

20 Random NEC Code Changes regarding One-and- Two-Family Dwellings within the 2020 National Electrical Code for the upcoming code cycle, December 31st 2023.

Note: This document is a commentary from the author, referencing the code articles shown below and is not the specific code itself, nor is this a design specification or instruction manual for untrained persons as indicated within article 90.1(A).

NEC updates have run uninterrupted since 1897 when the code was introduced and the 2020 code is the result of more than 5,000 public inputs with 18 code making panels and more than 2000 revisions.

You may view several websites within the internet pertaining to the 2020 NEC Changes for further understanding and interpretation. These sites are in no way related to the author and may differ from the specific 2020 NEC.

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1- (Revision/Addition/New) 210.8(A) GFCI Protection for Personnel-

All 125 through 250 volt receptacle outlets supplied by single phase branch circuits rated 150 volts or less to ground installed within the 11 specific locations listed within 210.8(A) of a one- or two-family dwelling unit require GFCI protection. The addition of up to 250 volt receptacles and the deletion of the 15-20 ampere limitations will provide GFCI protection to most receptacles used in the specified areas of 210.8(A). The GFCI protection is still required to be installed within a readily accessible location as defined within article 100.

2-(Revision/Relocation) 210.8(D) Specific Appliances-

The GFCI requirements pertaining to dishwashers located within one- or two-family dwellings has been relocated to 422.5(A)(7) and now requires GFCI protection for all dishwashers.

3-(New) 210.8(F) Outdoor Outlets-

GFCI protection is required for all 125 through 250 volt receptacle outlets supplied by single phase branch circuits rated 150 volts or less to ground installed at outdoor locations. In addition, all outdoor outlets for dwelling units that are supplied by single phase branch circuits rated 150 volts or less to ground and 50 amperes or less require GFCI protection including HVAC equipment. See article 100 for definition of outlet.

4-(Revision/New) 210.52(C1)(C2)(C3) Countertops and Work Surfaces-

Previous island and peninsular receptacle outlet spacing requirements has been replaced with square footage dimensions. Receptacle outlet spacing for Island and Peninsulas require at least one receptacle outlet to be provided for the first 9 square feet or fraction thereof the countertop/work surface area and an additional receptacle outlet shall be provided for every 18 square feet or fraction thereof. At least one receptacle outlet must be located within 2 feet of the outer end of the peninsular countertop/work surface. The location of the receptacle outlets must be installed in accordance with article 210.52(C)(3).

5-(Revision/Addition) 230.46 Spliced and Tapped-

Service-entrance conductors are permitted to be spliced or tapped in accordance with article 110.14, 300.5(E), 300.13 and 300.15. The electrical equipment used for such installations, such as power distribution blocks, pressure connectors and devices for splices and taps shall be listed and marked "suitable for use on the line side of the service equipment" or equivalent.

6-(New) 230.62(C) Barriers-

Barriers are required to be installed in all types of service equipment including main disconnects, electrical service panels, automatic transfer switches (ATS), PV disconnects-line side connected , etc. so that no uninsulated, ungrounded service terminal is exposed to inadvertent contact by persons while servicing load terminations. See article 100 for the definition of service equipment.

7-(New) 230.67 Surge Protection-

All dwelling unit services are now required to have surge protection device(s) SPD of type 1 or type 2, installed integral with the service equipment or located immediately adjacent to the service equipment. Where existing electrical service equipment is replaced, the surge protection device(s) shall be installed.

8-(Revision) 230.71(B) Two to six service disconnecting-

A service disconnecting means is required for each service permitted by the code and not more than six service disconnects per service may be grouped in any one location per the requirements of 230.71(A). While the service disconnecting means for each service is still permitted to consist of not more than six switches or sets of circuit breakers, or a combination thereof, these up to six means of disconnects will no longer be permitted to be mounted in a single enclosure.

9-(New) 230.85 Emergency Disconnect-

The service disconnecting means can still be installed at a readily accessible location and located outside the building or inside nearest the point of entrance. However, an emergency disconnecting means, which could include the service disconnecting means, for a one-or two-family dwelling is now required to be installed and located on the outside of the structure. An initiation device for the rapid shutdown of a PV system is still required to be installed at a readily accessible location outside the building for a one-or two-family dwelling.

10-(Relocated/New) 310.12, Table 310.12 – Single-Phase Dwelling Services and Feeders-

The single-phase dwelling service and feeder conductors were previously indicated within article 310.15(B)(7) for the reduction in circular mils with an 83 percent calculation compared to the former Table 310.15(B)(16). This information has now been relocated. Keep in mind that this reduced size in the service/feeder conductors is only permitted when the conductors are supplying the entire load associated with the dwelling unit. If more than one service disconnect is utilized for the entire load of the dwelling, then the conductors shall be sized from Table 310.16. Table 310.16 was formerly Table 310.15(B)(16) and Table 310.12 was formerly Article 310.15(B)(7).

11-(Revision/Addition) 314.27(C) Boxes at Ceiling-Suspended (Paddle) Fan Outlets-

All outlet boxes mounted in the ceilings of habitable rooms of dwelling units are required to be listed for the sole support of a ceiling-suspended paddle fan or an outlet box complying with the requirements of 314.27 and providing access to the structural framing capable of supporting ceiling-suspended paddle fan must be installed, applicable in all locations acceptable of a ceiling-suspended paddle fan. See article 100 for the definition of a habitable room.

12-(Revision/Addition) 334.30 Securing and Supporting-

The securing and supporting requirements for non-metallic sheathed cable remain at intervals not exceeding 4-1/2 feet and within 12 inches of every cable entry into enclosures, boxes, etc. The code change has included the maximum length of the cable, from the cable entry and the closest cable support not to exceed 18 inches. Previous common field practices within the construction industry has been to leave an ample amount of cable at the enclosure, box, etc. for purposes of moving/relocating the enclosure, box, etc. prior to installing wall coverings. The length of the cable for such purposes is now limited to 18 inches.

13-(New) 406.5(G)(2) Under Sinks-

Receptacle outlets are prohibited from being installed in the face-up position located in any area beneath a sink.

14-(Revised) 406.9(C) Bathtub and Shower Space-

The required bathroom receptacle outlet(s) within article 210.52(D) are now prohibited from being installed within a zone measured 3 feet horizontally and 8 feet vertically from the top of the bathtub rim or shower stall and includes the space directly over the bathtub or shower stall. Where bathrooms have dimensions less than the required zone, receptacle outlet(s) are permitted to be installed opposite the bathtub rim or shower stall, on the farthest wall within the bathroom.

15-(Addition) 406.12(1) Tamper-Resistant Receptacles-

In addition to the previous tamper-resistant, TR receptacle requirements, accessory buildings of one-or two-family dwellings and the attached/detached garages shall include TR receptacles.

16-(Revision) 422.16(B)(2)(5) Built-In Dishwashers and Trash Compactors-

The requirements for the cord-and-plug connections of built-in dishwashers and trash compactors are still required. In addition, where the cord passes through an opening, it shall be protected against damage by means of a bushing or grommet.

17-(New) 445.18(D) Emergency Shutdown in One-and-Two Family Dwelling Units-

This new generator shutdown requirement is consistent with article 230.85 for an emergency disconnecting means to be installed and located on the outside of the structure at a readily accessible location. This required generator outdoor emergency disconnect shall be properly marked to indicate that it is a service/emergency disconnect in compliance with 110.21(B), 230.85. This outdoor disconnect requirement does not apply to cord-and-plug connected portable generators. Other requirements for equipment disconnects capable of delivering electrical power to the dwelling/building may be found in articles 480.7(A), 694.22(C)(1) and 706.15(A).

18-(Revision) 680.21(C) GFCI Protection-

The GFCI requirements for pool motors has been revised to indicate that all pool motors on branch circuits rated 150 volts or less to ground and 60 amperes or less , single phase/three phase, shall be provided with GFCI protection, except that any listed low voltage pool motor not requiring grounding, with ratings not exceeding the low-voltage contact limit that are supplied by listed transformers or power supplies per 680.23(A)(2) shall not require GFCI protection. For the definition of low-voltage contact limit, see 680.2.

19-(New) 680.21(D) Pool Pump Motor Replacement-

Where a pool pump motor is repaired or replaced, GFCI protection shall be provided in conformance with 680.21(C).

20-(Revision) 705.10 Identification of Power Sources-

The title of this article was revised from “Directory” to “Identification of Power Sources” for First Responders to secure on-site power sources during emergencies. The required plaque shall be installed at each service equipment location and contain all of the information depicted within article 705.10 and the markings shall comply with article 110.21(B). There are several new articles within 705.11 for Supply-Side Source Connections pertaining to the interconnected electric power production sources operating in parallel the primary source of electricity to the dwelling/structure, which should be read in its entirety.