*. Closure systems for flexible air ducts shall be listed in accordance with UL 181B, *Standard for Closure Systems for Use with Flexible Air Ducts and Air Connectors*.

602.5 Metal. Every duct, plenum, or fitting of metal shall comply with Table 6-4 or 6-8 ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible or Duct Systems Complying with UL 181 for Factory Made Air Ducts and Air Connectors.

Exceptions:

- (1) ~~Ducts, plenums, and fittings for systems serving single-dwelling units may comply with Table 6-9.~~
- (2) ~~Duct systems complying with UMC Standard No. 6-2 or the referenced HVAC duct construction standard in Chapter 17, with prior approval, or duct systems complying with UL 181, Standard for Factory Made Air Ducts and Air Connectors.~~
- (3) ~~Duct systems complying with the UMC Standard No. 6-2 or the referenced HVAC duct construction standard in Chapter 17, with prior approval.~~

602.6 Tin. Existing tin ducts may be used when cooling coils are added to a heating system, provided the first ten (10) feet (3,048 mm) of the duct or plenum measured from the cooling coil discharge are constructed of metal of the gauge thickness set forth in ~~Tables 6-4, 6-8, or 6-9 of this chapter~~ the ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible or are of approved material and construction. Tin ducts completely enclosed in inaccessible concealed areas need not be replaced. All accessible ducts shall be insulated to comply with Table 6-6 of this chapter the ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible. For the purpose of this subsection, ducts shall be considered accessible where the access space is thirty (30) inches (762 mm) or greater in height.

...

603.0 Quality of Material. Galvanized steel shall be of lock-forming quality with a minimum coating of 1.25 ounces of zinc per square foot (0.04 kg/m³) conforming to the requirements of UMC Standard No. 2-2 ASTM A653/A653M-03 Standard Specification for Steel Sheet, Zinc-Coat (Galvanized) or Zinc-Iron Alloy-Coat (Galvanized) by the Hot Dip Process.

604.2 Metal Ducts. Ducts shall be securely fastened in place at each change of direction and as set forth in Table 6-7 ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible. Vertical rectangular ducts and vertical round ducts shall be supported as set forth in Table 6-7, Part A ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible. Riser ducts shall be held in place by means of metal straps or angles and channels to secure the riser to the structure.

Metal ducts shall be installed with at least four (4) inches (102 mm) separation from earth. Metal ducts when installed in or under a concrete slab shall be encased in at least two (2) inches (51 mm) of concrete.

Ducts shall be installed in a building with adequate clearance so as to permit retaining the full thickness of fireproofing on structural members.

Supports for rectangular ducts as set forth in Table 6-7 ANSI/SMACNA 006-2006 HVAC Duct Construction Standards

- *Metal and Flexible*, when suspended from above, shall be installed on two opposite sides of each duct and shall be riveted, bolted, or metal screwed to each side of the duct at not more than the intervals specified.

Horizontal round ducts forty (40) inches (1,016 mm) or less in diameter when suspended from above shall be supported at intervals not more than as set forth in ~~Table 6-7~~ ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible with one hanger installed to comply with the requirements listed below:

...

604.5 Support of Ducts. Installers shall provide the manufacturer's field fabrication and installation instructions.

In the absence of specific supporting materials and spacing, approved factory-made air ducts may be installed as set forth in ~~Table 6-10~~ ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible.

...

605.0 Insulation of Ducts.

Supply-, return-air ducts and plenums of a heating or cooling system shall be insulated to achieve the minimum thermal (R) value as set forth in ~~Tables 6-6 A and B~~ ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible.

Exceptions:

- (A) Factory-installed plenums, casings, or ductwork furnished as a part of HVAC equipment tested and rated in accordance with approved energy efficiency standards.
- (B) Ducts or plenums located in conditioned spaces.
- (C) For runouts less than ten (10) feet (3,048 mm) in length to air terminals or air outlets, the rated R value of insulation need not exceed R-3.5 (R-0.6).
- (D) Backs of air outlets and outlet plenums exposed to unconditioned or indirectly conditioned spaces with face areas exceeding five (5) square feet (0.5 m²) need not exceed R-2 (R-0.4); those five (5) square feet (0.5 m²) or smaller need not be insulated.
- (E) Ducts and plenums used exclusively for evaporative cooling systems.

Approved materials shall be installed within ducts and plenums for insulating, sound deadening, or other purposes. Materials shall have a mold, humidity, and erosion-resistant surface that meets the requirements of the referenced standard for air ducts in Chapter 17. Duct liners in systems operating with air velocities exceeding 2,000 feet per minute (10.16 m/s) shall be fastened with both adhesive and mechanical fasteners, and exposed edges shall have adequate treatment to withstand the operating velocity.

Insulation applied to the surface of ducts, including duct coverings, linings, tapes, and adhesives, located in buildings shall have a flame-spread index not greater than twenty-five (25) and a smoke developed index not greater than fifty (50), when tested in accordance with NFPA 255, *Method of Test of Burning Characteristics of Building Materials*, or in accordance with ASTM E 84, *Surface Burning Characteristics of Building Materials*, or in accordance with the provisions of UL 723, *Test for Surface Burning Characteristics of Building Materials*. The specimen preparation and mounting procedures of ASTM E 2231, *Specimen Preparation and Mounting of Pipe and Duct Insulation Materials to Assess Surface Burning Characteristics*, shall be used. Air duct coverings and linings shall not flame, glow, smolder, or smoke when tested in accordance with ASTM C 411, *Hot-Surface Performance of High-Temperature Thermal Insulation*, at the temperature to which they are exposed in service. In no case shall the test temperature be below 250°F (121°C).

Factory-made air ducts and faced insulations intended for installation on the exterior of ducts shall be legibly printed with the name of the manufacturer, the thermal resistance (R) value at installed thickness, and the flame-spread index and smoke developed index of the composite material.

...

[DELETE TABLES 6-1 through 6-10] TABLES NOT SHOWN

~~TABLE 6-1 Duct Construction for 4 Foot Duct Lengths~~
~~[SMACNA HVAC Duct Construction Standards; Second Edition - 1995]~~

TABLE 6-2 Duct Construction for 5 Foot Duct Lengths

~~[SMACNA HVAC Duct Construction Standards; Second Edition—1995]~~

~~TABLE 6-3
THICKNESS ADJUSTMENTS~~

~~TABLE 6-4
DIMENSION ADJUSTMENTS~~

~~TABLE 6-5
REINFORCEMENTS~~

~~TABLE 6-6 A (I-P Units)
Minimum Duct Insulation R Value^a—Cooling and Heating Only Supply Ducts and Return Ducts^{d,e}~~

~~TABLE 6-6 B (I-P Units)
Minimum Duct Insulation R Value^a—Combined Heating and Cooling Ducts^{d,e}~~

~~TABLE 6-7
Duct Support~~

~~TABLE 6-8
Construction Details for Round and Flat Oval Ducts~~

~~TABLE 6-9
Thickness of Metal Ducts and Plenums Used for Heating or Cooling for a Single Dwelling Unit~~

~~TABLE 6-10
Alternate Supports for Factory-Made Air Ducts~~

NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government Code Section 11152.5

Reference: Health and Safety Code Section 129850

CHAPTER 7 COMBUSTION AIR

Adopt entire 2009 Uniform Mechanical Code (UMC) Chapter for OSHPD 1, 2, 3 & 4 without amendments.

NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government Code Section 11152.5

Reference: Health and Safety Code Section 129850

CHAPTER 8 CHIMNEYS AND VENTS

Adopt entire 2009 Uniform Mechanical Code (UMC) Chapter for OSHPD 1, 2, 3 & 4 without amendments.

NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government Code Section 11152.5

Reference: Health and Safety Code Section 129850

**CHAPTER 9
INSTALLATION OF SPECIFIC APPLIANCES**

Adopt entire 2009 Uniform Mechanical Code (UMC) Chapter and carry forward existing amendments of the 2007 California Mechanical Code (CMC) for OSHPD 1, 2, & 4. Adopt the entire chapter for OSHPD 3 without amendments.

NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government Code Section 11152.5

Reference: Health and Safety Code Section 129850

**CHAPTER 10
STEAM AND HOT WATER BOILERS**

Adopt entire 2009 Uniform Mechanical Code (UMC) Chapter for OSHPD 1, 2, 3 & 4 without amendments.

NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government Code Section 11152.5

Reference: Health and Safety Code Section 129850

**CHAPTER 11
REFRIGERATION**

Adopt entire 2009 Uniform Mechanical Code (UMC) Chapter, repeal all existing amendments of 2007 California Mechanical Code (CMC) for OSHPD 1, 2, 3 & 4, and amend chapter as follows:

...

1106.3.1 Refrigerant Service Ports. *Refrigerant service ports located outdoors shall be fitted with locking-type tamper-resistant caps or shall be protected from unauthorized access by a means acceptable to the Enforcing Agency.*

...

1131.1 [For OSHPD 1, 2, 3 & 4] *Plume discharge shall be at least twenty-five (25) feet (7620 mm) from any ventilation inlet to a building.*

...

**TABLE 11-1
Refrigerant Groups¹, Properties², and Allowable Quantities³
[ASHRAE 34: Table 1]**

...

13 [For OSHPD 1, 2, 3(Surgical Clinics) & 4] *The quantity of refrigerant in each system is limited to 50% of the amount listed. Exception: kitchens, laboratories, and mortuaries.*

**TABLE 11-2
Permissible Refrigeration Systems¹**

OCCUPANCY GROUP AND DIVISION	HIGH-PROBABILITY SYSTEM	LOW-PROBABILITY SYSTEM	MACHINERY ROOM
...			
I-1.1 <i>[For OSHPD 1, 2, 3 & 4] I-1.1</i>	None <i>Group A1 Only</i>	Any <i>Any</i>	Any <i>Any</i>
I-1.2	Group A1 only	Any	Any
I-2 <i>[OSHPD 1, 2, 3, & 4] I-2.1</i>	Group A1 only <i>Group A1 only</i>	Any <i>Any</i>	Any <i>Any</i>
I-3	None	Any	Any

<i>For OSHPD 1, 2, 3 & 4/3</i>	<i>Group A1 Only</i>	<i>Any</i>	<i>Any</i>
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NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government Code Section 11152.5

Reference: Health and Safety Code Section 129850

**CHAPTER 12
HYDRONICS**

Adopt entire 2009 Uniform Mechanical Code (UMC) Chapter and carry forward the existing amendment of the 2007 California Mechanical Code (CMC) for OSHPD 1, 2, & 4. Adopt the entire chapter for OSHPD 3 without amendments.

NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government Code Section 11152.5

Reference: Health and Safety Code Section 129850

**CHAPTER 13
FUEL GAS PIPING**

Adopt entire 2009 Uniform Mechanical Code (UMC) Chapter for OSHPD 1, 2, 3 & 4 without amendments.

NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government Code Section 11152.5

Reference: Health and Safety Code Section 129850

**CHAPTER 14
PROCESS PIPING**

Adopt entire 2009 Uniform Mechanical Code (UMC) Chapter for OSHPD 1, 2, 3 & 4 without amendments.

NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government Code Section 11152.5

Reference: Health and Safety Code Section 129850

**CHAPTER 15
SOLAR SYSTEMS**

Chapter is not adopted for OSHPD 1, 2, 3 & 4.

NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government Code Section 11152.5

Reference: Health and Safety Code Section 129850

**CHAPTER 16
STATIONARY FUEL CELL POWER PLANTS**

Chapter is not adopted for OSHPD 1, 2, 3 & 4.

NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government Code Section 11152.5

Reference: Health and Safety Code Section 129850

CHAPTER 17 STANDARDS

Adopt 2009 Uniform Mechanical Code (UMC) Chapter for OSHPD 1, 2, 3 & 4 with the following modifications:

Part I – Standards Adopted as Part of This Code.

~~UMC Standard 2-2~~

~~UMC Section 209.0, 603.~~

~~Title and Source: Galvanized Sheet Metals.~~

~~This test Standard has been deleted from the UMC. The tentative Specification A525-64T of the American Society for Testing and Materials has been withdrawn and replaced by A653 / A653-03 Standard Specification for Steel Sheet, Zinc-Coat (Galvanized) or Zinc-Iron Alloy-Coat (Galvanized) by the Hot-Dip Process.~~

~~UMC Standard 6-2~~

~~UMC Section 506.2, 602.1, 602.5~~

~~Title and Source: Metal Ducts, First Edition, 1985 HVAC Duct Construction Standards, Metal and Flexible, published by the Sheet Metal and Air-Conditioning Contractors National Association.~~

~~UMC Standard 6-5~~

~~UMC Section 602.3~~

~~Title and Source: Installation of Factory Made Air Ducts, Fibrous Glass Duct Construction Standards, published by the North America Insulation Manufacturers Association; and Flexible Duct Performance and Installation Standards—4th Edition published by the Air Diffusion Council.~~

CHAPTER 17 STANDARDS TABLE 17-1

Standards for Equipment and Materials

...

ANSI/SMACNA 006-2006 (See SMACNA 006-2006)	HVAC Duct Construction Standards Metal and Flexible 3rd edition	Ducts, Metal and Flexible	506.2, 602.1, 602.4, 602.5, 602.6, 604.2, 604.5 and 605.0
SMACNA-2005 006-2006	HVAC Duct Construction Standards Metal and Flexible 3rd edition	Ducts, Metal and Flexible	506.2, 602.1, 602.4, 602.5, 602.6, 604.2 604.5 and 605.0 Tables 6-1 and 6-2

...

NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government Code Section 11152.5

Reference: Health and Safety Code Section 129850

APPENDIX CHAPTER 1

ADMINISTRATION

Appendix Chapter 1 is relocated to Chapter 1, Division II.

NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government Code Section 11152.5

Reference: Health and Safety Code Section 129850

APPENDIX A

OSHPD is not adopting Appendix A, 2009 Uniform Mechanical Code (UMC) Standards No. 2-2, 6-2 and 6-5 for OSHPD 1, 2, 3 & 4.

NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government Code Section 11152.5

Reference: Health and Safety Code Section 129850

APPENDIX B PROCEDURES TO BE FOLLOWED TO PLACE GAS EQUIPMENT IN OPERATION

Adopt entire 2009 Uniform Mechanical Code (UMC) Appendix for OSHPD 1, 2, 3 & 4 without amendments.

NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government Code Section 11152.5

Reference: Health and Safety Code Section 129850

APPENDIX C INSTALLATION AND TESTING OF OIL (LIQUID) FUEL-FIRED EQUIPMENT

Adopt entire 2009 Uniform Mechanical Code (UMC) Appendix for OSHPD 1, 2, 3 & 4 without amendments.

NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government Code Section 11152.5

Reference: Health and Safety Code Section 129850

APPENDIX D UNIT CONVERSION TABLES

Adopt entire 2009 Uniform Mechanical Code (UMC) Appendix for OSHPD 1, 2, 3 & 4 without amendments.

NOTATION:

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government Code Section 11152.5

Reference: Health and Safety Code Section 129850