2019 California Mechanical Code (CMC) Changes

SUMMARY

Some of the significant changes are:

New definitions have been provided for some items that are newer in concept such as sock ducts and other items that are more familiar like Lineset. Direct vent appliance clarified to include only those devices that receive their combustion air from outdoors. Some major changes are a solution to the clothes dryer duct limitation (Listed Duct Power Ventilators), flammability limitations for industrial applications, and the restriction of ventilation system ducting in air plenums.

Additionally, several code sections have been reorganized, meaning the previous requirements have been included in other or new sections. A 'Section Relocation' Table has been provided on pages xviii-xix.

SIGNIFICANT CHANGES

NEW - CHANGE	CMC SECTION/TABLE NUMBER	COMMENTARY	MASTER PLAN IMPACT YES - NO
☐ ☒	Chapter 2	**Definitions (New):** New definitions for; Air dispersion system (i.e.; sock duct), Combustible Material (items not defined as non-combustible), Joint-Press-Connect, Lineset, Refrigerant Designation,	☐ ☒
☐ ☒	Chapter 2	**Definitions (Revised):** Changes to definitions for; Appliance (now includes appliances that produce compressed gas), Appliance Categorized vent diameter/Area, Boiler-High pressure, Building Code, Compensating hood (clarified to be specific to commercial food heat processing equip.), Direct Vent Appliance (all air obtained from outdoors including combustion air), Floor Furnace, Gravity-Type floor furnace, Quick-disconnect Device, Refrigeration System-Indirect, and Vented Appliance Categories	☐ ☒
☒ ☐	301.4	**Electrical connections:** Equipment more than 50 volts to have disconnect. Exceptions allowed per Electrical Code. Receptacles shall be on supply side of disconnect switch, receptacle required within 25', not required to be on the same level.	☒ ☐
☒ ☐	303.10	**Unlisted Appliances:** AHJ given authority over unlisted appliances.	☐ ☒
☐ ☒	303.10.1	**Clearances:** Specific information provided on clearances and clearance reductions in this section.	☐ ☒
☒ ☐	303.11, .12, and .13	**Installation in commercial garages:** Information for appliances installed in commercial garages, repair garages, and Aircraft Hangars with required NFPA standards referenced.	☐ ☒
☐ ☒	305.1	**Installation in garages:** Clarification that this section applies to residential garages.	☐ ☒
☒ ☐	311.2	**Air Filter requirements:** Single family dwelling air filter requirements per Energy code.	☒ ☐

SIGNIFICANT CHANGES (cont'd)

NEW	CHANGE	CMC SECTION/TABLE NUMBER	COMMENTARY	MASTER PLAN IMPACT YES	NO
☒	☐	401.2	**Filter requirements [BSC-CG]:** Requirements for MERV 13 filters on mechanically ventilated spaces where the Green Code is applicable. Section relocated from 503.	☐	☒
☒	☐	402.1.3	**Ventilation in Health Care facilities [OSHPD, 1, 2, 3, 4, & 5]:** Applicable ASHREA standards for these facilities outlined.	☐	☒
☐	☒	402.2	**Natural Ventilation:** Exceptions for allowing natural ventilation only clarified.	☐	☒
☐	☒	404.3.2	**Secondary Recirculation Systems:** Formulas clarified.	☐	☒
☐	☒	416.1	**Protective Environment Rooms [OSHPD 1, 1R, 2, 3, 4, & 5]:** ASHRAE standards for these areas referenced.	☐	☒
☐	☒	419	**Neonatal Intensive Care Units [OSHPD 1]:** Ventilation requirements for these areas included in the code.	☐	☒
☐	☒	Table 4-A	**Pressure Relationship and Ventilation Requirements for OSHPD facilities:** Changes throughout the table.	☐	☒
☐	☒	Table 4-B	**Filter Efficiencies for OSHPD facilities:** Changes in the table.	☐	☒
☐	☒	Table 403.7	**Minimum exhaust rates:** Locker rooms broken into more specific uses and shower rooms defined and added.	☐	☒
☒	☐	504.4, 504.4.2.1 Exception & 504.4.2.3.	**Clothes Dryer Duct Material and Length Limitation:** Required listing for clothes dryer exhaust duct provided for reference (UL 2158A). Duct power ventilator provided as exemption to maximum clothes dryer duct length. Listing provided for exhaust duct ventilators for reference (UL 705).	☒	☐
☒	☐	505	**Product Conveying Systems:** Allowances for exceeding flammability limits (Ovens and Furnaces can exceed in accordance with NFPA 86 and deflagration in accordance with NFPA 68), requirements for air moving devices, separation required (between flames, sparks, or hot materials and flammable or combustible materials), fire damper requirements, fire detection, alarm system, automatic extinguishing system, and shut down requirements added to section.	☐	☒
☒	☐	506.3	**Penetrations:** Exhaust ducts not permitted through fire walls. Allowance for penetrations of Fire Barriers. New requirements for condensate and drainage of system.	☐	☒
☐	☒	506.10	**Duct Clearances:** Duct clearance requirements.	☐	☒
☐	☒	506.11 and table	**Clearance Reduction methods:** Allowances for reducing duct clearance.	☐	☒
☐	☒	519	**Type II Hoods:** Requirements for Type II hoods re-organized into this section.	☐	☒
☒	☐	602.4	**Phenolic:** Must be installed per SMACNA Phenolic Duct Standards. .	☐	☒
☐	☒	602.5.	**Gypsum:** Gypsum products shall have a mold or mildew resistant surface. Gypsum products shall not be exposed in supply ducts.	☐	☒

SIGNIFICANT CHANGES (cont'd)

NEW - CHANGE		CMC SECTION/TABLE NUMBER	COMMENTARY	MASTER PLAN IMPACT YES - NO	
☐	☒	603.4.1	**Length Limitation:** Flexible air ducts now allowed for as an elbow at a terminal device.	☐	☒
☐	☒	603.5	**Flexible Air Ducts:** Requirements for installation of flexible air duct outlined.	☒	☐
☐	☒	603.10	**Joints and Seams of ducts:** Listing requirements (UL 181 or UL 181B and in accordance with table 603.10)	☒	☐
☒	☐	603.10.1 and 603.10.1.1	**Duct Leakage Test:** Testing parameters for duct leakage test outlined and procedures for failed tests. Duct leakage tests for low rise residential shall be per the energy code.	☐	☒
☐	☒	603.12	**Underground Installation:** New added requirements for underground ducts.	☐	☒
☒	☐	603.13	**Air Dispersion Systems:** Must be in exposed locations, under positive pressure, and not pass through fire rated construction, and shall be labeled in accordance with UL 2518.	☐	☒
☐	☒	605.4	**Multiple Arrangements:** Where sizes require the use of multiple dampers, the dampers shall be listed for use in multiple arrangements.	☐	☒
☐	☒	701.1.1	**Other Types of Appliances:** Appliances with power burners included in section.	☐	☒
☒	☐	802.2.8	**Incinerators:** Commercial Industrial-type incinerators to be installed per NFPA 82.	☐	☒
☒	☐	802.3.6	**Venting Systems Above Ceiling or Non-ducted Air handling systems:** Requirements for a venting system to be able to pass through a non-ducted portion of the air handling system.	☐	☒
☒	☐	802.6	**Gas Vents:** Section re-written. Figure 802.8 provided.	☐	☒
☒	☐	803.2.6	**Elbows in connectors:** Allowances for elbows in venting connectors.	☐	☒
☒	☐	902.7	**Use of Oxygen Under Pressure:** Backpressure regulator and relief valve required. Must comply with NFPA 51.	☐	☒
☒	☐	902.14	**Gas Appliance Pressure Regulator:** Shall be installed where appliance requires a different operating pressure than that supplied.	☐	☒
☒	☐	904.14	**Electric Central Furnaces:** Shall comply with UL 1995 and installed in accordance with the manufacturer's installation instructions.	☐	☒
☒	☐	918.5	**Combustible Material Adjacent to Cooking Top:** Food service ranges; clearance to combustibles; 18" horizontally, 2' above the surface of the cook top where the combustible material is completely shielded by high shelving, warming closet, or other system. Reduced clearances per Table 303.10.1.	☐	☒
☐	☒	931.4	**Electric Kiln:** To be listed with UL 499.	☐	☒
☒	☐	1002.5	**Dual Purpose Water Heater:** Used for space and water heating shall be listed or labeled in accordance with Table 1203.2.	☐	☒

SIGNIFICANT CHANGES (cont'd)

NEW	CHANGE	CMC SECTION/TABLE NUMBER	COMMENTARY	MASTER PLAN IMPACT YES	NO
☒	☐	1102.2.	**Ammonia Systems (R-717):** Ammonia systems shall not be regulated by this chapter but shall comply with IIAAR 2, .IIAAR 3, IIAAR 4, and IIAAR 5.	☐	☒
☐	☒	1103.1.1	**Safety Group:** Table 1102.3 referenced and each refrigerant noted as being assigned to a safety group based on it's hazard.	☐	☒
☐	☒	1106.2	**Refrigeration Machinery Room Requirements:** Requirements for refrigeration machinery rooms (Access, Openings, Detectors and Alarms, Refrigerant Detectors, Mechanical ventilation, Ventilation, and Emergency Ventilation, requirements.).	☐	☒
☐	☒	1107.0	**Machinery Room Special Requirements:** Requirements for machinery rooms (Flame Producing Devices, doors, walls, floors, Ceilings, Exterior Openings, Sealing, Mechanical Ventilation, Refrigeration Detectors, Refrigeration Systems, and Remote Control.)	☐	☒
☐	☒	1109.2	**Refrigeration piping Joints:** Press-connect or mechanical joints that comply with UL 207 allowed individually or as part of an assembly approved by an approved laboratory.	☐	☒
☐	☒	1109.7	**Refrigeration Piping Enclosure:** Press-connect joints allowed for tubing larger than ¾".	☐	☒
☐	☒	1111.0	**Pressure-Limiting Devices:** Requirements for pressure liming devices for refrigeration systems.	☐	☒
☐	☒	1112.4	**Evaporators:** Requirements for evaporators for refrigeration systems.	☐	☒
☐	☒	1112.5	**Hydrostatic Expansion:** Requirements for addressing hydrostatic expansion for refrigeration systems.	☐	☒
☐	☒	1205.2	**Pressure Test:** List of plastic piping types allowed to be tested with air.	☐	☒
☐	☒	1208.1	**Circulation Pumps:** If less than 600 V, shall be UL 778 listed.	☐	☒
☒	☐	1211.3	**CPVC/AL/CPVC Plastic Pipe Joints:** Allowed solvents and cements for these pipe types.	☒	☐
☐	☒	1217.2	**Radiant Under Floor Heating:** Maximum allowed temperatures expanded.	☐	☒
☒	☐	1217.3	**Radiant Cooling Systems:** Minimum temperature for cooling systems provided.	☐	☒
☐	☒	1217.4	**Tube Placement for radiant systems:** Lengths not to vary more than 10% from the design.	☐	☒
☐	☒	1217.3 and 1217.4	**Radiant systems and subfloors/walls:** Changes to requirements for these systems.	☐	☒
☐	☒	1301.1	**Propane Pressure Allowed:** 10 psi now allowed for undiluted propane.	☐	☒
☐	☒	1308.4.1	**Maximum Gas Demand:** Adjustment for altitude now only required for elevations above 2,000 feet.	☐	☒

SIGNIFICANT CHANGES (cont'd)

NEW - CHANGE		CMC SECTION/TABLE NUMBER	COMMENTARY	MASTER PLAN IMPACT YES - NO	
☐	☒	1308.5.4	**Plastic Pipe, tubing, and fittings for gas:** Clarification that PVC and CPVC not allowed for fuel gas. Other piping shall be marked "gas" and "ASTM D2513".	☐	☒
☐	☒	1308.5.10 and 1308.5.11.1	**Flange Specifications:** Standards for flanges of different materials and flange gaskets.	☐	☒
☐	☒	1308	**Overpressure Protection:** Requirements for overpressure protection of systems that exceed 2 psi.	☐	☒
☐	☒	1310.1	**Gas Pipe Protection Against Corrosion for underground pipe:** Requirements to underground gas pipe greatly expanded (zinc coating not allowed, suitable for environment, factory applied electrically insulated coating, cathodic protection system installed).	☒	☐
☐	☒	1310.2.4.3	**Gas piping on rooftops:** Shall be elevated above the roof surface and shall be supported per table 1310.2.4.1.	☐	☒
☐	☒	1311.2	**Bonding of CSST Gas Piping:** 75' maximum length for bonding jumper. Devices used for bonding shall be UL 467.	☐	☒
☒	☐	1312.4	**Injection (Bunsen) Burners:** allowed for use in laboratories and educational facilities with an unlisted hose.	☐	☒
☐	☒	Table 1315.2(2) & Table 1315.2(3)	**Schedule 40 metallic gas pipe intended for initial supply pressure for 8.0 in W.C. or greater:** Table values have changed.	☐	☒
☐	☒	1601.1	**Stationary Fuel Cell Power Plants:** units over 50 kW shall be installed in accordance with NFPA 853. Stationary fuel cell power plants shall be tested in accordance with CSA FC-1.	☐	☒