

## 2022 California Electrical Code (CEC) Changes

### SUMMARY

The major changes in the 2022 CEC code cycle include: extensive addition of GFCI and tamper resistant requirements in single family and non-residential occupancies, many restrictions on reconditioned equipment, additional barriers to be provided in service panels, switchboards, switchgears, and disconnects to protect from live parts, surge protection for dwelling units, and label/marketing changes/additions.

NEW - CHANGE	CEC SECTION/TABLE NUMBER	COMMENTARY
<input checked="" type="checkbox"/> <input type="checkbox"/>	90.2(A)(6)	New list item to clarify that installations used to export power from vehicles is under the scope of the NEC.
<input type="checkbox"/> <input checked="" type="checkbox"/>	Chapter 1 Definitions	Habitable Room. Definition added for consistency.
<input checked="" type="checkbox"/> <input type="checkbox"/>	- Chapter 1 Definitions	Accessory Dwelling Unit. Definition added
<input type="checkbox"/> <input checked="" type="checkbox"/>	110.22	Disconnects in other than one and two family dwellings shall have the circuit source on the label
<input type="checkbox"/> <input checked="" type="checkbox"/>	110.26(E)(2)	Egress on both ends of spaces with equipment disconnects that have a combined amp rating of 1200 and over 6' in width. Equipment doors shall not block entry/egress.
<input type="checkbox"/> <input checked="" type="checkbox"/>	110.32	Revision to require both minimum width and height as conditions where energized parts are exposed. New provisions added for other equipment permitted in the workspace, prohibited storage, and guarding of live parts.
<input type="checkbox"/> <input checked="" type="checkbox"/>	200.3	Clarification of applicability of connection to grounded system.
<input type="checkbox"/> <input checked="" type="checkbox"/>	200.6(A)(5)	Recognizes single conductor cables for PV systems.
<input type="checkbox"/> <input checked="" type="checkbox"/>	210.8	Clarification on measuring distance from receptacles ('the shortest distance').
<input type="checkbox"/> <input checked="" type="checkbox"/>	210.8(A)	GFCI protection requirements greatly expanded. Now single phase, 125v-250v, receptacles greater than 15 and 20 amp, supplied by single phase branch circuits rated 150 volts or less to ground, also require GFCI protection (in locations identified in this section).
<input type="checkbox"/> <input checked="" type="checkbox"/>	210.8(A)(5)	GFCI protection expanded to cover all basements.

NEW - CHANGE	CEC SECTION/TABLE NUMBER	COMMENTARY
<input checked="" type="checkbox"/> <input type="checkbox"/>	210.8(A)(11)	GFCI protection expanded to indoor damp and wet locations.
<input type="checkbox"/> <input checked="" type="checkbox"/>	210.8(B)	GFCI protection requirements greatly expanded. Now all 125v-250v receptacles supplied by single phase branch circuits rated 150v or less to ground, 50 amps or less and three-phase receptacles 100 amps or less, installed in locations outlined by the section shall be GFCI protected (210.8(B)(1)-(B)(12)).
<input type="checkbox"/> <input checked="" type="checkbox"/>	210.8(B)(2)	GFCI protection requirements expanded to include areas with a sink and permanent provisions for either food preparation or cooking.
<input type="checkbox"/> <input checked="" type="checkbox"/>	210.8(B)(11)	GFCI protection required in Laundry areas.
<input type="checkbox"/> <input checked="" type="checkbox"/>	210.8(B)(12)	GFCI protection required within 6 'of outside edge of bathtub or shower stall.
<input type="checkbox"/> <input checked="" type="checkbox"/>	210.8(E)	GFCI protection required for receptacles for maintenance receptacles required by 210.63.
<input checked="" type="checkbox"/> <input type="checkbox"/>	210.8(F)	GFCI protection required for outdoor outlets for dwellings that are supplied by a single-phase branch circuits rated 150 volts to ground or less, 50 amps or less.
<input checked="" type="checkbox"/> <input type="checkbox"/>	210.11(C)(3)	GFCI receptacles required for any countertop and similar work surface in a bathroom.
<input type="checkbox"/> <input checked="" type="checkbox"/>	210.12(C)	AFCI protection required for guest suites, and patient sleeping rooms in nursing homes and limited-care facilities.
<input type="checkbox"/> <input checked="" type="checkbox"/>	210.12(D)	AFCI protection for extension or modifications to dormitory units, and guest rooms and guest suites.
<input type="checkbox"/> <input checked="" type="checkbox"/>	210.52(C)	Countertop receptacles may not serve as the outlets required to serve wall spaces.
<input type="checkbox"/> <input checked="" type="checkbox"/>	210.52(C)(2)	Additional receptacle required for every 18 square feet (or fraction greater than) more than 9 square feet of island or peninsula.
<input type="checkbox"/> <input checked="" type="checkbox"/>	210.52(E)(3)	Balconies, decks, and porches within 4" horizontally of the dwelling unit shall be provided with a receptacle.
<input type="checkbox"/> <input checked="" type="checkbox"/>	210.63	Requirement to provide service receptacles expanded to include equipment requiring servicing, including indoor equipment (in addition to heating, air-conditioning, and refrigeration equipment).
<input type="checkbox"/> <input checked="" type="checkbox"/>	210.65	Meeting room receptacle requirements clarified.

NEW - CHANGE	CEC SECTION/TABLE NUMBER	COMMENTARY
<input checked="" type="checkbox"/> <input type="checkbox"/>	220.12(B)	Options for calculating lighting load.
<input type="checkbox"/> <input checked="" type="checkbox"/>	220.87	Services with renewable energy sources may not use annual demand to calculate existing loads.
<input checked="" type="checkbox"/> <input type="checkbox"/>	225.30(B)	New allowance to permit multiple feeders where they originate in the same supply equipment and terminate in separate disconnecting means.
<input checked="" type="checkbox"/> <input type="checkbox"/>	230.46	Devices shall be listed as "suitable for use on the line side of the service equipment" or equivalent when spliced or tapped on the line side.
<input checked="" type="checkbox"/> <input type="checkbox"/>	230.62(C)	Service equipment is not required to have a Barrier inside so that no uninsulated, ungrounded service bus bar or service terminal is exposed to inadvertent contact by persons or maintenance equipment while servicing load terminations.
<input checked="" type="checkbox"/> <input type="checkbox"/>	230.67	Surge protection device (SPD) required for all services supplying dwelling units. This requirement applies to service equipment replacement.
<input type="checkbox"/> <input checked="" type="checkbox"/>	230.71	More stringent requirements for allowing more than one disconnect.
<input type="checkbox"/> <input checked="" type="checkbox"/>	230.82	Changes to allowed equipment on the supply side of the service disconnect.
<input checked="" type="checkbox"/> <input type="checkbox"/>	230.85	One and two family dwellings shall have a disconnecting means having a short circuit rating equal to or greater the available fault current. If more than one disconnect is provided they shall be grouped. New labeling requirements.
<input type="checkbox"/> <input checked="" type="checkbox"/>	240.6(C)	New restricted access provisions for adjustable breakers (passwords allowed).
<input type="checkbox"/> <input checked="" type="checkbox"/>	240.67	Documentation required for method for clearing time of arc faults for services over 1200 amps.
<input type="checkbox"/> <input checked="" type="checkbox"/>	240.87	Arc flash reduction methods, documentation, and testing requirements for services over 1200 amps.
<input type="checkbox"/> <input checked="" type="checkbox"/>	240.88	Reconditioned breakers not permitted.
<input type="checkbox"/> <input checked="" type="checkbox"/>	242	General requirements for overvoltage protection requirements including Surge Protection Devices (SPD) and surge arrestors.
<input type="checkbox"/> <input checked="" type="checkbox"/>	250.25	Grounding systems permitted to be connected to the supply side of disconnects.

NEW - CHANGE	CEC SECTION/TABLE NUMBER	COMMENTARY
<input type="checkbox"/> <input checked="" type="checkbox"/>	250.53(c)	Rebar not permitted to be used as a conductor to interconnect the electrodes of the grounding electrode system.
<input type="checkbox"/> <input checked="" type="checkbox"/>	250.64(A)	Grounding electrode conductor installation requirements for Aluminum or Copper-Clad Aluminum conductors.
<input type="checkbox"/> <input checked="" type="checkbox"/>	250.66(C)(3)	Requirements for extensions of rebar grounding electrodes.
<input type="checkbox"/> <input checked="" type="checkbox"/>	250.104	Maximum size bonding conductors added
<input checked="" type="checkbox"/> <input type="checkbox"/>	250.109	Metal enclosures permitted to connect bonding jumpers or equipment grounding conductors.
<input type="checkbox"/> <input checked="" type="checkbox"/>	250.120(B)	Requirements for Aluminum and Copper-Clad Conductors used as equipment grounding conductors to protect from corrosion.
<input type="checkbox"/> <input checked="" type="checkbox"/>	300.45	Change Warning sign to 'DANGER'
<input type="checkbox"/> <input checked="" type="checkbox"/>	310	Section re-organized and small changes throughout.
<input type="checkbox"/> <input checked="" type="checkbox"/>	314.27	Outlet boxes mounted in ceilings of habitable rooms of dwelling shall be listed for the sole support of ceiling fans with required structural support.
<input type="checkbox"/> <input checked="" type="checkbox"/>	320.80(A)	Adjustment factors for type AC cable with draft stopping materials that do not maintain required spacing.
<input checked="" type="checkbox"/> <input type="checkbox"/>	330.104	New requirement to cover cables used in hazardous (classified) locations.
<input type="checkbox"/> <input checked="" type="checkbox"/>	334.30	Maximum of 18" of "looped" cable from box to first staple.
<input checked="" type="checkbox"/> <input type="checkbox"/>	337	New requirement to cover cables used in hazardous (classified) locations.
<input checked="" type="checkbox"/> <input type="checkbox"/>	342.10	IMC permitted where exposed to severe physical damage.
<input type="checkbox"/> <input checked="" type="checkbox"/>	342.14	Dissimilar metals: permitted fittings and enclosures for use with galvanized or stainless.
<input type="checkbox"/> <input checked="" type="checkbox"/>	344.14	Dissimilar metals: permitted fittings and enclosures for use with galvanized or stainless.
<input type="checkbox"/> <input checked="" type="checkbox"/>	380.12(7)	Multi-outlet assembly not permitted where cord and plug connected.
<input type="checkbox"/> <input checked="" type="checkbox"/>	406.4(D)(7)	Controlled receptacles that are replaced shall have marking to identify them as such.
<input type="checkbox"/> <input checked="" type="checkbox"/>	406.5(G)(2)	Receptacles shall not be installed face up in or on countertop surface unless listed, and shall not be installed in this position under sinks.

NEW - CHANGE	CEC SECTION/TABLE NUMBER	COMMENTARY
<input checked="" type="checkbox"/> <input type="checkbox"/>	406.9(C)	Receptacles shall not be installed within 3' horizontally and 8' vertically of the top of a tub or shower rim.
<input checked="" type="checkbox"/> <input type="checkbox"/>	406.12	Tamper resistant receptacles now required in dwelling unit attached and detached garages and accessory dwelling units as well as common areas of multifamily dwellings. Also motels and their common areas, dormitory units, and assisted living units.
<input checked="" type="checkbox"/> <input type="checkbox"/>	406.13	Single pole separable connector requirements.
<input type="checkbox"/> <input checked="" type="checkbox"/>	408.4	Alternate circuit director locations permitted.
<input checked="" type="checkbox"/> <input type="checkbox"/>	408.6	Short circuit current ratings of switchboard labels (shall include date calculated).
<input checked="" type="checkbox"/> <input type="checkbox"/>	408.8	Panel boards not permitted to be reconditioned. Provisions for switchgear reconditioning.
<input checked="" type="checkbox"/> <input type="checkbox"/>	408.18(C)	Requirements for switchboards and switchgears with side or rear access.
<input checked="" type="checkbox"/> <input type="checkbox"/>	408.36	Panel boards shall not be permitted to be installed in the face up position. Multiple Service Disconnects cannot be located within the same enclosure.
<input checked="" type="checkbox"/> <input type="checkbox"/>	410.7	Luminaire, lamp holders, and retrofit kits shall not be permitted to recondition.
<input checked="" type="checkbox"/> <input type="checkbox"/>	410.69	Control conductor insulation not permitted to be white/grey or green.
<input checked="" type="checkbox"/> <input type="checkbox"/>	410.118	Luminaires recessed in ceilings floors or walls shall not be used to access outlet, pull, or junction boxes or conduit bodies, unless the box or conduit is an integral part of the fixture.
<input checked="" type="checkbox"/> <input type="checkbox"/>	410 Part XVI	Horticultural Lighting Equipment requirements.
<input checked="" type="checkbox"/> <input type="checkbox"/>	422.3(A)	In single family buildings that include one and two Dwellings, each dwelling shall provide: Circuits and circuit identifications for electric cooktops and dedicated circuits and circuit identifications for electric clothes dryers.
<input checked="" type="checkbox"/> <input type="checkbox"/>	422.3(B)	Dwellings in Multi-family dwelling shall provide: Dedicated Circuits and circuit identifications for electric cooktops and dedicated circuits and circuit identifications for electric clothes dryers.
<input type="checkbox"/> <input checked="" type="checkbox"/>	422.5(A)	GFCI protection for appliances expanded to include bottle fill stations, cord and plug connected high-pressure spray machines, sump pumps, and dishwashers.
<input checked="" type="checkbox"/> <input type="checkbox"/>	422.16(B)(2)	Flexible cords for Built in Dishwashers and Trash Compactors passing through an opening shall be

NEW - CHANGE	CEC SECTION/TABLE NUMBER	COMMENTARY
		protected against damage by a bushing, grommet, or other approved means.
<input type="checkbox"/> <input checked="" type="checkbox"/>	440.9	Compression-type fittings required on roof mounted equipment with wire type equipment ground in conduit.
<input checked="" type="checkbox"/> <input type="checkbox"/>	445.6	Stationary generators 600 volts and less shall be listed. Custom generators shall be field labeled by a field evaluation body.
<input type="checkbox"/> <input checked="" type="checkbox"/>	445.18(C)	Remote Emergency Shutdown required for generators greater than 15 kw.
<input type="checkbox"/> <input checked="" type="checkbox"/>	445.18(D)	Emergency Shutdown device required outside for generators in one and two family dwellings.
<input checked="" type="checkbox"/> <input type="checkbox"/>	450.9	Label required on tops of readily accessible transformers to state, not for storage.
<input checked="" type="checkbox"/> <input type="checkbox"/>	480.7(B)	"EMEGENCY DISCONNECT" labeling requirements for one and two family dwellings required.
<input checked="" type="checkbox"/> <input type="checkbox"/>	480.7(G)	Plagues or directories required in facilities with battery systems and utility service.
<input checked="" type="checkbox"/> <input type="checkbox"/>	511.12	GFCI protection required for 15 and 20 amp receptacles installed in non-dwelling unit garages, service bays, and similar areas.
<input checked="" type="checkbox"/> <input type="checkbox"/>	514.11(A)	Emergency controls for fuel dispensers shall disconnect simultaneously all conductors of the circuits including the grounded conductor (neutral). Equipment ground shall remain connected.
<input type="checkbox"/> <input checked="" type="checkbox"/>	517.16	Isolated ground receptacles shall not be installed in a patient care vicinity, but are permitted in a patient care space.
<input checked="" type="checkbox"/> <input type="checkbox"/>	518.6	Illumination required to be provided for all working spaces about fixed service equipment switchboards, panelboards, or motor control centers outdoors that serve assembly occupancies. Control by automatic means not permitted.
<input checked="" type="checkbox"/> <input type="checkbox"/>	600.4(D)	Markings on signs and outline lighting systems are not required to be visible prior to servicing after installation.
<input checked="" type="checkbox"/> <input type="checkbox"/>	600.5(B)	New requirement covering the marking of signs and outline lighting disconnecting means.
<input checked="" type="checkbox"/> <input type="checkbox"/>	620.6	Sump pumps in elevator pits and similar locations: shall be permanently wired or provided with a GFCI protected receptacle.
<input checked="" type="checkbox"/> <input type="checkbox"/>	620.65	Elevators with Selective Coordination: New labeling requirements.

NEW - CHANGE	CEC SECTION/TABLE NUMBER	COMMENTARY
<input checked="" type="checkbox"/> <input type="checkbox"/>	625.54	ALL Receptacles for Electric Vehicles Charging: shall be GFCI protected.
<input checked="" type="checkbox"/> <input type="checkbox"/>	625.56	Receptacles for Electric Vehicles Charging: installed in wet locations shall be provided with an enclosure that is weatherproof with the attachment plug cap inserted or removed (extra duty required).
<input checked="" type="checkbox"/> <input type="checkbox"/>	680.2	Splash Pad defined
<input checked="" type="checkbox"/> <input type="checkbox"/>	680.9(A)	Overhead Power Conductor Clearances: clarifies that this includes other conductors besides service entrance conductors.
<input checked="" type="checkbox"/> <input type="checkbox"/>	680.11	Underground wiring and swimming pools: Wiring under pools not permitted unless it serves the pool.
<input checked="" type="checkbox"/> <input type="checkbox"/>	680.21(C)	GFCI (class A) Protection for pool motors: rated 150 amps to ground or less and 60 amps or less, single or 3 phase. Certain low voltage motors exempt.
<input checked="" type="checkbox"/> <input type="checkbox"/>	680.21(D)	Pool Motor Replacement: GFCI protection required to be upgraded when pool motor replaced.
<input checked="" type="checkbox"/> <input type="checkbox"/>	680.22(A)(5)	Pool Equipment Rooms: Shall be provided with at least one GFCI protected receptacle and all other receptacles rated 150 volts to ground shall be GFCI protected.
<input checked="" type="checkbox"/> <input type="checkbox"/>	680.22(E)	Other equipment in close proximity to pools: if exceeding low voltage allowances shall be a minimum of 5' away or a permanent barrier provided.
<input type="checkbox"/> <input checked="" type="checkbox"/>	680.26(B)(2)(c)	Revision to allow copper grid as alternative for bonding perimeter surface.
<input type="checkbox"/> <input checked="" type="checkbox"/>	680.26(B)(5)	Exceptions for pool cover anchoring bonding requirements added.
<input type="checkbox"/> <input checked="" type="checkbox"/>	680.59	GFCI protection for permanently installed non-submersible pumps: Outlets supplying motors rated 250 volts or less and 60 amps or less, single of 3 phase shall be GFCI protected.
<input type="checkbox"/> <input checked="" type="checkbox"/>	680.84	GFCI protection for Switching devices and receptacles for electrically operated pool lifts shall be GFCI protected.
<input type="checkbox"/> <input checked="" type="checkbox"/>	690.4(B)	PV System equipment: Additional equipment required to be listed and have field label applied
<input type="checkbox"/> <input checked="" type="checkbox"/>	690.8(A)	Maximum Current for Specific PV circuits
<input type="checkbox"/> <input checked="" type="checkbox"/>	690.12	Rapid Shutdown of PV Systems: extensive revision
<input type="checkbox"/> <input checked="" type="checkbox"/>	690.13(A)	Photovoltaic System Disconnecting Means: if above 30 volts to have cover requiring locked cover or tools to open.

NEW - CHANGE	CEC SECTION/TABLE NUMBER	COMMENTARY
<input type="checkbox"/> <input checked="" type="checkbox"/>	695.3(C)(3)	Selective Coordination for Fire pumps at multi-building campus style complexes: designed by a professional engineer, with some exceptions.
<input type="checkbox"/> <input checked="" type="checkbox"/>	705.10	Identification of Power Sources: "CAUTION MUTIPLE SOUCES OF POWER" signage requirements.
<input checked="" type="checkbox"/> <input type="checkbox"/>	705.13	Power Control Systems (PCS): New section of requirements for Power Control Systems.
<input type="checkbox"/> <input checked="" type="checkbox"/>	705.20	Disconnecting Means for power production sources: specific types of disconnecting means codified.
<input type="checkbox"/> <input checked="" type="checkbox"/>	706.1	Energy Storage Systems (ESS): article limited to systems with greater than 1 kWh capacity.
<input type="checkbox"/> <input checked="" type="checkbox"/>	706.4	Nameplate requirements for ESS
<input type="checkbox"/> <input checked="" type="checkbox"/>	706.15	ESS disconnecting means requirements: shall be permanently marked "ENERGY STORAGE SYSTEM DISCONNECT".

