

## Summary of Significant Electrical Code Changes

The 2023 Electrical Code is effective on April 1, 2024. The following list highlights some of the significant changes to the various construction codes. Note - based on the 2023 National Electrical Code (NEC) as adopted & amended by the State of Washington, the 2023 Washington Cities Electrical Code (WCEC), and the City of Mercer Island.

- Working Space Around Electrical Equipment: Section revised to clarify working depth must be maintained to the floor, open equipment doors cannot decrease the clear width of the remaining egress space to less than 24 in, and side reach should not exceed 6 in. to work in the panel. 110.26(A)(4)
- GFCI Protection for Personnel, Dwellings, Kitchens: New section requiring all 125- to 250-volt receptacles in a kitchen to be GFCI protected, regardless of their location or purpose. This includes receptacles that do not serve countertops and are not adjacent to the sink. 210.8(D) goes on to list specific appliances that require GFCI protection. 210.8(A)(6)
  - GFCI Protection: Section revised to clarify GFCI receptacles are required in “areas with sinks and permanent provisions for food preparation, beverage preparation, or cooking” ( and that aren’t necessarily kitchens, such as wet bars, beverage prep areas in a convenience store, etc.). 210.8(A)(7) & 210.8(B)(3)
  - Specific Appliances requiring GFCI: New section expanding list of “specific appliances” that will require GFCI protection, regardless of whether they are hardwired, or cord-and-plug connected (expanded list includes electric range, wall-mounted oven, counter-mounted cooking unit, clothes dryer, and microwave). 210.8(D)
- Garage Branch Circuits: added clarification on requirements for 20-amp branch circuits in garages, additional branch circuits 15 amps or greater may be installed in garages to serve receptacles other than those required in Sec. 210.52(G)(1). 210.11(C)(4)
- AFCI Protection required in sleeping quarters of fire houses, police stations, and similar, to be treated like dormitories and require AFCI protection. 210.12(F)
- Guest Rooms and Suites: clarification that rooms and suites in hotels, motels, and assisted living facilities that have permanent provisions for cooking must meet the same branch circuit requirements of a dwelling unit kitchen. 210.17
- Branch Circuits Not Over 1000 Volts can now utilize 10-amp branch circuits for certain power and lighting loads. 210.23 goes on to clarify specific types of acceptable loads. 210.18
  - Permissible/Prohibited 10-amp Loads: Expressly prohibits receptacle outlets, fixed appliances (except as permitted elsewhere), garage door openers, and laundry equipment from utilizing the newly-recognized 10-amp branch circuits. 210.23
- Dwellings, Receptacles, Island and Peninsular: No longer requires receptacle outlets to serve kitchen islands and peninsulas in dwelling units. 210.52(C)(2) – Note: provision for future outlet amended by WA state.
- Receptacles serving the kitchen countertop are no longer allowed to be located below the work surface. All receptacles required for the kitchen counter space must be located above the surface, or else be approved counter-mounted or pop-up receptacles. 210.52(C)(3)
- Show Windows: At least one 125-volt, single phase, 15- or 20-ampere-rated receptacle outlet shall be installed within 18” of the top of each show window. No point along the top of the window shall be farther than 6 ft from a receptacle outlet. 210.62
- Surge Protection for Feeders: New language addresses proper surge protection for areas that may be an extended distance from the service. 215.18

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- Load Calculations for Electric Vehicle Supply Equipment (EVSE): New requirements call for EVSE loads to be calculated at either 7200 watts or the nameplate rating of the equipment, whichever is larger. 220.57
- Energy Management Systems (EMSs): This new section was added to address digital controls for energy management systems that regulate the maximum load on a service. 220.70
- Emergency Disconnects: Outside emergency disconnects are required for feeders supplied to one- and two-family dwelling units. 225.41
- Installation requirements for emergency disconnects serving one- and two-family dwelling units:
  - Location - The disconnecting means shall be installed in a readily accessible outdoor location on or within sight of the dwelling (visible and not more than 50 foot from dwelling)
  - Rating - The disconnecting means shall have a short-circuit current rating equal or greater than the available fault current.
  - Grouping - If more than one disconnecting means is provided, they shall be grouped.
  - Disconnects - Each disconnect shall be one of the following: Service disconnect; Meter disconnect integral to the meter mounting equipment not marked as suitable only for use as service equipment installed in accordance with 230.82; Other listed disconnect switch or circuit breaker that is marked suitable for use as service equipment, but not marked as suitable only for use as service equipment, installed on the supply side of each service disconnect.
  - Replacement - Where service equipment is replaced, all the requirements of this section shall apply.
  - Identification of Other Isolation Disconnects - Where equipment for isolation of other energy source systems is not located adjacent to the emergency disconnect required by this section, a plaque or directory identifying the location of all equipment for isolation of other energy sources shall be located adjacent to the disconnecting means required by this section.
  - Marking/Text - The disconnecting means shall be marked as follows: Service disconnect: EMERGENCY DISCONNECT, SERVICE DISCONNECT. Meter disconnects installed in accordance with 230.82 (3) shall be marked as follows: EMERGENCY DISCONNECT, METER DISCONNECT, NOT SERVICE EQUIPMENT. Other listed disconnect switches or circuit breakers on the supply side of each service disconnect that are marked suitable for use as service equipment and marked as follows: EMERGENCY DISCONNECT, NOT SERVICE EQUIPMENT
  - Marking Location and Size - Markings shall comply with 110.21 (B) and both of the following: The marking or labels shall be located on the outside front of the disconnect enclosure with red background and white text, the letters shall be at least ½ inches high. These revisions were mainly to reorganize and better align with NEC formatting layout and to clarify requirements. 230.85
- Reconditioned Equipment: Clarification that switches cannot be reconditioned and must be replaced. 404.16
- Receptacles Installed around Tub and Shower Spaces: Clarifies the zone around tubs and showers in which receptacles are prohibited. 406.9(C)
- Tamper-Resistant Receptacles expanded: Required locations for tamper-resistant receptacles in residential occupancies have been expanded to include areas such as boathouses, mobile homes, manufactured homes, and detached garages and accessory structures serving dwellings. 406.12(1)

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- Disconnects in Residential Spaces: Where the disconnecting means has a door that can be opened to expose live parts and is in an area exposed to unqualified personnel, the door must be closeable with a lock or require tools to open. 440.11
- Disconnecting Means and Prime Shutdown: Clarification that the disconnecting means for a generator may be located inside the generator with a hinged door, cover, or panel, provided that it is labeled to indicate the location to emergency responders. 445.18(A) & 445.19 –
- Classified and Unclassified Areas: Revision to clarify that area classification documentation must be available for both classified and adjacent areas, including language requiring that an area classification drawing must be submitted to the AHJ. 501-503
- Patient Care-Related Electrical Equipment, reconditioned: The NEC provisions governing reconditioned electrical equipment do not apply to patient-care equipment. 517.6
- Location of Service Equipment Near Docks: Two changes pertaining to the location of the service equipment near docks require the service equipment to be no closer than 5 ft horizontally from the water and at least 12 in. above the electrical datum plane. 555.4
- Replacement of Equipment in Marine Locations: Added section to address equipment that is replaced at docking facilities. The circuit that supplies the equipment must then be inspected. If existing equipment is damaged, it must be identified, documented, and repaired by a qualified person to the minimum requirements of the edition of this Code to which it was originally installed. 555.15
- Shore Power Receptacle Disconnecting Means: The new subdivision (C) requires an externally operable emergency disconnect, clearly marked “Emergency Shutoff” that can de-energize all power at each marina power outlet or enclosure that provides shore power to boats. As this rule is implemented in marinas, it will help to eliminate electric shock drownings (ESDs). 555.36
- Electric Vehicle Branch Circuit - new exception permits multiple units of EVSE drawing 16A or less, at 120V, to share a circuit when operating in island mode. 625.40
- GFCI and SPGFCI Protection: This section was revised and expanded to include SPGFCIs and broken up into three sections. The revision’s intent is to clarify protection for pool equipment in commercial installations that have higher voltages. 680.5
- Equipotential Bonding of Splash Pads: Clarifies the area to be bonded for a splash pad. 680.54(C)
- Tests and Maintenance: Now requires commissioning and not just testing of the emergency system. 700.3(A)
- Commissioning and Maintenance of Energy Storage System: This section was divided into commissioning and maintenance requirements. ESSs must be commissioned upon installation in other than one- and two-family dwellings. 706.7