

Introduced October 5, 2020
Public Hearing October 19, 2020
Council Action November 2, 2020
Executive Action November 4, 2020
Effective Date January 5, 2021

County Council of Howard County, Maryland

2020 Legislative Session

Legislative Day No. 14

Bill No. 54 -2020

Introduced by: The Chairperson at the request of the County Executive

AN ACT adopting the 2020 National Electrical Code as the Electrical Code for Howard County; regulating the design, construction, alteration, improvement or modification to electrical equipment; adopting certain local amendments to the Electrical Code; making certain technical corrections; and generally relating to the electrical code in Howard County.

Introduced and read first time October 5, 2020. Ordered posted and hearing scheduled.

By order

Diane Schwartz Jones
Diane Schwartz Jones, Administrator

Having been posted and notice of time & place of hearing & title of Bill having been published according to Charter, the Bill was read for a second time at a public hearing on October 19, 2020.

By order

Diane Schwartz Jones
Diane Schwartz Jones, Administrator

This Bill was read the third time on November 2 2020 and Passed , Passed with amendments , Failed .

By order

Diane Schwartz Jones
Diane Schwartz Jones, Administrator

Sealed with the County Seal and presented to the County Executive for approval this 3d day of November, 2020 at 11:30 a.m./p.m.

By order

Diane Schwartz Jones
Diane Schwartz Jones, Administrator

Approved/Vetoed by the County Executive November 4, 2020

Calvin Ball
Calvin Ball, County Executive

NOTE: [[text in brackets]] indicates deletions from existing law; TEXT IN SMALL CAPITALS indicates additions to existing law; ~~Strike-out~~ indicates material deleted by amendment; Underlining indicates material added by amendment.

1 **Section 1. Be It Enacted** by the County Council of Howard County, Maryland, that the
2 Howard County Code is amended as follows:

3 By repealing and reenacting:

4 1. Title 3. Buildings.

5 Subtitle 2. Electrical Regulations.

6 Section 3.214. Adoption of National Electrical Code.

7
8 **Title 3. Buildings.**

9 **Subtitle 2. Electrical Regulations.**

10
11 **SECTION 3.214. ADOPTION OF NATIONAL ELECTRICAL CODE.**

12 (A) (1) THE 2020 EDITION (NFPA 70) OF THE NATIONAL ELECTRICAL CODE, WITH
13 AMENDMENTS AS LISTED IN SUBSECTION (B) OF THIS SECTION, IS HEREBY
14 ADOPTED AS THE ELECTRICAL CODE FOR HOWARD COUNTY, AS IF THE
15 NATIONAL ELECTRICAL CODE WERE SET OUT IN FULL IN THIS SECTION.

16 (2) A PERSON PERFORMING OR CAUSING THE PERFORMANCE OF ELECTRICAL
17 WORK SHALL CONFORM TO THE HOWARD COUNTY ELECTRICAL CODE AND
18 TO THE PROVISIONS OF THE HOWARD COUNTY BUILDING CODE ADOPTED IN
19 TITLE 3, SUBTITLE 1 OF THIS CODE.

20 (3) IF A CONFLICT EXISTS BETWEEN THE HOWARD COUNTY BUILDING CODE
21 AND THE HOWARD COUNTY ELECTRICAL CODE, THE CODE REQUIRING THE
22 HIGHER STANDARD SHALL GOVERN.

23 (B) THE FOLLOWING AMENDMENTS MODIFY CERTAIN PROVISIONS OF THE ADOPTED CODE:

24 (1) *SECTION 90.4. ENFORCEMENT.*

25 ADD A SENTENCE AT THE END OF THIS SECTION AS FOLLOWS: "IF THERE IS A
26 CONFLICT BETWEEN THIS SECTION AND ANY OTHER PROVISION OF THIS
27 SUBTITLE, THE REQUIREMENT OF THE OTHER PROVISION SHALL GOVERN."

28 (2) *ARTICLE 100. DEFINITIONS.*

29 DELETE THE SENTENCE FOLLOWING "AUTHORITY HAVING JURISDICTION
30 (AHJ)." AND SUBSTITUTE THE FOLLOWING, "THE AUTHORITY HAVING

JURISDICTION IS THE BUILDING OFFICIAL AS SET FORTH IN SECTION 3.101(A)(2) OF THIS CODE.

(3) *SECTION 210.8. GROUND-FAULT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL.*

IN SUBSECTION (F), OUTDOOR OUTLETS, IN THE EXCEPTION, AFTER “COVERED IN 210.8(C)”, INSERT “, AND HEATING, AIR-CONDITIONING AND REFRIGERATION EQUIPMENT THAT SERVE THE DWELLING”.

(4) *SECTION 230.85. EMERGENCY DISCONNECTS.*

ADD AN EXCEPTION AS FOLLOWS: “EXCEPTION: WHERE PHYSICAL AND PRACTICAL LIMITATIONS PREVENT AN OUTDOOR DISCONNECT, THE CODE OFFICIAL MAY APPROVE AN ALTERNATIVE LOCATION”.

(5) *SECTION 240.21. LOCATION IN CIRCUIT.*

AMEND SUBSECTION (B), FEEDER TAPS, BY ADDING A SECOND EXCEPTION TO ITEM (B)(1) AND A NEW EXCEPTION TO ITEM (B)(2) AS FOLLOWS: EXCEPTION: IN METER ROOMS, THE CONDUCTORS WITHIN THE AUXILIARY GUTTER THAT SUPPLIES THE METER SHALL NOT COUNT AS A PART OF THE TOTAL LENGTH.”

(6) ~~*SECTION 250.52. GROUNDING ELECTRODES.*~~

ADD THE FOLLOWING TO THE BEGINNING OF SUBSECTION 250.52(A)(3):
“~~CONCRETE ENCASED ELECTRODES: EXCEPT AS OTHERWISE APPROVED BY THE DEPARTMENT, THE PRINCIPAL GROUNDING ELECTRODE FOR A NEW STRUCTURE IS A CONCRETE ENCASED ELECTRODE INSTALLED IN ACCORDANCE WITH THIS SUBSECTION.~~”

SECTION 250.50. GROUNDING ELECTRODE SYSTEM. AFTER THE SECOND SENTENCE THAT ENDS “INSTALLED AND USED.” INSERT: “FOR BUILDINGS OR STRUCTURES FED WITH ELECTRIC POWER WHERE THE ELECTRODE AS DESCRIBED IN 250.52(A)(3)(1) DOES NOT EXIST, AN ELECTRODE THAT COMPLIES WITH 250.52(A)(3)(1) OR 250.52(A)(3)(2) SHALL BE INSTALLED AND USED.”.

(7) *SECTION 310.3. CONDUCTORS.*

1 IN SUBSECTION (A) MINIMUM SIZE OF CONDUCTORS, AFTER “14 AWG
2 COPPER OR”, DELETE “12” AND SUBSTITUTE “4”.

3 (8) *ANNEX H. ADMINISTRATION AND ENFORCEMENT.*

4 ONLY THE PROVISIONS OF SUBSECTION 80.9 ARE ADOPTED. THE REMAINDER
5 OF ANNEX H IS SPECIFICALLY AND INTENTIONALLY NOT ADOPTED.

6

7 *Section 2. And Be It Further Enacted by the County Council of Howard County,*

8 *Maryland, that this Act shall become effective 61 days after its enactment.*

Introduced October 5, 2020
Public Hearing _____
Council Action _____
Executive Action _____
Effective Date _____

County Council of Howard County, Maryland

2020 Legislative Session

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By order

Diane Schwartz Jones
Diane Schwartz Jones, Administrator

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By order

Diane Schwartz Jones, Administrator

This Bill was read the third time on _____, 2020 and Passed ____, Passed with amendments ____, Failed ____.

By order

Diane Schwartz Jones, Administrator

Sealed with the County Seal and presented to the County Executive for approval this ____ day of _____, 2020 at ____ a.m./p.m.

By order

Diane Schwartz Jones, Administrator

Approved/Vetoed by the County Executive _____, 2020

Calvin Ball, County Executive

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ONLY THE PROVISIONS OF SUBSECTION 80.9 ARE ADOPTED. THE REMAINDER OF ANNEX H IS SPECIFICALLY AND INTENTIONALLY NOT ADOPTED.

1 ***Section 2. And Be It Further Enacted by the County Council of Howard County,***
2 ***Maryland, that this Act shall become effective 61 days after its enactment.***

BY THE COUNCIL

This Bill, having been approved by the Executive and returned to the Council, stands enacted on November 4, 2020.

Diane Schwartz Jones
Diane Schwartz Jones, Administrator to the County Council

BY THE COUNCIL

This Bill, having been passed by the yeas and nays of two-thirds of the members of the Council notwithstanding the objections of the Executive, stands enacted on _____, 2020.

Diane Schwartz Jones, Administrator to the County Council

BY THE COUNCIL

This Bill, having received neither the approval nor the disapproval of the Executive within ten days of its presentation, stands enacted on _____, 2020.

Diane Schwartz Jones, Administrator to the County Council

BY THE COUNCIL

This Bill, not having been considered on final reading within the time required by Charter, stands failed for want of consideration on _____, 2020.

Diane Schwartz Jones, Administrator to the County Council

BY THE COUNCIL

This Bill, having been disapproved by the Executive and having failed on passage upon consideration by the Council stands failed on _____, 2020.

Diane Schwartz Jones, Administrator to the County Council

BY THE COUNCIL

This Bill, the withdrawal of which received a vote of two-thirds (2/3) of the members of the Council, is withdrawn from further consideration on _____, 2020.

Diane Schwartz Jones, Administrator to the County Council

Amendment 1 to Council Bill No. 54-2020

BY: The Chairperson at the request
of the County Executive

Legislative Day 15
Date: November 2, 2020

Amendment No. 1

(Based on feedback from the Board of Electrical Examiners, this amendment clarifies when certain electrodes shall be used.)

- 1 On page 2, strike lines 18 through 23, inclusive and in their entirety, and substitute:
2 “(6) SECTION 250.50. GROUNDING ELECTRODE SYSTEM.
3 AFTER THE SECOND SENTENCE THAT ENDS “INSTALLED AND USED.” INSERT:
4 “FOR BUILDINGS OR STRUCTURES FED WITH ELECTRIC POWER WHERE THE ELECTRODE AS
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7

ADOPTED November 2, 2020
FAILED _____
SIGNATURE Deane Schwartz Jones

Amendment 1 to Council Bill No. 54-2020

**BY: The Chairperson at the request
of the County Executive**

**Legislative Day 15
Date: November 2, 2020**

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7



HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS

3430 Court House Drive ■ Ellicott City, Maryland 21043 ■ 410-313-2433

Robert J. Frances, P.E., Director

FAX 410-313-3322

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 GCFI 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
T:\PRSEC\2021 Code Adoption\NEC 2020 testimony.docx

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.

Office of the County Auditor
Auditor's Analysis

Amendment No. 1
Council Bill No. 54-2020

Amendment Proposed by: Chairperson at the request of the County Executive

Introduced: October 5, 2020

Auditor: Maya Cameron

Fiscal Impact:

There is no fiscal impact as a result of this amendment.

Purpose:

The purpose of this amendment is to clarify when certain electrodes shall be used.

Other Comments:

Per the Department of Inspections, Licensing and Permits, this language is being added on behalf of the Board of Electrical Examiners in the hopes to make the language of the current practice more clear.