

Highlights of NEC 2020 changes



2020 NEC will be in effect starting October 29, 2020 WAC 296-46B

This is not a comprehensive list. Verify all requirements before starting any installation.

(Revised Section) **110.22 Identification of Disconnecting Means.**

(A) General. Each disconnecting means shall be legibly marked to indicate its purpose unless located and arranged so the purpose is evident. In other than one- or two-family dwellings, the marking shall include the identification of the circuit source that supplies the disconnecting means. The marking must be of sufficient durability to withstand the environment involved.

Markings must specifically identify the purpose of each piece of equipment. Example: simply “motor” but rather “motor, water pump.” Must remain legible and not fade or wear off.

(Revised Section) **210.8 Ground-Fault Circuit-Interrupter Protection for Personnel.**

(A) Dwelling Units. New GFCI requirements.

This was expanded to require GFCI protection for all receptacles rated 125V through 250V supplied by a single-phase branch circuit rated 150V or less to ground in the areas specified in list items (1) through (11). The hazards are related to the location of the receptacle and exist for the higher voltage and higher current receptacles. Example: cord- and plug-connected shop equipment in a dwelling unit garage that operates above 120V or requires circuits having an ampacity greater than 20A, will now be required to have GFCI protection.

*The GFCI requirements for protection in dwelling unit **basements** has been expanded to include both **finished and unfinished areas**. In addition, **indoor wet locations** such as mud rooms or dog washing areas were added. This includes dryers in laundry areas, ranges within six feet of a sink, and outdoor AC units. NEC 406.4(D) (3) requires replacement receptacles to be GFCI protected if required elsewhere in the code. The same applies for replacing receptacles in areas that the NEC requires AFCI, Tamper Resistant, and weather resistant receptacles and must comply with NEC 406.4.*

Measurements for GFCI requirements have changed, in 210.8 the words “door; doorway” were removed. The six foot requirement will be measured following the path a cord would most likely follow. Receptacles under the sink or around a corner in another room within six feet of a sink will now require GFCI protection.

Note this is not a complete list of the new GFCI requirements.

(Revised Section) **406.9 Receptacles in Damp or Wet Locations**

(C) Bathtub and Shower Space. Receptacles shall not be installed within a zone measured 3 ft. horizontally and 8 ft. vertically from the top of the bathtub rim or shower stall threshold. The identified zone is all-encompassing and shall include the space directly over the tub or shower stall.

Exception: In bathrooms with less than the required zone the receptacle (s) shall be permitted to be installed opposite the bathtub rim or shower stall threshold on the farthest wall within the room.

In other words the receptacle on the end of a double vanity near the tub may be too close and keep in mind the “within 3 ft. of the outside edge of each basin” still applies.

(New Section) **230.67 Surge Protection**

(A) Surge-Protective Device. All services supplying dwelling units shall be provided with a surge-protective device.

(B) Location. The SPD shall be an integral part of the service equipment or shall be located immediately adjacent thereto.

Sensitive electronics and systems found in modern appliances, safety devices warrant protection by surge protection. This includes new and altered services.

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(Revised Section) **230.71 Number of Disconnects**

(B) Two to Six Service Disconnecting Means. Two to six service disconnects shall be permitted for each service permitted by 230.2, or for each set of service-entrance conductors permitted by 230.40, Exception No. 1, 3, 4, or 5. The two to six service disconnecting means shall be permitted to consist of a combination of any of the following:

- (1) Separate enclosures with a main service disconnecting means in each enclosure.
- (2) Panelboards with a main service disconnecting means in each panelboard enclosure.
- (3) Switchboard(s) where there is only one service disconnect in each separate vertical section where there are barriers separating each vertical section.
- (4) Service disconnects in switchgear or metering centers where each disconnect is located in a separate compartment.

In other words, all service disconnects are required to be physically separated from each other to limit exposure to energized equipment while it is being serviced.

(New Section) **230.85 Emergency Disconnects. External to one and two family dwellings.**

For one- and two-family dwelling units required to have an emergency disconnect installed in a readily accessible exterior location. Installed per 230.82(3) & markings complying with 110.21(B)

Until now, first responders and utility personnel have not had a way to safely remove power from a structure.

(Revised Section) **314.27 Outlet Boxes**

(C) Boxes at Ceiling-Suspended (Paddle) Fan Outlets.

Outlet boxes mounted in the ceilings of habitable rooms of dwelling occupancies in a location acceptable for the installation of a ceiling suspended (paddle) fan shall comply with one of the following:

- (1) Listed for the sole support of a ceiling-suspended (paddle) fans.
- (2) An outlet box complying with the applicable requirements of 314.27 and providing access to structural framing capable of supporting of a ceiling-suspended (paddle) fan bracket or equivalent.

It is common to provide a wall-mounted switch with wiring to allow for the future installation of fans. Such installations are required to have an outlet or outlet box system that is listed for the sole support of a fan.

Other notable changes

(Revised Section) **110.14 Electrical Connections**

Electrical connection failures are the cause of many equipment burnouts and fires which are attributed to improper terminations, dissimilar metals and improper screws or splicing devices.

(Revised Section) **210.52(C) Countertops and Work Surfaces**

The side of the cabinet is not considered wall space and not included in the wall line measurement.

(Revised Section) **250.68 Grounding Electrode Conductor and Bonding Jumper Connection to Grounding electrodes.**

(C) Grounding electrode Conductor Connections (3) Rebar shall not to be used as a conductor to interconnect the electrodes of the grounding electrode system.

Contact between rebar and earth causes corrosion & over time it will deteriorate & eliminate the connection.

(Revised & New Section) **Tables 310.15(B)-(16) Renumbered and added sections**

(Revised Section) **314.16 Number of Conductors in Outlet, Device & Junction Boxes & Conduit Bodies**

(B) Box Fill Calculations. (5) *When there are over four equipment grounding conductors in a box additional allowances must be made.*

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