



# HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS

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**Subject:** Testimony Regarding Adoption of 2020 National Electrical Code

**To:** Lonnie Robbins, Chief Administrative Officer

**From:** Robert J. Frances, P.E., Director, Department of Inspections, Licenses, & Permits

**Date:** September 30, 2020

The Department of Inspections, Licenses, and Permits has proposed legislation to adopt the 2020 Edition of the National Electrical Code (NEC) as the Howard County Electrical Code. There have been some changes made, mostly corrective language to maintain current construction practices and life safety.

Overall, the most significant changes have been made in expanding the Ground-Fault Circuit Interrupter or GFCI protection for buildings. One proposal is a change in the GFCI section to allow heating and cooling equipment that serve the building to not be GFCI protected. This will avoid the potential of nuisance tripping the breaker.

Also, we are proposing a change that will allow the Code Official to approve an alternate location of the outdoor emergency disconnect in dwellings where physical and practical limitation won't allow the disconnect to be installed outdoor.

These amendments, as proposed, enable us to stay current with the most up to date construction codes and allow us to maintain our current construction practices.

I have attached a detailed list of all the code changes that were made to the 2020 edition of the NEC that are different from the previously adopted 2017 edition.

If you have any questions, I can be reached at extension 3946.

Copy: Donald L. Mock, P.E., Chief, DILP Plan Review (x3948)  
Jennifer Sager, County Administration  
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## Proposed Changes to the 2020 National Electrical Code

**Article 100 Definitions.** New definitions were added to clarify some issues that resulted from the 2017 edition that did not define certain terms.

**110.22(A) Identification of disconnecting means** Disconnects are now required to identify the source of the branch circuit or feeder that supplies the disconnect.

**110.26 Spaces about electrical equipment.** There are two changes to this article of importance. The first is a revision to large equipment in an electrical room to address the hazards presented by two or more service disconnects with combined ratings of more than 1200 A. The second is about open equipment doors not impeding egress from the space.

**210.8 Ground Fault Circuit-Interrupter (GFCI) for personnel.** For dwellings see changes below:

- Removes the door as an item the 6ft measurement should not pass.
- Voltage for GFCI requirements have expanded from 125v to up to 250v
- All portions of basements, Finished and unfinished, are required to have GFCI protection
- GFCI protection required in outdoor outlets 50A or less

For non-dwellings see below:

- Kitchens or areas with sinks and permanent provisions for cooking now requires GFCI protection
- Receptacles for vending machines require GFCI

**210.12 Arc-Fault Circuit-Interrupter Protection.** The AFCI requirements have been expanded to include extensions and modification of guest rooms and guest suites of Hotels and Motels.

**210.52 Dwelling Unit Receptacle Outlet Requirements.** Revision to this code section creates separate lists for Wall space requirements and Island and Peninsular requirements.

**230.67 Surge Protection Devices (SPD) in Dwelling Units.** New requirement added to require SPDs on all services at dwelling units.

**230.85 Emergency Disconnect at a Readily Accessible Location.** New requirement added to require an emergency disconnect at a readily accessible outdoor location for dwelling units.

**Article 242 Overvoltage Protection.** Relocates articles 280 and 285 into a new article 242.

**Article 310 Conductors for General Wiring.** This article was completely reorganized to increase usability of the article.

**404.7 Indicating (Switches).** Revisions were made to clarify that switches and circuit breakers indication must be visible without opening the enclosure to see the open/closed indication.

**406.5 Receptacle Mounting.** Receptacle outlets are prohibited from being installed in the area beneath a sink in the face up position.

**406.12 Tamper-Resistant Receptacles.** The locations requiring tamper-resistant receptacles have been expanded to include detached garages and accessory building of dwellings, common areas of multifamily dwelling units, hotel and motels, and assisted living facilities.

**422.5 Ground-Fault Circuit-Interrupter (GFCI) Protection for Personnel (Appliances).** Sump pumps, bottle fill stations, drinking water coolers and dishwashers were added to the list of appliances requiring GFCI protection.

**501.10 Wiring Methods.** Type TC-ER-HL cable was added as a new wiring method for Class 1 Division one locations.

**511.12 Ground-Fault Circuit-Interrupter Protection for Personnel (Commercial Garages, Repair and Storage).** GFCI protection is now required in these areas.

**550.13 Receptacle Outlets in Mobile and Manufactured Homes.** The GFCI protection requirements for manufactured and mobile homes now mirror the rules for dwellings in 210.8(A).

**625.54 GFCI Protection for Personnel (Electric Vehicle(EV) Power Transfer Systems).** Clarifies that all receptacle outlets used for EV charging be provided with GFCI protection.

**680.2, 680.35 and 680.45.** Two new sections covering immersion pools were added to article 680 providing installation requirements for immersion pools and storable immersion pools.

**690.12 Rapid Shutdown of Photovoltaic(PV) systems on Buildings.** A new product standard has been developed by UL so that hazardous energy levels within a PV array can be reduced when Firefighters or other emergency response personnel are required to enter the array area to mitigate emergency conditions.

**695.3 Power Sources for Electric Motor-Driven Fire Pumps.** New provisions were added providing guidance for selective coordination of Over-Current Protection Devices for fire pumps.

**702.7 Signs (Optional Standby Systems).** A sign is required to be placed at the residential emergency disconnecting means that indicates the location of each permanently installed on-site standby power source disconnect.