CA Energy Code (Res) Continued....

• Solar Mandate: Installation of solar electric generation photovoltaic requirements unless one of the exceptions are met. This is calculated based on size of structure and climate zone. Primary exception is related to roof shading. (150.1(c)14)

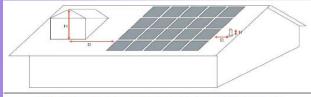


Figure 7-1: The Minimal Shading Criterion Artistic Depiction of "H" and "D"

• Roof Insulation: Roof insulation increased to R-19 (from R-13) for high performance ventilated attic approaches



except in Climate Zones 10 & 16 (Truckee, Tahoe & Mammoth Lakes areas) (150.1)

• Windows/Glazing: Fenestration values increased to have U-factors of .30 and SHGC's of .23 (150.1)



- Addition Projects: Additions less than 700sqft shall have a prescriptive roof insulation value of R-38 in climate zones 1 & 11-16 (150.1(c))
- Radiant Barrier: Additions less than 700sqft shall prescriptively have radiant barrier installed in climate zones 2-10 (150.1(c))



CA Energy Code (Non-Residential)

- Occupancy Sensors: Occupancy sensing required for restrooms (130.1(c))
- Interlocking Temperature Controls: Directly conditioned space with operable wall or roof openings to the outdoors shall be provided with interlocking controls for temperate setback. Exception for openings with auto closers and/or spaces without thermostatic control (140.4(n))



• **Lighting:** Lighting power allowances have been reduced approximately 29%-37% overall encouraging more exterior lighting usage (140)

Approved Energy Software Programs

- **CBECC-Res 2019.1.0**
- Energy Pro Version 8.0
- CBECC-Com 2019.1.0 (commercial)

Visit <u>www.energy.ca.gov</u> for the most up to date approved software programs for the 2019
Standards

See separate 2019 CA Building Standards Code update brochure for changes to other codes/standards.

If you have any questions or would like more information regarding the new and updated material, contact us at our contact information shown on the front cover.













"Partnering to Improve Consistency & Customer Service"

SUBSTANTIAL CHANGES & ADDITIONS TO THE NEW 2019 CALIFORNIA

ELECTRICAL & ENERGY CODES

2019 CALIFORNIA CODES

EFFECTIVE JANUARY 1, 2020

County of Nevada Building Department (530) 265-1222

www.mynevadacounty.com
Town of Truckee Building
Department

(530) 582-7820

www.townoftruckee.com City of Grass Valley Building Department (530) 273-4340

www.cityofgrassvalley.com South Lake Tahoe Building Department (530) 542-6010 www.cityofslt.us County of Placer Building Department (530) 745-3010 (Auburn) (530) 581-6200 (Tahoe) www.placer.ca.gov

Town of Mammoth Lakes
Building Department

(760) 965-3630

County of Sierra Building Department (530) 289-3251

www.sierracounty.ca.gov

California Electrical & Energy Codes

The California Electrical and Energy Codes are updated on a three-year cycle. The codes are updated to implement new standards in result of new technology, improved safety and improved construction practices. The 2019 Standards will become effective on January 1, 2020.

These codes are viewable online at: https://www.energy.ca.gov/ AND https://www.dgs.ca.gov/BSC/Codes

California Electrical Code

- GFCI Receptacles: GFCI receptacles now required in other than dwelling unit occupancy types in crawl spaces, unfinished basements, drinking coolers, spray washing machines, tire inflation machines for public use, and vending machines (210.8(B) & 422.5)
- Arc Fault Protection: Now required for branch circuits in guest rooms and guest suites (210.12(C))
- Meeting Room Receptacles: Meeting rooms less than 1,000sqft in other than dwelling units now have floor and wall

receptacle requirements (210.71)

• Counter Receptacles: "Work surfaces" added to list of required counter receptacle areas in dwelling units (210.52(C))



• Garage Receptacles: Required garage receptacles shall not be higher than 5 1/2ft above the floor

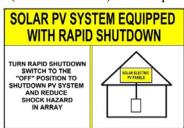
California Electrical Code Cont.....

- **Service Equipment**: Meeting rooms less than 1,000sqft in other than dwelling units now have floor and wall receptacle requirements (210.71)
- Tamper Resistant Receptacles: Added to preschools, elementary schools, business offices, corridors, waiting rooms in medical facilities, dormitories, and certain assembly occupancy areas (406.12)



- Meeting Room Receptacles: Meeting rooms less than 1,000sqft in other than dwelling units now have floor and wall receptacle requirements (210.71)
- **Swimming Pools:** Omitted specific underground conduit clearances and depths and now installed in compliance with Table 300.5 (680.11)
- Rapid Shutdown: 3 rapid shutdown methods are provided for circuits inside an array boundary. Changed rapid shutdown voltage limitation length of time to 30 seconds (was 10 seconds). Also rap-

id shutdown labelling substantially changed to warn emergency responders of hazards presented by a PV system. (690.56(C))



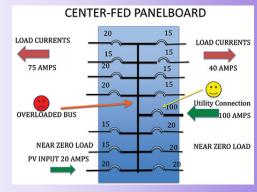
• Emergency Circuits: Exposed raceways and cables shall be labelled for the specific use at 25ft intervals. Receptacles supplied by an emergency circuit shall be marked with a distinctive color (700.10)





California Electrical Code Cont.....

- Connection: "Inverter Output" verbiage changes to "Power Source Output" verbiage that changes some of the specific labelling verbiage requirements (705.12)
- Interconnected Power Sources: Allowed in center-fed busbar panels if the connection is made at either end, not both ends of the busbar and doesn't exceed 120 percent of the busbar rating (705.12(B)(2)(3)(d).



California Energy Code (Residential)

- 2x6 Walls: 2x6 walls require R-20 insulation (was R-19) (150.0(c)2)
- Mechanical Filters: Heating/cooling system filter ratings increased to MERV 13 (150.0(m)12)
- Water Heaters: Prewiring required for water heaters in new construction that consists of a

dedicated 120/240V, 3-wire circuit with 10AWG wire to the receptacle within 3ft of the water heater location. Unused wire shall be electrically isolated and there shall be a reserved circuit breaker space in the panel (150.0(n))

• Insulation Inspections: Quality Insulation Installation (QII) is now a prescriptive requirement

for new construction and additions over 700sqft (150.1(c)1E)



