

2020 NEC Frequently Asked Questions

Important: Please refer to the 2020 National Electrical Code for detailed information

1. **210.8 (A) GFCI Protection for Personnel — Dwelling Units**

The changes in 210.8(A) will result in all 125-volt through 250-volt receptacles installed at dwelling units supplied by single-phase branch circuits rated 150-volts or less to ground to be provided with ground-fault circuit-interrupter (GFCI) protection for personnel. This new addition of 250-volt receptacles, and the removal of any amperage limitation, will require GFCI protection for most commonly used receptacle outlets in the specified areas of 210.8(A)(1) through (A)(11):

Bathrooms, Garages and Accessory Buildings, Outdoors, Crawl Spaces, Basements, Kitchens, Sinks, Boathouses, Bathtubs and Shower Stalls, Laundry Areas, Indoor Damp and Wet Locations.

Also, (A)(2) for Basements previously only required GFCI protection in “unfinished” areas; (A)(2) now requires all receptacle outlets in basements (area below grade level) to be GFCI protected, regardless if the basement is finished or unfinished.

2. **210.8(F) Ground-Fault Circuit-Interrupter Protection for Personnel: Outdoor Outlets**

GFCI protection is now required on dwelling unit outdoor outlets* supplied by single-phase branch circuits rated 150-volts or less to ground, and 50-amperes or less. This expanded requirement will include the typical outdoor 240-volt branch circuit that supplies HVAC equipment. There is an exception that excludes outdoor lighting outlets from having to be GFCI protected.

*Recall that Article 100 defines an “Outlet” as a point on the wiring system at which current is taken to supply utilization equipment. The term “outlet” is often misused to refer to receptacles. Receptacle outlets are only one type of outlet. Other types of outlets include lighting outlets, appliance outlets, smoke alarm outlets, equipment outlets and so on.

3. **210.52(C)(1-3) Receptacles in Wall Spaces, Island and Peninsular Countertops and Work Spaces**

The horizontal measurement was changed to a square-foot calculation method for island and peninsular countertop and work surfaces. When determining the number of receptacles required, one receptacle outlet is required for the first 9 square feet of countertop, or fraction thereof, and an additional receptacle outlet is required for each additional 18 square feet, or fraction thereof. For example, an island countertop that measures 3-feet by 5-feet would require at least two receptacle outlets.

4. **230.67 Surge Protection**

All dwelling unit services are now required to be provided with a Type 1 or Type 2 surge-protective device (SPD). The SPD must be an integral part of the service equipment or located immediately adjacent to the service equipment. This new requirement will also apply to service upgrades or service

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replacements at dwelling units. This will be applicable to all dwelling units in one-family, two-family and multifamily dwellings.

5. **230.85 Emergency Disconnects**

In order to provide first responders with a safe method of disconnecting power from a structure, one-family and two-family dwellings will be required to have an emergency disconnect installed outdoors at a readily accessible location. The emergency disconnect must be rated for the available fault current. Equipment labels and marking must comply with NEC 110.21. The NEC does not prohibit locking the disconnect in the “On” position. There are three options for the emergency disconnect:

- 1) A service disconnect switch or circuit breaker
Labeled ***Emergency Disconnect, Service Disconnect***
- 2) Certain approved meter disconnects
Labeled ***Emergency Disconnect, Meter Disconnect, Not Service Equipment***
- 3) Other listed disconnect switches or circuit breakers that are suitable for use as service equipment
Labeled ***Emergency Disconnect, Not Service Equipment***

Note: Under certain conditions the Exception to NEC 250.121 allows the equipment grounding conductor (EGC) to also be used as the grounding electrode conductor (GEC). Where the EGC/GEC enters the panelboard, the equipment grounding conductor sized to NEC 250.122 must contain an irreversible crimp where attached to the larger GEC and it must be extended to the equipment grounding bar. The GEC must then be routed outside the panelboard and extended to the GEC system.

6. **Article 310 Arrangements/Tables**

The ampacity tables in Article 310 have been revised and will simply be titled as Table 310.16 through Table 310.21. As an example, Former Table 310.15(B)(16) will revert to its original numbering and simply be known as Table 310.16. Also, the table ampacities for medium voltage conductors were removed and relocated to the new Article 311 – Medium Voltage Conductors and Cables.

7. **406.9(C) Receptacles in Damp or Wet Locations, Bathtub and Shower Space**

Receptacles are now prohibited from being installed within an area measured 3-feet horizontally and 8-feet vertically from the top of the bathtub rim or shower stall threshold which includes the space directly over the tub or shower stall. In bathrooms with dimensions less than the required area, the receptacle(s) are permitted to be installed opposite the bathtub rim or shower stall threshold on the farthest wall within the room.

8. **547.5(G) Wiring Methods. (Agricultural Buildings), GFCI Protection for Receptacles**

The requirements for ground-fault circuit-interrupter (GFCI) protection have been revised and clarified. The 2020 NEC is now very clear that GFCI protection is only required for 125-volt, 15- and 20-ampere receptacles in areas having an equipotential plane, in outdoor locations, in damp or wet locations, or in dirt confinement areas for livestock. The requirements for GFCI protection for receptacles of higher voltage and amperage classifications are not applicable for agricultural buildings. For example, GFCI

protection is not required for single-phase or three-phase, 240-volt, 30- or 50-ampere receptacles, or similar.

9. 555.35 Ground-Fault Protection of Equipment (GFPE) and Ground-Fault Circuit-Interrupter (GFCI) Protection. (Marinas, Boatyards, Floating Buildings, and Commercial and Noncommercial Docking Facilities)

The ground-fault protection of equipment (GFPE) requirements of marinas, boatyards and docking facilities have been revised. These new GFPE requirements were divided into three parts to provide clarity for these important ground-fault protection requirements.

- 1) Section 555.35(A)(1) addresses shore power receptacles with individual GFPE not to exceed 30 milliamperes (mA)
- 2) Section 555.35(A)(2) addresses 15- and 20-ampere receptacles for other than shore power with Class A GFCI protection (4 to 6 mA) being provided in accordance with 210.8 through a reference to 555.33(B)(1).
- 3) Section 555.35(A)(3) addresses feeder and branch-circuit conductors providing power to a dock or slip to have GFPE set to open at currents not exceeding 100 mA.

10. Revised Article 800 – General Requirements for Communication Systems

A new Article 800 will now cover all “general” requirements and serve as a placeholder for redundant requirements throughout other communication articles:

- Article 800 – General Requirements for Communication Systems
- Article 805 – Communication Circuits
- Article 820 – Community Antenna Television and Radio Distribution Systems
- Article 830 – Network-Powered Broadband Communication Systems
- Article 840 – Premises-Powered Broadband Communication Systems

(Article 810 for Radio and Television Equipment is not included in this list and is a standalone article)