Burgos, Alexander N

Subject: FW: NC Building Code Council - Submission for Permanent Rule: 2023 North Carolina Electrical Code

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From: Liebman, Brian R <brian.liebman@oah.nc.gov>
Sent: Tuesday, February 20, 2024 4:17 PM
To: Rittlinger, David B <david.rittlinger@ncdoi.gov>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>; Childs, Nathan D <nchilds@NCDOJ.GOV>; Holder, Karen <Karen.Holder@ncdoi.gov>; Starling, Joseph <joseph.starling@ncdoi.gov>
Subject: RE: NC Building Code Council - Submission for Permanent Rule: 2023 North Carolina Electrical Code

Thanks for the clarifications and amendments. I think I can recommend approval of the Electrical Code at the 2/28 regular meeting.

Brian Liebman
Counsel to the North Carolina Rules Review Commission
Office of Administrative Hearings
(984)236-1948
brian.liebman@oah.nc.gov

E-mail correspondence to and from this address may be subject to the North Carolina Public Records Law N.C.G.S. Chapter 132 and may be disclosed to third parties.

From: Rittlinger, David B <david.rittlinger@ncdoi.gov>
Sent: Tuesday, February 20, 2024 4:01 PM
To: Liebman, Brian R <brian.liebman@oah.nc.gov>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>; Childs, Nathan D <nchilds@NCDOJ.GOV>; Holder, Karen <Karen.Holder@ncdoi.gov>; Starling, Joseph <joseph.starling@ncdoi.gov>
Subject: RE: NC Building Code Council - Submission for Permanent Rule: 2023 North Carolina Electrical Code
Importance: High

Brian,
Please read below responses in GREEN and see attached.
Let me know if you have any questions.

David B. Rittlinger, PE, LEED AP
Division Chief - Codes & Interpretations

North Carolina Office of State Fire Marshal
1429 Rock Quarry Road, Suite 105
Raleigh, NC 27610
919.647.0008

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Link to free view of 2018 NC Codes
https://codes.iccsafe.org/codes/north-carolina

From: Liebman, Brian R <brian.liebman@oah.nc.gov>
Sent: Tuesday, February 20, 2024 12:26 PM
To: Rittlinger, David B <david.rittlinger@ncdoi.gov>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>; Childs, Nathan D <nchilds@NCDOJ.GOV>; Holder, Karen <Karen.Holder@ncdoi.gov>; Starling, Joseph <joseph.starling@ncdoi.gov>
Subject: RE: NC Building Code Council - Submission for Permanent Rule: 2023 North Carolina Electrical Code

David,

See below for follow ups, in blue.

Similarly, I'm assuming there are Articles 10-80 of the NEC somewhere, given that the NC state specific amendments refer to Article 10 and Article 80. Is this correct? OSFM State Electrical Division: Article 80 is located towards the back of the NEC in Annex H. To clarify, Article 80 Administration and Enforcement has been struck and replaced with "Informative Annex H Administration and Enforcement (Article 80)".
This doesn't answer my question. Where is the rest of the Code?
OSFM State Electrical Division: There is not and Article 10 (and subsequently 10-80) in the NEC. Article 10 is a stand-alone document that is a State Amendment that together with the NEC make the State Electrical Code. Article 10 encompasses all the Amendments to the NEC; this is done this way because the NEC itself is not republished with State Amendments incorporated within the book like the other codes. Article 80 is not a section of Article 10; instead, Article 80 is an individual Article of the NEC specifically in the back of the book (Appendix H). There are no additional Articles between 10 and 80, such as Article 50 in the NEC. It is unknown why the phrase "Article 10" was chosen so many decades ago to house the Administrative and Amendments for the State Electrical Code. If this does not clarify, please call Joe Starling at 919-369-6159 to discuss.

In 10.4, who decides when the provisions of other codes are determined to be contrary to the requirements of this code? OSFM State Electrical Division: This section is telling the user of the electrical code that this is the supreme code with respect to electrical systems. There is no special decision that must be made that is different than applying the other technical standards of the NEC to installation methods that may or may not be in conflict with manufacturer's specifications or similar; in which the electrical code is to be followed regardless. No changes were made per this comment.
The text explicitly refers to a determination: "When the provisions of other codes **are determined to be contrary** to the requirements of this code…" That suggests that someone, be it the owner, the code official, the contractor, or the Council, has to *make* that determination. Please specify.
OSFM State Electrical Division: To simplify, the attachment has struck through the phrase "determined to be" in the last sentence of section 10.4. This will not change the effectiveness of the section.

In 10.7.2, I do not believe G.S. 143-143.2 authorizes the Inspection Department to disconnect utilities, and the other statutes cited here have been repealed, effective June 19, 2020 by SL 2020-25. Please provide proper statutory authority. OSFM State Electrical Division: G.S. 143.143.2 has been accepted by Rules Review to support this section for many decades. SL 2020-25 did combine and relocate the 160A and 153A previously cited sections; this was not caught when updating to the 2023 because only this first section in Article 10 is ever altered every three years when the electrical code is updated. Those statutes have been revised to the reflect the relocated statues in 160D.
What's the theory on 143-143.2? I suppose if I were to read the statute broadly, I would think that because it is unlawful to connect current to a building that hasn't been approved by the inspector, the inspector could cut off the current where the approval was not forthcoming. Is that your reading?
OSFM State Electrical Division: Yes, your deduction of 143-143.2 is interpreted by the State the same. The NEC complements this argument in that section 110.2 requires all electrical components be "approved" prior to being deemed code compliant. The definition of "approved" in Article 100 is acceptable to the "authority having jurisdiction". Likewise, Article 100 defines the "authority having jurisdiction" as what we know in NC as the

electrical inspector. Thus, according to the NEC an electrical installation cannot be code compliant unless approved by the electrical inspector. If this is true, then if the electrical inspector deems a system as not approved, the original approval (if one ever existed) is negated.

Note these are for the February 28, 2024 regular meeting, so if you need to prioritize the follow ups from the Plumbing Code, that's fine.

Thanks,
Brian

Brian Liebman
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(984)236-1948
brian.liebman@oah.nc.gov

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Burgos, Alexander N

Subject: FW: NC Building Code Council - Submission for Permanent Rule: 2023 North Carolina Electrical Code

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From: Liebman, Brian R <brian.liebman@oah.nc.gov>
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Subject: RE: NC Building Code Council - Submission for Permanent Rule: 2023 North Carolina Electrical Code

David,

See below for follow ups, in blue.

Similarly, I'm assuming there are Articles 10-80 of the NEC somewhere, given that the NC state specific amendments refer to Article 10 and Article 80. Is this correct? OSFM State Electrical Division: Article 80 is located towards the back of the NEC in Annex H. To clarify, Article 80 Administration and Enforcement has been struck and replaced with "Informative Annex H Administration and Enforcement (Article 80)".
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Note these are for the February 28, 2024 regular meeting, so if you need to prioritize the follow ups from the Plumbing Code, that's fine.

Thanks,
Brian

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Burgos, Alexander N

Subject: FW: NC Building Code Council - Submission for Permanent Rule: 2023 North Carolina Electrical Code

Attachments: D-3 20230613 Item B-3 2023 NCEC Rev 1. Form_0400_for_Permanent_Rule_December_2023.pdf; 2023 State Electrical Code Amendments to be adopted with the NEC - Revised for RCC Rev 1.docx; 2023 State Electrical Code Amendments to be adopted with the NEC - Revised for RCC Rev 1.pdf; D-3 20230613 Item B-3 2023 NCEC Rev 1. Form_0400_for_Permanent_Rule_December_2023.docx; 2024-0215 DBR Responses-01.2024 - BCC - NC Electrical Code - Request for Changes.pdf; 2024-0215 DBR Responses-01.2024 - BCC - NC Electrical Code - Request for Changes.docx

Importance: High

From: Rittlinger, David B <david.rittlinger@ncdoi.gov>
Sent: Thursday, February 15, 2024 8:08 AM
To: Liebman, Brian R <brian.liebman@oah.nc.gov>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>; Childs, Nathan D <nchilds@NCDOJ.GOV>; Holder, Karen <Karen.Holder@ncdoi.gov>; Starling, Joseph <joseph.starling@ncdoi.gov>
Subject: RE: NC Building Code Council - Submission for Permanent Rule: 2023 North Carolina Electrical Code
Importance: High

Brian,
Good morning.
Attached are the following documents concerning the 2023 NC Electrical Code
I have attached a separate pdf and MS Word copy of the amendment to be considered by the RRC as permanent rules.

Documents included:

1. Responses to RRC attorney comments: File: 2024-0215 DBR Responses-01.2024 - BCC - NC Electrical Code - Request for Changes.docx
2. File: D-3 20230613 Item B-3 2023 NCEC Rev 1. Form_0400_for_Permanent_Rule_December_2023.docx
3. Proposed North Carolina Amendments to the 2023 NEC to establish the 2023 North Carolina Electrical Code.* Revision 1 dated 2/15/24.
   File: 2023 State Electrical Code Amendments to be adopted with the NEC - Revised for RCC Rev 1.docx

It is my understanding that these rules will be included in the 2/28/24 RRC agenda for consideration.
Let me know if you have any questions or comments.

Thank you for your work on this.
Have a great day.

David B. Rittlinger, PE, LEED AP
Division Chief - Codes & Interpretations

North Carolina Office of State Fire Marshal
1429 Rock Quarry Road, Suite 105
Raleigh, NC 27610
919.647.0008

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Proposed North Carolina Amendments to 2023 NEC
Prepared by Electrical Adhoc Committee – April 28, 2023

Item 0: Retaining Existing NC Electrical Code Amendment, Article 10

Article 10 - ADMINISTRATIVE SECTION

10.1 TITLE

These Administrative Regulations along with the requirements included in the first printing of the 2023 Edition of the National Electrical Code (NFPA-70 - 2023) as adopted by the North Carolina Building Code Council on December 12, 2023, to be effective January 1, 2025, with the following amendments:

(1) 100
(2) 110.26(E)(2)(c)
(3) 210.8
(4) 210.8(A)
(5) 210.8(A)(5)
(6) 210.8(B)
(7) 210.8(F)
(8) 210.12(E)
(9) 210.52(B)(2)
(10) 230.71(B)
(11) 230.85
(12) 250.50
(13) 250.53(A)(2)
(14) 250.140
(15) 250.142(B)
(16) 300.3(B)
(17) Table 300.5
(18) 300.9
(19) 300.26
(20) 314.29
(21) 320.23(A)
(22) 334.15(C)
(23) 410.2
(24) 410.16(C)
(25) 517.26
(26) 551.71(F)(2)
(27) 555.10
(28) 680.1
(29) 680.4
(30) 680.21(D)
(31) 680.26(B)(2)
(32) 700.4(C)(2)
(33) 700.6
(34) 700.12(A)
(35) 701.6
(36) 701.12(A)

shall be known as the North Carolina Electrical Code, and may be cited as such or as the State Electrical Code; and will be referred to herein as “the code” or “this code”. Subsequent editions, printings, and Tentative Interim Amendments of the National Electrical Code issued by the NFPA shall not be applicable to the State Electrical Code unless officially adopted by the North Carolina Building Code Council.

10.2 SCOPE

~~Article 80 Administration and Enforcement~~Informative Annex H, Administration and Enforcement (Article 80) of the ~~code~~2023 Edition of the National Electrical Code (NFPA-70 - 2023) is hereby not adopted and does not apply for this code. For Scope and Exceptions to Applicability of Technical Codes, refer to the North Carolina Administrative Code and Policies.

10.3 PURPOSE

The purpose of the code is to provide minimum standards, provisions and requirements of safe and stable design, methods of construction and uses of materials in buildings or structures hereafter erected, constructed, enlarged, altered, repaired, moved, converted to other uses of demolished and to regulate the electrical systems, equipment, maintenance, use and occupancy of all buildings or structures. All regulations contained in this code have a reasonable and substantial connection with the public health, safety, morals, or general welfare, and their provisions shall be construed liberally to those ends.

10.4 ADMINISTRATION

For administrative regulations pertaining to inspection (rough-ins and finals), permits and Certificates of Electrical Compliance, see local ordinances and the North Carolina Administrative Code and Policies. When the provisions of other codes are determined to be contrary to the requirements of this code, this code shall prevail.

10.5 DEFINITION

Unless the context indicates otherwise, whenever the word "building" is used in this chapter, it shall be deemed to include the word "structure" and all installations such as plumbing systems, heating systems, cooling systems, electrical systems, elevators and other installations which are parts of, or permanently affixed to, the building or structure.

10.6 APPLICATION OF CODE TO EXISTING BUILDINGS

For requirements of existing structures, refer to the North Carolina Administrative Code and Policies.

10.7 SERVICE UTILITIES

10.7.1 Connection of Service Utilities – No person shall make connections from a utility, source of energy, fuel or power to any building or system which is regulated by the technical codes until the electrical system is approved by the ~~Inspection Department~~ electrical inspector with jurisdiction and a Certificate of Compliance is issued (General Statute 143-143.2)

10.7.2 Authority to disconnect Service Utilities – The ~~Inspection Department~~electrical inspector with jurisdiction shall have the authority to require disconnecting a utility service to the building, structure or system regulated by the technical codes, in case of emergency or where necessary to eliminate an imminent hazard to life or property. The ~~Inspection Department~~electrical inspector with jurisdiction shall have the authority to disconnect a utility service when a building has been occupied prior to Certificate of Compliance or entry into the building for purposes of making inspections cannot be readily granted. The ~~Inspection Department~~electrical inspector with jurisdiction shall notify the serving utility, and whenever possible the owner or occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner or occupant shall be notified in writing within eight (8) working hours (General Statutes 143-143.2, ~~153A-365, 153A-366, 160A-425 and 160A-426~~.160D-1118 and 160D-1119).

10.8 TEMPORARY POWER

10.8.1 Scope. The provisions of this section apply to the utilization of portions of the wiring system within a building to facilitate ~~construction.~~construction (General Statutes 160D-403(g)).

10.8.2 Provisions for Temporary Power. The Code enforcement official shall give permission and issue a permit to energize the electrical service when the provisions of 10.8 and the following requirements have been met:

1) The service wiring and equipment, including the meter socket enclosure, shall be installed, the service wiring terminated, and the service equipment covers installed.

2) The portions of the electrical system that are to be energized shall be complete and physically protected.

3) The grounding electrode system shall be complete.

4) The grounding and the grounded conductors shall be terminated in the service equipment.

5) At least one receptacle outlet with ground fault circuit interrupter protection for personnel shall be installed with the circuit wiring terminated.
6) The applicable requirements of the North Carolina Electrical Code apply.

10.8.3 Uses Prohibited. In no case shall any portion of the permanent wiring be energized until the portions have been inspected and approved by an electrical Code Enforcement Official. Failure to comply with this section may result in disconnection of power or revocation of permit.
10.8.4 Application for Temporary Power. Application for temporary power shall be made by and in the name of the applicant. The application shall explicitly state the portions of the energized electrical system, mechanical system, or plumbing system for which application is made, its intended use and duration.
10.8.5 Security and Notification. The applicant shall maintain the energized electrical system or that portion of the building containing the energized electrical system in a secured and locked manner or under constant supervision to exclude unauthorized personnel. The applicant shall alert personnel working in the vicinity of the energized electrical system to its presence.

10.9 REQUIREMENTS OF OTHER STATE AGENCIES, OCCUPATIONAL LICENSING BOARDS, OR COMMISSIONS

The North Carolina State Building Codes do not include all additional requirements for buildings and structures that may be imposed by other State agencies, occupational licensing boards, and commissions. It shall be the responsibility of a permit holder, design professional, contractor, or occupational license holder to determine whether any additional requirements exist.

10.10 INSPECTIONS OF CABLE TIES FOR SECURING AND SUPPORTING OF WIRING METHODS.

The electrical inspector shall not require evidence that cable ties are listed and identified where used for securement and support of wiring methods allowed in Chapter 3 of this code. Nothing in this section prohibits an electrical inspector from requiring evidence that cable ties are listed for use in a plenum where applicable.

Item 1: Adding the definition of "Reliable Source of Power" in Article 100 which is the definition's section; (moving current amendment over to the new Code)

AMENDMENT 100

Amend NEC 2023, page 56:

Add new to Article without any deletions:

Reliable Source of Power. A source of power that possesses all of the following characteristics:

(1) The electric utility supplying the power has not conducted any intentional shutdowns longer than 10 continuous hours in the year prior to the plan submittal and is verified in writing by that electric utility.

(2) The source of power is not supplied by overhead conductors within 60 feet of the building(s) equipped with fire pump(s).

(3) Only the disconnect switches and overcurrent protection devices permitted in Article 695 and NFPA 20-2013 section 9.3.2 are installed in the normal source of power to the fire pump controller.

Item 2: Deleting subsection (c) of section 110.26(E)(2); (moving the current amendment over to the new Code)

AMENDMENT 110.26(E)(2)(c)

Amend NEC 2023, page 69:

(2) Outdoor. Outdoor installations shall comply with 110.26(E)(2)(a) through (E)(2)(c).

(a) *Installation Requirements.* Outdoor electrical equipment shall be the following:

(1) Installed in identified enclosures

(2) Protected from accidental contact by unauthorized personnel or by vehicular traffic

(3) Protected from accidental spillage or leakage from piping systems

(b) *Work Space.* The working clearance space shall include the zone described in 110.26(A). No architectural appurtenance or other equipment shall be located in this zone.

Exception: Structural overhangs or roof extensions shall be permitted in this zone.

(c) ~~*Dedicated Equipment Space.* The space equal to the width and depth of the equipment, and extending from grade to a height of 1.8 m (6 ft) above the equipment, shall be dedicated to the electrical installation. No piping or other equipment foreign to the electrical installation shall be located in this zone.~~

Exception: Structural overhangs or roof extensions shall be permitted in this zone.

Replace with:

(2) Outdoor. Outdoor installations shall comply with 110.26(E)(2)(a) through (c).

(a) *Installation Requirements.* Outdoor electrical equipment shall be the following:

(1) Installed in identified enclosures

(2) Protected from accidental contact by unauthorized personnel or by vehicular traffic

(3) Protected from accidental spillage or leakage from piping systems

(b) *Work Space.* The working clearance space shall include the zone described in 110.26(A). No architectural appurtenance or other equipment shall be located in this zone.

Exception: Structural overhangs or roof extensions shall be permitted in this zone.

(c) Deleted.

Exception: Structural overhangs or roof extensions shall be permitted in this zone.

Item 3: Retaining the language from 2017 NEC for section 210.8 and clarifying that cabinet doors shall not be considered doors or doorways when applying this section; (moving the intent of a current amendment over to the new Code)

AMENDMENT 210.8

Amend NEC 2023, page 80:

210.8 Ground-Fault Circuit-Interrupter Protection for Personnel. A listed Class A GFCI shall provide protection in accordance with 2120.8(A) through (F). The GFCI shall be installed in a readily accessible location.

Informational Note No. 1: See 215.9 for ground-fault circuit-interrupter protection for personnel on feeders.

For the purposes of this section, when determining the distance from receptacles the distance shall be measured as the shortest path the power supply cord of an appliance connected to the receptacle would follow without piercing a floor, wall, ceiling, or fixed barrier~~.~~

Replace with:

210.8 Ground-Fault Circuit-Interrupter Protection for Personnel. A listed Class A GFCI shall provide protection in accordance with 2120.8(A) through (F). The GFCI shall be installed in a readily accessible location.

Informational Note No. 1: See 215.9 for ground-fault circuit-interrupter protection for personnel on feeders.

For the purposes of this section, when determining the distance from receptacles the distance shall be measured as the shortest path the power supply cord of an appliance connected to the receptacle would follow without piercing a floor, wall, ceiling, or fixed barrier, or the shortest path without passing through a window, door or doorway, excluding cabinet doors.

Item 4: Adding GFCI receptacle Exception for sewer lift pumps for indoors and exterior; (moving the intent of a current amendment over to the new Code)

AMENDMENT 210.8(A) Exceptions

Amend NEC 2023, page 80:

(A) Dwelling Units. All 125-volt through 250-volt receptacles installed in the following locations and supplied by single-phase branch circuits rated 150 volts or less to ground shall have ground-fault circuit-interrupter protection for personnel.

Replace with:

(A) Dwelling Units. All 125-volt through 250-volt receptacles installed in the following locations and supplied by single-phase branch circuits rated 150 volts or less to ground shall have ground-fault circuit-interrupter protection for personnel.

Exception No. 5: A single outlet receptacle supplied by a dedicated branch circuit which is located and identified for specific use by a sewage lift pump.

Item 5: Retaining the language from 2017 NEC for section 210.8(A)(5); (moving the current amendment over to the new Code)

AMENDMENT 210.8(A)(5)

Amend NEC 2023, page 80:

(5) ~~Basements~~

Replace with:

(5) Unfinished portions or areas of the basement not intended as habitable rooms

Item 6: Adding GFCI receptacle Exception for sewer lift pumps to section 210.8(B) both indoors and exterior; (moving the intent of a current amendment over to the new Code)

AMENDMENT 210.8(B) Exceptions

Amend NEC 2023, page 81:

(B) Other Than Dwelling Units. All 125-volt through 250-volt receptacles supplied by single-phase branch circuits rated 150 volts or less to ground, 50 amperes or less, and all receptacles supplied by three-phase branch circuits rated 150 volts or less to ground, 100 amperes or less, installed in the following locations shall be provided with GFCI protection:

Replace with:

(B) Other Than Dwelling Units. All 125-volt through 250-volt receptacles supplied by single-phase branch circuits rated 150 volts or less to ground, 50 amperes or less, and all receptacles supplied by three-phase branch circuits rated 150 volts or less to ground, 100 amperes or less, installed in the following locations shall be provided with GFCI protection:

Exception No. 7: A single outlet receptacle supplied by a dedicated branch circuit which is located and identified for specific use by a sewage lift pump.

Item 7: Deleting requirements mandating well pump outlets be GFCI protected.

AMENDMENT 210.8(F) Exception

Amend NEC 2023, page 81:

(F) Outdoor Outlets. For dwellings, all outdoor outlets, other than those covered in 210.8(A), Exception No. 1, including outlets installed in the following locations, and supplied by single-phase branch circuits rated 150 volts or less to ground, 50 amperes or less, shall be provided with GFCI protection:

(1) Garages that have floors located at or below grade level

(2) Accessory buildings

(3) Boathouses

If equipment supplied by an outlet covered under the requirements of this section is replaced, the outlet shall be supplied with GFCI protection.

Replace with:

(F) Outdoor Outlets. For dwellings, all outdoor outlets, other than those covered in 210.8(A), Exception No. 1, including outlets installed in the following locations, and supplied by single-phase branch circuits rated 150 volts or less to ground, 50 amperes or less, shall be provided with GFCI protection:

(4) Garages that have floors located at or below grade level

(5) Accessory buildings

(6) Boathouses

If equipment supplied by an outlet covered under the requirements of this section is replaced, the outlet shall be supplied with GFCI protection.

Exception No. 3: GFCI protection shall not be required for submersible well pumps.

Item 8: Replacing the length of 1.8 m (6 ft) with 15.24 m (50 ft) in the Exception for section 210.12(D); (moving the intent of a current amendment over to the new Code)

AMENDMENT 210.12(E) Exception

Amend NEC 2023, page 83:

(E) Branch Circuit Wiring Extensions, Modifications, or Replacements. If the branch circuit wiring for any of the areas specified in 210.12 (B), (C), or (D) is modified, replaced, or extended, the branch circuit shall be protected by one of the following:

(1) By any of the means described in 210.12(A)(1) through (A)(6)
(2) A listed outlet branch-circuit-type AFCI located at the first receptacle outlet of the existing branch circuit

Exception: AFCI protection shall not be required where the extension of the existing branch circuit conductors is not more than ~~1.8 m (6 ft)~~ and does not include any additional outlets or devices, other than splicing devices. This measurement shall not include the conductors inside an enclosure, cabinet, or junction box.

Replace with:

(E) Branch Circuit Wiring Extensions, Modifications, or Replacements. If the branch circuit wiring for any of the areas specified in 210.12 (B), (C), or (D) is modified, replaced, or extended, the branch circuit shall be protected by one of the following:

(3) By any of the means described in 210.12(A)(1) through (A)(6)
(4) A listed outlet branch-circuit-type AFCI located at the first receptacle outlet of the existing branch circuit

Exception: AFCI protection shall not be required where the extension of the existing branch circuit conductors is not more than 15.24 m (50 ft) and does not include any additional outlets or devices, other than splicing devices. This measurement shall not include the conductors inside an enclosure, cabinet, or junction box.

Item 9: Adding an Exception to 210.52(B)(2) for allowing receptacles to be on the small-appliance circuit if with 1.8 m (6 ft) of the kitchen sink; (moving the current amendment over to the new Code)

AMENDMENT 210.52(B)(2) Exception

Amend NEC 2023, page 87:

(2) No Other Outlets. The two or more small-appliance branch circuits specified in 210.52(B)(1) shall have no other outlets.

Exception No. 1: A receptacle installed solely for the electrical supply to and support of an electric clock in any of the rooms specified in 210.52(B)(1) shall be permitted to be served by a small-appliance branch circuit.

Exception No. 2: Receptacles installed to provide power for supplemental equipment and lighting on gas-fired ranges, ovens, or counter mounted cooking units shall be permitted to be served by a small-appliance branch circuit.

Replace with:

(2) No Other Outlets. The two or more small-appliance branch circuits specified in 210.52(B)(1) shall have no other outlets.

Exception No. 1: A receptacle installed solely for the electrical supply to and support of an electric clock in any of the rooms specified in 210.52(B)(1) shall be permitted to be served by a small-appliance branch circuit.

Exception No. 2: Receptacles installed to provide power for supplemental equipment and lighting on gas-fired ranges, ovens, or counter mounted cooking units shall be permitted to be served by a small-appliance branch circuit.

Exception No. 3: Receptacles installed inside a dwelling and within 1.8 m (6 ft) of any kitchen sink measured by the shortest path the cord of an appliance connected to the receptacle would follow without piercing a floor, wall, ceiling, or fixed barrier shall be permitted to be served by a small-appliance branch circuit.

Item 10: Adding subsection (7) for allowing temporary services to use the 2017 NEC requirements of section 230.71(B); (moving the intent of a current amendment over to the new Code)

AMENDMENT 230.71(B)

Amend NEC 2023, page 112:

(B) Two to Six Service Disconnecting Means. Two to six service disconnects shall be permitted for each service 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:

. . .

Replace with:

(B) Two to Six Service Disconnecting Means. Two to six service disconnects shall be permitted for each service 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:

. . .

(7) Panelboards for temporary electrical service installations (saw service pole) at a construction site provided all the following:

a. ungrounded circuits do not exceed 150 volts to ground
b. the summation of the ratings of the overcurrent devices that serve together as the disconnecting means does not exceed 100 amperes
c. the number of circuit breaker handles, identified handle ties, or combination thereof that operate as the service disconnecting means does not exceed six operations of the hand

Item 11: Adding text that specifically recognize that meter/panel combos, service rated transfer switches, and main service panels meet the provisions of this section; (moving the intent of a current amendment over to the new Code)

AMENDMENT 230.85

Amend NEC 2023, page 114:

230.85 Emergency Disconnects. For one- and two-family dwelling units, an emergency disconnecting means shall be installed.

Replace with:

230.85 Emergency Disconnects. For one- and two-family dwelling units, an emergency disconnecting means shall be installed. Transfer switches and panelboards, including meter-panel combination enclosures, that include a main breaker or other listed means to disconnect all service conductors shall be considered emergency disconnects and shall comply with subsection (1) of this section when installed as a service disconnect.

Item 12: Replacing the word "present" with "available" in section 250.50; (moving the intent of a current amendment over to the new Code)

AMENDMENT 250.50

Amend NEC 2023, page 145:

250.50 Grounding Electrode System. All grounding electrodes as described in 250.52(A)(1) through (A)(7) that are ~~present~~ at each building or structure served shall be bonded together to form the grounding electrode system. If none of these grounding electrodes exist, one or more of the grounding electrodes specified in 250.52(A)(4) through (A)(8) shall be installed and used.

Exception: Concrete-encased electrodes of existing buildings or structures shall not be required to be part of the grounding electrode system if the rebar is not accessible for use without disturbing the concrete.

Replace with:

250.50 Grounding Electrode System. All grounding electrodes as described in 250.52(A)(1) through (A)(7) that are available at each building or structure served shall be bonded together to form the grounding electrode system. If none of these grounding electrodes exist, one or more of the grounding electrodes specified in 250.52(A)(4) through (A)(8) shall be installed and used.

Exception: Concrete-encased electrodes of existing buildings or structures shall not be required to be part of the grounding electrode system if the rebar is not accessible for use without disturbing the concrete.

Item 13: Adding Exception for a temporary service in section 250.53(A)(2); (moving the intent of a current amendment over to the new Code)

AMENDMENT 250.53(A)(2)

Amend NEC 2023, page 146:

(2) Supplemental Electrode Required. A single rod, pipe, or plate electrode shall be supplemented by an additional electrode of a type specified in 250.52(A)(2) through (A)(8). The supplemental electrode shall be permitted to be bonded to one of the following:

(1) Rod, pipe, or plate electrode
(2) Grounding electrode conductor
(3) Grounded service-entrance conductor
(4) Nonflexible grounded service raceway
(5) Any grounded service enclosure

~~*Exception:*~~ *If a single rod, pipe, or plate grounding electrode has a resistance to earth of 25 ohms or less, the supplemental electrode shall not be required.*

Replace with:

(2) Supplemental Electrode Required. A single rod, pipe, or plate electrode shall be supplemented by an additional electrode of a type specified in 250.52(A)(2) through (A)(8). The supplemental electrode shall be permitted to be bonded to one of the following:

(1) Rod, pipe, or plate electrode
(2) Grounding electrode conductor
(3) Grounded service-entrance conductor
(4) Nonflexible grounded service raceway
(5) Any grounded service enclosure

Exception No. 1: If a single rod, pipe, or plate grounding electrode has a resistance to earth of 25 ohms or less, the supplemental electrode shall not be required.

Exception No. 2: The supplemental ground electrode shall not be required at temporary electrical service installation (saw service pole) at a construction site provided all ungrounded circuits do not exceed 150 volts to ground, and the rating of the single disconnecting means or the summation of the ratings of multiple overcurrent devices that serve together as the disconnecting means, does not exceed 100 amperes.

Item 14: Adding a second Exception to section 250.140 and expanding the original Exception in subsection (3); (moving the intent of a current amendment over to the new Code)

AMENDMENT 250.140

Amend NEC 2023, page 160:

(B) Grounded Conductor Connections. For existing branch-circuit installations only, if an equipment grounding conductor is not present in the outlet or junction box the frame of the appliance shall be permitted to be connected to the grounded conductor if all the conditions in the following list items (1), (2), and (3) are met and the grounded conductor complies with either list item (4) or (5):

(1) The supply circuit is 120/240-volt, single-phase, 3-wire; or 208Y/120-volt derived from a 3-phase, 4-wire, wye-connected system.
(2) The grounded conductor is not smaller than 10 AWG copper or 8 AWG aluminum.
(3) Grounding contacts of receptacles furnished as part of the equipment are bonded to the equipment.
(4) ~~The grounded conductor is insulated, or the grounded conductor is uninsulated and part of a Type SE service-entrance cable and the branch circuit originates at the service equipment.~~
(5) The grounded conductor is part of a Type SE service-entrance cable that originates in equipment other than a service. The grounded conductor shall be insulated or field covered within the supply enclosure with listed insulating material, such as tape or sleeving to prevent contact of the uninsulated conductor with any normally non-current-carrying metal parts.

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Amendment 250.140 Continued from Previous Page

Replace with:

(B) Grounded Conductor Connections. For existing branch-circuit installations only, if an equipment grounding conductor is not present in the outlet or junction box the frame of the appliance shall be permitted to be connected to the grounded conductor if all the conditions in the following list items (1), (2), and (3) are met and the grounded conductor complies with either list item (4) or (5):

(1) The supply circuit is 120/240-volt, single-phase, 3-wire; or 208Y/120-volt derived from a 3-phase, 4-wire, wye-connected system.
(2) The grounded conductor is not smaller than 10 AWG copper or 8 AWG aluminum.
(3) Grounding contacts of receptacles furnished as part of the equipment are bonded to the equipment.
(4) Any of the following:
    a. The grounded conductor is insulated;
    b. The grounded conductor is uninsulated and part or a Type SE service-entrance cable and the branch circuit originates at the service;
    c. The grounded conductor is uninsulated and part of a cable assembly and all current-carrying conductors are protected by a ground fault circuit interrupter at the origination of the branch circuit; or
    d. A new 3-wire cable assembly not smaller than the existing conductors shall be permitted to be extended from the service to an enclosure where the existing conductors shall be spliced together and provisions are made so that the grounded conductors are insulated by tape, heat-shrink or other approved means inside the enclosure.
(5) The grounded conductor is part of a Type SE service-entrance cable that originates in equipment other than a service. The grounded conductor shall be insulated or field covered within the supply enclosure with listed insulating material, such as tape or sleeving to prevent contact of the uninsulated conductor with any normally non-current-carrying metal parts.

Item 15: Adding an Exception No. 4 for section 250.142(B); (moving the intent of a current amendment over to the new Code)

AMENDMENT 250.142(B)

Amend NEC 2023, page 160:

(B) Load-Side Equipment. Except as permitted in 250.30(A)(1), 250.32(B)(1), Exception No.1, and Part X of Article 250, a grounded circuit conductor shall not be connected to non–current-carrying metal parts of equipment on the load side of the service disconnecting means or on the load side of a separately derived system disconnecting means or the overcurrent devices for a separately derived system not having a main disconnecting means.

Exception No. 1: The frames of ranges, wall-mounted ovens, counter-mounted cooking units, and clothes dryers under the conditions permitted for existing installations by 250.140 shall be permitted to be connected to the grounded circuit conductor.

Exception No. 2: It shall be permissible to connect meter enclosures to the grounded circuit conductor on the load side of the service disconnect if all of the following conditions apply:

(1) Ground-fault protection of equipment is not installed.
(2) All meter enclosures are located immediately adjacent to the service disconnecting means.
(3) The size of the grounded circuit conductor is not smaller than the size specified in Table 250.122 for equipment grounding conductors.

Exception No. 3: Electrode-type boilers operating at over 1000 volts shall be grounded as required in 495.72(E)(1) and 495.74.

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Amendment 250.142(B) Continued from Previous Page

Replace with:

(B) Load-Side Equipment. Except as permitted in 250.30(A)(1), 250.32(B)(1), Exception No.1, and Part X of Article 250, a grounded circuit conductor shall not be connected to non–current-carrying metal parts of equipment on the load side of the service disconnecting means or on the load side of a separately derived system disconnecting means or the overcurrent devices for a separately derived system not having a main disconnecting means.

Exception No. 1: The frames of ranges, wall-mounted ovens, counter-mounted cooking units, and clothes dryers under the conditions permitted for existing installations by 250.140 shall be permitted to be connected to the grounded circuit conductor.

Exception No. 2: It shall be permissible to connect meter enclosures to the grounded circuit conductor on the load side of the service disconnect if all of the following conditions apply:

(1) Ground-fault protection of equipment is not installed.
(2) All meter enclosures are located immediately adjacent to the service disconnecting means.
(3) The size of the grounded circuit conductor is not smaller than the size specified in Table 250.122 for equipment grounding conductors.

Exception No. 3: Electrode-type boilers operating at over 1000 volts shall be grounded as required in 495.72(E)(1) and 495.74.

Exception No. 4: It shall be permissible to ground an existing panelboard enclosure by connection to the grounded circuit conductor for a one- and two-family dwelling where all the following conditions apply:

(1) When relocating or installing an additional main disconnecting means;
(2) Enacting 250.142(B) Exception No. 5: (1) redefines the existing service entrance conductors as a feeder in Article 100;
(3) An equipment grounding conductor in the existing panelboard is not present;
(4) Replacement of the existing service entrance conductors requires either the removal of the building finish or deemed impractical by the AHJ.
(5) All grounding electrode conductors are removed completely from the existing panelboard; and
(6) The grounded conductors are insulated by tape, heat-shrink, or other approved means except where covered by the sheathing of a cable assembly or as needed for joints, splices, and termination purposes.

Item 16: Adding subsection (5) for existing panelboards in dwellings to section 300.3(B); (moving the intent of a current amendment over to the new Code)

AMENDMENT 300.3(B)

Amend NEC 2023, page 166:

(B) Conductors of the Same Circuit. All conductors of the same circuit and, where used, the grounded conductor and all equipment grounding conductors and bonding conductors shall be contained within the same raceway, conduit body, auxiliary gutter, cable tray, cablebus assembly, trench, cable, or cord, unless otherwise permitted in accordance with 300.3(B)(1) through (B)(4).

. . .

Replace with:

(B) Conductors of the Same Circuit. All conductors of the same circuit and, where used, the grounded conductor and all equipment grounding conductors and bonding conductors shall be contained within the same raceway, auxiliary gutter, cable tray, cablebus assembly, trench, cable, or cord, unless otherwise permitted in accordance with 300.3(B)(1) through (B)(5).

. . .

(5) Existing Dwelling Panelboards. An equipment grounding conductor for the supply feeder of an existing panelboard in one-and two-family dwellings shall be permitted to be installed separately and outside of the raceway or cable assembly where all the following conditions apply:

(a) When relocating or installing an additional service disconnecting means:
(b) Enacting 300.3(B)(5)(a) redefines the existing service entrance conductors as a feeder in Article 100; and
(c) Replacement of the existing service entrance conductors requires the removal of the building finish or deemed impractical by the AHJ.

Item 17: Modifying Column 4 heading of Table 300.5 to increase voltage to 240 Volts and increase amperage to 50 Amperes; (moving the intent of a current amendment over to the new Code). The foot notes still apply.

AMENDMENT Table 300.5

Amend NEC 2023, page 169:

Table 300.5 Minimum Cover Requirements, 0 to 1000 Volts ac, 1500 Volts dc, Nominal, Burial in Millimeters (Inches)

	Type of Wiring Method or Circuit									
Location of Wiring Method or Circuit	Column 1 Direct Burial Cables or Conductors		Column 2 Rigid Metal Conduit or Intermediate Metal Conduit		Column 3 Nonmetallic Raceways Listed for Direct Burial Without Concrete Encasement or Other Approved Raceways		Column 4 Residential Branch Circuits Rated ~~120~~ Volts or Less with GFCI Protection and Maximum Overcurrent Protection of ~~20~~ Amperes		Column 5 Circuits for Control of Irrigation and Landscape Lighting Limited to Not More Than 30 Volts and Installed with Type UF or in Other Identified Cable or Raceway	
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
All locations not specified below	600	24	150	6	450	18	300	12	150[a,b]	6[a,b]
In trench below 5 mm (2 in.) thick concrete or equivalent	450	18	150	6	300	12	150	6	150	6
Under a building	0 (in raceway or Type MC or Type MI cable identified for direct burial)	0	0	0	0	0	0 (in raceway or Type MC or Type MI cable identified for direct burial)	0	0 (in raceway or Type MC or Type MI cable identified for direct burial)	0
Under minimum of 102 mm (4 in.) thick concrete exterior slab with no vehicular traffic and the slab extending not less than 152 mm (6 in.) beyond the underground installation	450	18	100	4	100	4	150 (direct burial) 100 (in raceway)	6 4	150 (direct burial) 100 (in raceway)	6 4
Under streets, highways, roads, alleys, driveways, and parking lots	600	24	600	24	600	24	600	24	600	24
One- and two-family dwelling driveways and outdoor parking areas, and used only for dwelling-related purposes	450	18	450	18	450	18	300	12	450	18
In or under airport runways, including adjacent areas where trespassing prohibited	400	18	450	18	450	18	450	18	450	18

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Amendment Table 300.5 Continued from Previous Page

Replace with:

Table 300.5 Minimum Cover Requirements, 0 to 1000 Volts, Nominal, Burial in Millimeters (Inches)

Location of Wiring Method or Circuit	Type of Wiring Method or Circuit									
	Column 1 Direct Burial Cables or Conductors		Column 2 Rigid Metal Conduit or Intermediate Metal Conduit		Column 3 Nonmetallic Raceways Listed for Direct Burial Without Concrete Encasement or Other Approved Raceways		Column 4 Residential Branch Circuits Rated 250 Volts or Less with GFCI Protection and Maximum Overcurrent Protection of 50 Amperes		Column 5 Circuits for Control of Irrigation and Landscape Lighting Limited to Not More Than 30 Volts and Installed with Type UF or in Other Identified Cable or Raceway	
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
All locations not specified below	600	24	150	6	450	18	300	12	150[a,b]	6[a,b]
In trench below 5 mm (2 in.) thick concrete or equivalent	450	18	150	6	300	12	150	6	150	6
Under a building	0 (in raceway or Type MC or Type MI cable identified for direct burial)	0	0	0	0	0	0 (in raceway or Type MC or Type MI cable identified for direct burial)	0	0 (in raceway or Type MC or Type MI cable identified for direct burial)	0
Under minimum of 102 mm (4 in.) thick concrete exterior slab with no vehicular traffic and the slab extending not less than 152 mm (6 in.) beyond the underground installation	450	18	100	4	100	4	150 (direct burial) 100 (in raceway)	6 4	150 (direct burial) 100 (in raceway)	6 4
Under streets, highways, roads, alleys, driveways, and parking lots	600	24	600	24	600	24	600	24	600	24
One- and two-family dwelling driveways and outdoor parking areas, and used only for dwelling-related purposes	450	18	450	18	450	18	300	12	450	18
In or under airport runways, including adjacent areas where trespassing prohibited	400	18	450	18	450	18	450	18	450	18

Item 18: Adding an Exception to section 300.9; (moving the current amendment over to the new Code)

AMENDMENT 300.9

Amend NEC 2023, page 171:

300.9 Raceways in Wet Locations Above Grade. Where raceways are installed in wet locations above grade, the interior of these raceways shall be considered to be a wet location. Insulated conductors and cables installed in raceways in wet locations above grade shall comply with 310.10(C).

Replace with:

300.9 Raceways in Wet Locations Above Grade. Where raceways are installed in wet locations above grade, the interior of these raceways shall be considered to be a wet location. Insulated conductors and cables installed in raceways in wet locations above grade shall comply with 310.10(C).

Exception: The interior of these raceways shall not be considered a wet location if:

(1) The section of raceway routed in a wet location above grade does not exceed 1.8 m (6 ft) in length;

(2) Any fittings or conduit bodies are watertight and listed for use in wet locations; and

(3) All termination points of the raceway are only open in any of the following:

a. A dry location;

b. Equipment suitable for outdoor use; or

c. Equipment listed for use in a wet location.

Item 19: Replacing entire section with TIA 23-8 issued by the NFPA

AMENDMENT 300.26

Amend NEC 2023, page 175:

~~**300.26 Remote-Control and Signaling Circuits Classifications.** Remote-control and signaling circuits shall be classified as either power-limited or non-power-limited and comply with the following:~~

~~(1) Class 1 power-limited remote-control and signaling circuits shall comply with 724.3.~~
~~(2) Class 2 and Class 3 power-limited remote-control and signaling circuits shall comply with 725.3.~~
~~(3) Non-power-limited remote-control and signaling circuits shall be installed in accordance with 300.2 through 300.25.~~
~~(4)~~

Replace with:

300.26 Remote-Control and Signaling Circuits Classification. Remote-control and signaling circuits shall be classified as either power-limited or non-power-limited and comply with 300.26(A) through (C).

(A) Class 1 Power-Limited Remote-Control and Signaling Circuits. Class 1 power-limited remote-control and signaling circuits shall comply with 724.3.

(B) Class 2 and Class 3 Power-Limited Remote-Control and Signaling Circuits. Class 2 and Class 3 power-limited remote-control and signaling circuits shall comply with 725.3.

(C) Non-Power-Limited Remote-Control and Signaling Circuits. Non-power-limited remote-control and signaling circuits shall be installed in accordance with 300.2 through 300.25 and comply with 300.26(C)(1) through (C)(3).

(1) Sizes and Use.
  (a) Conductors that are 18 AWG and 16 AWG copper shall be permitted to be used if they supply loads that do not exceed the ampacities specified in 402.5 and are installed in a raceway, an approved enclosure, or a listed cable.
  (b) Conductors that are 14 AWG copper-clad aluminum shall be permitted to be used in Type MC cable and Type TC cable. The continuous load shall not exceed 8 amperes.
  (c) Conductors larger than 16 AWG copper or 14 AWG copper-clad aluminum shall not supply loads greater than the ampacities specified in 310.14.
  (d) Flexible cords shall comply with the applicable general requirements, applications, and construction specifications for flexible cords and flexible cables in accordance with Article 400 Parts I and II.

(2) **Insulation.**
  (a) Insulation on conductors shall be rated for the system voltage and not less than 600 volts.
  (b) Conductors larger than 16 AWG copper or 14 AWG copper-clad aluminum shall comply with the applicable general requirements for conductors rated up to and including 2000 volt for type designations, insulations, markings, ampacity ratings, and uses in accordance with 310.3, 310.4, 310.6, 310.8, 310.10, and 310.14.
  (c) Conductors that are 18 AWG copper, 16 AWG copper, or 14 AWG copper-clad aluminum shall be Type FFH-2, Type KF-2, Type KFF-2, Type PAF, Type PAFF, Type PF, Type PFF, Type PGF, Type PGFF, Type PTF, Type PTFF, Type RFH-2, Type RFHH-2, Type RFHH-3, Type SF-2, SFF-2, Type TF, Type TFF, Type TFFN, Type TFN, Type ZF, or Type ZFF.

Item 20: Replacing entire section with TIA 23-10 issued by the NFPA

AMENDMENT 314.29

Amend NEC 2023, page 201:

~~**(A) In Buildings and Other Structures.** Boxes and conduit bodies shall be installed so the contained wiring and devices are accessible.~~

Replace with:

(A) In Buildings and Other Structures. Boxes and conduit bodies shall be installed so the contained wiring and devices are accessible. Boxes and conduit bodies that are recessed into or behind finished surfaces of buildings shall have access to their internal contents maintained by openings in their covers and in the building finish that comply with 314.29(A)(1), (A)(2), or (A)(3) as applicable. Removable finished covers and faceplates that maintain this access shall be permitted.

(1) Boxes 1650 cm3 (100 in.3) or Less in Size. The openings in the building surfaces, if reduced from the outer walls of the box, shall be centered not more than 25 mm (1 in.) from the centerline of the box, and shall not extend beyond the walls of the box. If rectangular, the opening shall be not less than 73 mm (2 7/8 in.) by 45 mm (1 3/4 in.) in size. If circular, the opening shall not be less than 90 mm (3½ in.) in diameter.

Exception: Smaller openings in building surfaces that accommodate one or more individual devices shall be permitted if all of the following conditions are met:

(1) The outlet box that supplies the device(s) is nonmetallic.

(2) The branch circuit wiring that supplies each device consists of a separate nonmetallic cable assembly originating outside the box, or individual sets of conductors in a single nonmetallic raceway, all of which originate outside the box. Other than the connections to a single device, these conductors are not spliced in the box or continued to another device, and no other wiring or raceways enter the box.

(3) Each device is capable of removal from the building surface opening without being damaged. If a special tool is required for this purpose, the applicable circuit directory for the device records the location of the tool, together with a product code/QR code for acquiring a replacement if necessary.

(4) All connections for each device to the branch circuit wiring are made with listed clamping-type wire connectors, which are supplied with the devices. The branch-circuit conductors are arranged to permit the connector(s) to be exposed after the device has been fully removed.

(5) The device assemblies are listed for this application.

(2) Boxes Larger Than 1650 cm3 (100 in.3) in Size. The openings shall not be smaller than the outer walls of the box.

(3) Conduit Bodies. The openings shall not be smaller than outer walls of the conduit body.

Item 21: Rewriting section 320.23(A) for clarification with NC Building Designs; (moving the intent of a current amendment over to the new Code)

AMENDMENT 320.23(A)

Amend NEC 2023, page 217:

320.23 In Accessible Attics. Type AC cables in accessible attics or roof spaces shall be installed as specified in 320.23(A) and (B).

~~**(A) Cabled Run Across the Top of Framing Members.** Where run across the top of framing members, or across the face of rafters or studding within 2.1 m (7 ft) of the floor or horizontal surface, the cable shall be protected by guard strips that are at least as high as the cable, unless the cables are physically considered outside any floored area. Where this space is not accessible by permanent stairs or ladders, protection shall only be required within 1.8 m (6 ft) of the nearest edge of the scuttle hole or attic entrance.~~

Replace with:

320.23 In Accessible Attics. Type AC cables in accessible attics or roof spaces shall be installed as specified in 320.23(A) and (B).

(A) Cables Run Across the Top of Framing Members. The cable shall be protected by guard strips that are at least as high as the cable where one of the following applies:

(1) Where this space is accessible by permanent stairs or ladders, protection shall be required in the area directly over a permanent floor not exceeding 2.1 m (7 ft) vertically from the floor, or where run across the top of floor joists.
(2) Where this space is not accessible by permanent stairs or ladders, protection shall be required within 1.8 m (6 ft) horizontally of the nearest edge of the scuttle hole or attic entrance where run across the top of any flooring, or flooring or ceiling joists. Protection is not required where run across the face of overhead roofing trusts or rafters.

Exception: For the purpose of this section, pull-down type stairs and portable ladders are not to be considered as permanent stairs or ladders.

Item 22: Removing Crawl Spaces from section 334.15(C) for clarification with NC Building Designs; (moving the current amendment over to the new Code)

AMENDMENT 334.15(C)

Amend NEC 2023, page 225:

(C) In Unfinished Basements and Crawl Spaces. Where cable is run at angles with joists in unfinished basements ~~and crawl spaces~~, it shall be permissible to secure cables not smaller than two 6 AWG or three 8 AWG conductors directly to the lower edges of the joists. Smaller cables shall be run either through bored holes in joists or on running boards. Nonmetallic-sheathed cable installed on the wall of an unfinished basement shall be permitted to be installed in a listed conduit or tubing or shall be protected in accordance with 300.4. Conduit or tubing shall be provided with bushing or adapter that provides protection from abrasion at the point the cable enters and exits the raceway. The sheath of the nonmetallic-sheathed cable shall extend through the conduit or tubing and into the outlet, device, or junction box not less than 6 mm (1⁄4 in.). The cable shall be secured within 300 mm (12 in.) of the point where the cable enters the conduit or tubing. Metal conduit, tubing, and metal outlet boxes shall be connected to an equipment grounding conductor complying with the provisions of 250.86 and 250.148.

Replace with:

(C) In Unfinished Basements and Crawl Spaces. Where cable is run at angles with joists in unfinished basements, it shall be permissible to secure cables not smaller than two 6 AWG or three 8 AWG conductors directly to the lower edges of the joists. Smaller cables shall be run either through bored holes in joists or on running boards. Nonmetallic-sheathed cable installed on the wall of an unfinished basement shall be permitted to be installed in a listed conduit or tubing or shall be protected in accordance with 300.4. Conduit or tubing shall be provided with bushing or adapter that provides protection from abrasion at the point the cable enters and exits the raceway. The sheath of the nonmetallic-sheathed cable shall extend through the conduit or tubing and into the outlet, device, or junction box not less than 6 mm (1⁄4 in.). The cable shall be secured within 300 mm (12 in.) of the point where the cable enters the conduit or tubing. Metal conduit, tubing, and metal outlet boxes shall be connected to an equipment grounding conductor complying with the provisions of 250.86 and 250.148.

Item 23: Adding Exception to definition of Closet Storage Space in section 410.2 for clarification with NC Building Designs; (moving the current amendment over to the new Code)

AMENDMENT 410.2

Amend NEC 2023, page 309:

410.2 Definition. The definition in this section shall apply only within this article.

Clothes Closet Storage Space. The closet storage space shall be the volume bounded by the sides and back closet walls and planes extending from the closet floor vertically to a height of 1.8 m (6 ft) or to the highest clothes-hanging rod and parallel to the walls at a horizontal distance of 600 mm (24 in.) from the sides and back of the closet walls, respectively. The volume extends vertically to the closet ceiling parallel to the walls at a horizontal distance of 300 mm (12 in.) or the width of the shelf, whichever is greater. For a closet that permits access to both sides of a hanging rod, the close closet storage space includes the volume below the highest rod extending 300 mm (12 in.) on either side of the rod on a plane horizontal to the floor extending the entire length of the rod. See Figure 410.16 (A).

Replace with:

410.2 Definition. The definition in this section shall apply only within this article.

Clothes Closet Storage Space. The closet storage space shall be the volume bounded by the sides and back closet walls and planes extending from the closet floor vertically to a height of 1.8 m (6 ft) or to the highest clothes-hanging rod and parallel to the walls at a horizontal distance of 600 mm (24 in.) from the sides and back of the closet walls, respectively. The volume extends vertically to the closet ceiling parallel to the walls at a horizontal distance of 300 mm (12 in.) or the width of the shelf, whichever is greater. For a closet that permits access to both sides of a hanging rod, the close closet storage space includes the volume below the highest rod extending 300 mm (12 in.) on either side of the rod on a plane horizontal to the floor extending the entire length of the rod. See Figure 410.16 (A).

Exception: Where a shelf is not present in the area of wall above the closet's entrance opening or doorway extending from the top of such opening or doorway vertically to the ceiling, including the area of ceiling extending perpendicular from the area of wall directly above the closet's entrance opening or doorway to a horizontal distance of 300 mm (12 in.), shall not be defined as closet storage space. See Figure 410.2 Exception.

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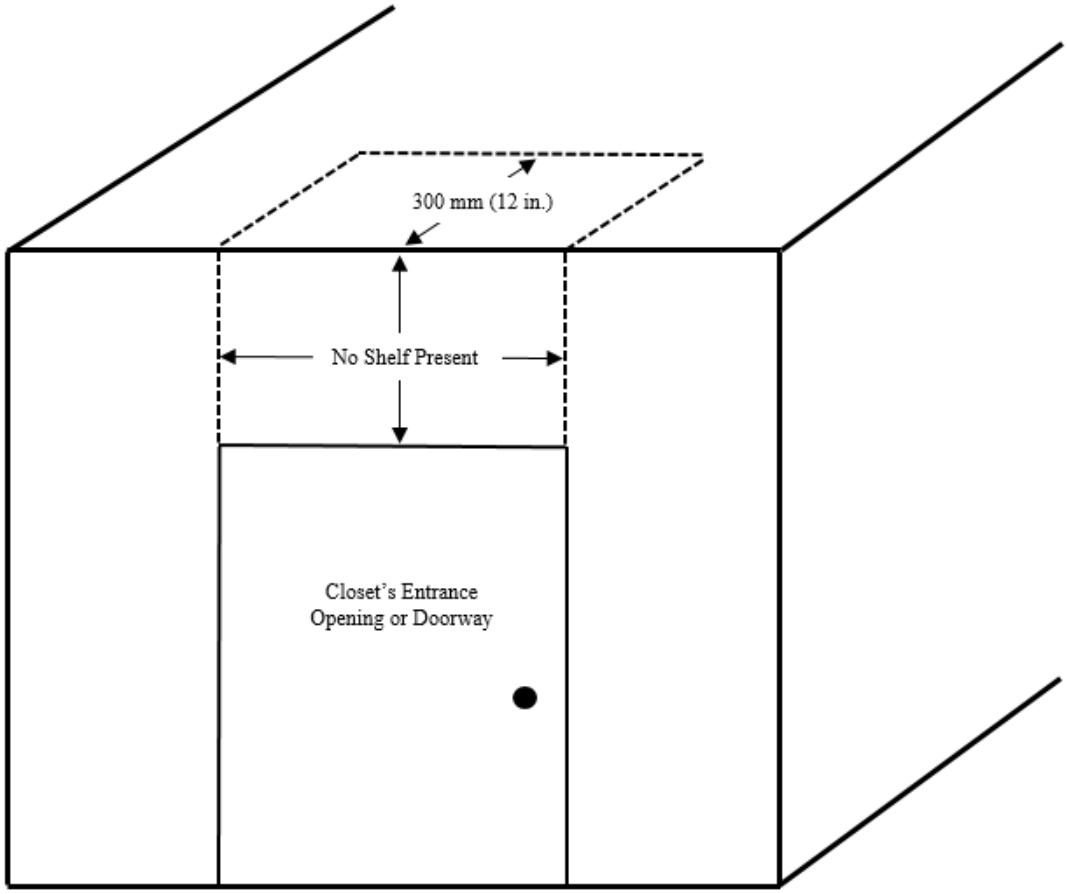

Figure 410.2 Exception Clothes Closet Storage Space Exception

Item 24: Adding subsection (6) to 410.16(C) to allow certain lighting fixtures in Exception to definition of Closet Storage Space in section 410.2 for clarification with NC Building Designs; (moving the current amendment over to the new Code)

AMENDMENT 410.16(C)

Amend NEC 2023, page 310:

(D) Location. The minimum clearance between luminaires installed in clothes closets and the nearest point of a clothes closet storage space shall be as follows:

(1) 300 mm (12 in.) for surface-mounted incandescent or LED luminaires with a completely enclosed light source installed on the wall above the door or on the ceiling.
(2) 150 mm (6 in.) for surface-mounted fluorescent luminaires installed on the wall above the door or on the ceiling.
(3) 150 mm (6 in.) for recessed incandescent or LED luminaires with a completely enclosed light source installed in the wall or the ceiling.
(4) 150 mm (6 in.) for recessed fluorescent luminaires installed in the wall or the ceiling.

Exception: Surface-mounted fluorescent or LED luminaires shall be permitted to be installed within the clothes closet storage space where identified for this use.

Replace with:

(D) Location. The minimum clearance between luminaires installed in clothes closets and the nearest point of a clothes closet storage space shall be as follows:

(1) 300 mm (12 in.) for surface-mounted incandescent or LED luminaires with a completely enclosed light source installed on the wall above the door or on the ceiling.
(2) 150 mm (6 in.) for surface-mounted fluorescent luminaires installed on the wall above the door or on the ceiling.
(3) 150 mm (6 in.) for recessed incandescent or LED luminaires with a completely enclosed light source installed in the wall or the ceiling.
(4) 150 mm (6 in.) for recessed fluorescent luminaires installed in the wall or the ceiling.

Exception No.1: Surface-mounted fluorescent or LED luminaires shall be permitted to be installed within the clothes closet storage space where identified for this use.

Exception No 2: LED luminaires with a completely enclosed light source or fluorescent luminaires shall be permitted to be installed within the area defined in 410.2 Exception.

Item 25: Adding additional language to include "Critical Branch Circuits" the application of the section.

AMENDMENT 517.26

Amend NEC 2023, page 469:

517.26 Application of Other Articles. The life safety branch of the essential electrical system shall meet the requirements of Article 700, except as amended as follows:

(1) Section 700.4 shall not apply.
(2) Section 700.10(D) shall not apply.
(3) Section 700.17 shall be replaced with the following: Branch circuits that supply emergency lighting shall be installed to provide service from a source in accordance with 700.12 when normal supply for lighting is interrupted or where single circuits supply luminaries containing secondary batteries.
(4) Section 700.32 shall not apply.

Replace with:

517.26 Application of Other Articles. The life safety branch and critical branch of the essential electrical system shall meet the requirements of Article 700, except as amended as follows:

(1) Section 700.4 shall not apply.
(2) Section 700.10(D) shall not apply.
(3) Section 700.17 shall be replaced with the following: Branch circuits that supply emergency lighting shall be installed to provide service from a source in accordance with 700.12 when normal supply for lighting is interrupted or where single circuits supply luminaries containing secondary batteries.
(4) Section 700.32 shall not apply.

Item 26: Requiring GFCI for 30- and 50-amp receptacles in RV site equipment the same at non-RV site equipment in (A) for RV parks; Retaining 2020 Code requirements.

AMENDMENT 551.71(F)(2)

Amend NEC 2023, page 516:

~~(2)~~ **Receptacles Installed in Recreational Vehicle Site Equipment.** Ground-fault circuit-interrupter protection shall ~~only be required for 125-volt, single-phase, 15- and 20-ampere receptacles.~~

~~Informational Note No. 1: Appliances used within the recreational vehicle can create leakage current levels at the supply receptacle(s) that could exceed the limits of a Class A GFCI device.~~

Informational Note No. ~~2~~: The definition of Feed Assembly clarifies that the power supply cord to a recreational vehicle is considered a feeder.

Replace with:

(2) **Receptacles Installed in Recreational Vehicle Site Equipment.** Ground-fault circuit-interrupter protection shall be provided as required in 210.8(B).

Informational Note No. 1: The definition of Feed Assembly clarifies that the power supply cord to a recreational vehicle is considered a feeder.

Item 27: Adding additional language to the signage requirement of section 555.10; (moving the intent of a current amendment over to the new Code)

AMENDMENT 555.10

Amend NEC 2023, page 527:

(2) The signs shall be clearly visible from all approaches to a marina, docking facility, or boatyard facility.

(3) The signs shall state ~~"WARNING — POTENTIAL SHOCK HAZARD — ELECTRICAL CURRENTS MAY BE PRESENT IN THE WATER."~~

Replace with:

(2) The signs shall be reflective, have reflective letters in all capital font, be a minimum of 18 inches in height and 24 inches in width, and clearly visible from all approaches to a marina, docking facility, or boatyard facility.

(3) The signs shall state "WARNING! NO SWIMMING! POTENTIAL SHOCK HAZARD — ELECTRICAL CURRENTS MAY BE PRESENT IN THE WATER!"

Item 28: Adding enterable aquariums to the scope of Article 680

AMENDMENT 680.1

Amend NEC 2023, page 586:

680.1 Scope. The provisions of this article apply to the construction and installation of electrical wiring for, and equipment in or adjacent to, all swimming, wading, therapeutic, and decorative pools; fountains; hot tubs; spas; and hydromassage bathtubs, whether permanently installed or storable, and to metallic axillary equipment, such as pumps, filters, and similar equipment. The term *body of water* used throughout Part I applies to all bodies of water covered in this scope unless otherwise amended.

Replace with:

680.1 Scope. The provisions of this article apply to the construction and installation of electrical wiring for, and equipment in or adjacent to, all swimming, wading, therapeutic, and decorative pools; fountains; hot tubs; spas; enterable aquariums; and hydromassage bathtubs, whether permanently installed or storable, and to metallic axillary equipment, such as pumps, filters, and similar equipment. The term *body of water* used throughout Part I applies to all bodies of water covered in this scope unless otherwise amended.

Item 29: Deleting new section 680.4 due to no State recognized standard currently exists for inspections and testing of existing pools; (moving the intent of a current amendment over to the new Code)

AMENDMENT 680.4

Amend NEC 2023, page 586:

680.4 Inspections After Installation. ~~The authority having jurisdiction shall be permitted to require periodic inspection and testing.~~

Replace with:

680.4 Inspections After Installation. Deleted.

Item 30: Revising section 680.21(D) to incorporate the intent of a current amendment with the new Code for existing pool pump motor circuitry; retaining current amendment

AMENDMENT 680.21(D)

Amend NEC 2023 page 588:

~~**(D) Pool Pump Motor Replacement.** Where a pool pump motor in 680.21(C) is replaced or repaired, the replacement pump motor shall be provided with ground-fault protection complying with 680.5(B) or (C), as applicable.~~

Replace with:

(D) Existing Pool Pump Motors, Branch-Circuits, and Overcurrent Protection.

(1) Pool Pump Motor Replacement. Where a pool pump motor in 680.21(C) is replaced or repaired, the replacement pump motor shall be provided with ground-fault protection complying with 680.5(B) or (C), as applicable.

(2) Existing Pool Pump Motor Branch Circuit and Overcurrent Protection. All branch circuits and overcurrent devices that supply power to a pool pump motor by direct connection or receptacle outlet shall comply with the provisions of 680.21(C) when the branch circuits or overcurrent devices are altered, installed, modified, relocated, repaired, or replaced.

Item 31: Revising section 680.26(B)(2) to prevent the single wire option for in-ground pools; Replacing section with TIA 23-10 issued by the NFPA

AMENDMENT 680.26(B)(2)

Amend NEC 2023 page 592:

~~(2)~~ **Perimeter Surfaces.** ~~The perimeter surface to be bonded shall be considered to extend for 1 m (3 ft) horizontally beyond the inside walls of the pool and shall include unpaved surfaces and other types of paving. Perimeter surfaces separated from the pool by a permanent wall or building 1.5 m (5 ft) in height or more shall require equipotential bonding only on the pool side of the permanent wall or building. Bonding to perimeter surfaces shall be provided as specified in 680.26(B)(2)(a), (B)(2)(b), or (B)(2)(c) and shall be attached to the pool reinforcing steel or copper conductor grid at a minimum of four (4) points uniformly spaced around the perimeter of the pool. For nonconductive pool shells, bonding at four points shall not be required.~~

~~(a) *Structural Reinforcing Steel.* Structural reinforcing steel shall be bonded in accordance with 680.26(B)(1)(a).~~

(b) ~~*Copper Ring.* Where structural reinforcing steel is not available or is encapsulated in a nonconductive compound, a copper conductor(s) shall be utilized where the following requirements are met:~~
~~(1) At least one minimum 8 AWG bare solid copper conductor shall be provided.~~
~~(2) The conductors shall follow the contour of the perimeter surface.~~
~~(3) Only listed splices shall be permitted.~~
~~(4) The required conductor shall be 450 mm to 600 mm (18 in. to 24 in.) from the inside walls of the pool.~~
~~(5) The required conductor shall be secured within or under the perimeter surface 100 mm to 150 mm (4 in. to 6 in.) below the subgrade.~~

(c) ~~*Copper Grid.* Where structural reinforcing steel is not available or is encapsulated in a nonconductive compound, a copper grid shall be utilized where the following requirements are met:~~

~~(1) The copper grid shall be constructed of 8 AWG solid bare copper and be arranged in accordance with 680.26(B)(1)(b)(3).~~
~~(2) The copper grid shall follow the contour of the perimeter surface extending 1 (3 ft) horizontally beyond the inside walls of the pool.~~
~~(3) Only listed splices or exothermic welding shall be permitted.~~
~~(4) The copper grid shall be secured within or under the deck or unpaved surfaces between 100 mm to 150 mm (4 in. to 6 in.) below the subgrade.~~

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Replace with:

(2) Perimeter Surfaces. The perimeter surface to be bonded shall be considered to extend for 900 mm (3 ft) horizontally beyond the inside walls of the pool while also at a height between 900 mm (3 ft) above and 600 mm (2 ft) below the maximum water level. The perimeter surface shall include unpaved surfaces, concrete, and other types of paving. Perimeter surfaces separated from the pool by a permanent wall or building 1.5 m (5 ft) in height or more shall require equipotential bonding only on the pool side of the permanent wall or building. Bonding to perimeter surfaces shall be provided as specified in 680.26(B)(2)(a), (B)(2)(b), (B)(2)(c), and (B)(2)(d). For conductive pool shells where bonding to perimeter surfaces is required, it shall be attached to the pool reinforcing steel or copper conductor grid at a minimum of four (4) points uniformly spaced around the perimeter of the pool, or if the bonded perimeter surface does not surround the entire pool, it shall be attached to the pool reinforcing steel or copper conductor grid at a minimum of four uniformly spaced points along the bonded perimeter surface. For nonconductive pool shells where bonding to the perimeter surfaces is required, bonding at four points shall not be required, and the perimeter bonding shall be attached to the 8 AWG copper equipotential bonding conductor and, if present, to any conductive support structure for the pool.

Informational Note: Because the perimeter surface can incorporate various types of materials at various locations and elevations above and below maximum water level, perimeter surface required to be bonded might not surround the entire pool. The 8 AWG copper equipotential bonding conductor can encircle the entire pool to facilitate connection of bonded parts.

(a) *Conductive Paved Portions of Perimeter Surfaces.* Conductive paved portions of perimeter surfaces, including masonry pavers, if used, shall be bonded with unencapsulated structural reinforcing steel in accordance with 680.26(B)(1)(a), or with unencapsulated steel structural welded wire reinforcement (welded wire mesh, welded wire fabric), bonded together by steel tie wires or the equivalent. Steel welded wire reinforcement shall be fully embedded within the pavement unless the pavement will not allow for embedding. If the reinforcing steel is absent, or is encapsulated in a nonconductive compound, or embedding is not possible, unencapsulated welded wire steel reinforcement or a copper conductor grid shall be provided and shall be secured directly under the paving, and not more than 150 mm (6 in.) below finished grade.

Unencapsulated steel welded wire reinforcement that is not fully embedded in concrete, and copper grid regardless of location, where used for equipotential bonding, shall be listed for corrosion resistance and mechanical performance. This listing requirement shall become effective January 1, 2025. The copper grid or unencapsulated steel welded wire reinforcement shall also meet the following:

(1) Copper grid is constructed of 8 AWG solid bare copper and arranged in accordance with 680.26(B)(1)(b)(3).
(2) Steel welded wire reinforcement is minimum ASTM 6x6-W2.0 x W2.0 or minimum No. 3 rebar constructed in a 300 mm (12 in.) grid.

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(3) Copper grid and steel welded wire reinforcement follow the contour of the perimeter surface extending not less than 900 mm (3 ft) horizontally beyond the inside walls of the pool.
(4) Only listed splicing devices or exothermic welding are used.

Informational Note No. 1: Performance of the equipotential bonding system at the perimeter surface is improved as the distance between the bonding means and finished grade is minimized, either by embedding within, or by direct contact with the underside of, the finished pavement.

Informational Note No. 2: See ASTM A615/A615M, Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; A1064/A1064M, Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; A1022/A1022M, Standard Specification for Deformed and Plain Stainless Steel Wire and Welded Wire for Concrete Reinforcement; A1060A/A1060M, Standard Specification for Zinc-Coated (Galvanized) Steel Welded Wire Reinforcement, Plain and Deformed, for Concrete; and ACI Standard ACI 318, Building Code for Structural Concrete, for examples of standards currently used in the listing of reinforcing steel bars and steel welded wire reinforcement.

(b) *Unpaved Portions of Perimeter Surfaces.* Unpaved portions of perimeter surfaces shall be bonded with any of the following methods:

(1) Copper conductor(s) shall meet the following:
   a. At least one minimum 8 AWG bare solid copper conductor, including the 8 AWG bare copper equipotential bonding conductor if available.
   b. The conductors follow the contour of the perimeter surface.
   c. Only listed splicing devices or exothermic welding are used.
   d. The conductor(s) is 450 mm to 600 mm (18 in. to 24 in.) from the inside walls of the pool.
   e. The conductor(s) is under the unpaved portion of the perimeter surface 100 mm to 150 mm (4 in. to 6 in.) below finished grade.
   f. Be installed only in perimeter surfaces not intended to have direct access to swimmers in the pool.

(2) Copper grid or unencapsulated steel welded wire reinforcement used for equipotential bonding of unpaved portions of perimeter surfaces shall meet the following:
   a. Be installed in accordance with 680.26(B)(2)(a).
   b. Be located within unpaved surface(s) between 100 mm to 150 mm (4 in. to 6 in.) below finished grade.

(c) *Nonconductive Perimeter Surfaces.* Equipotential bonding shall not be required for nonconductive portions of perimeter surfaces that are separated from earth or raised on nonconducting supports, and it shall not be required for any perimeter surface that is electrically separated from the pool structure and raised on nonconductive supports above an equipotentially bonded surface.

Continued on Next Page -→

Informational Note: Nonconductive materials include, but are not limited to, wood, plastic, wood-plastic composites, fiberglass, and fiberglass composites.

(d) *Interconnection of Bonded Portions of Perimeter Surfaces.* All surfaces where equipotential bonding is required shall be interconnected using listed splicing devices or exothermic welding. Where copper wire is used for this purpose, it shall be solid copper, not smaller than 8 AWG. The conductor shall be permitted to encircle the pool to facilitate bonding connections to portions of the perimeter covered in 680.26(B)(2)(a) and (B)(2)(b) that are not contiguous.

Item 32: Adding the requirement that emergency sources shall be listed or approved.

AMENDMENT 700.4(C)(2)

Amend NEC 2023, page 626:

c. Emergency Source. ~~Emergency~~ sources shall be permitted to operate in parallel where the necessary equipment to establish and maintain a synchronous condition is provided.

Replace with:

(3) Emergency Source. Listed or approved emergency sources shall be permitted to operate in parallel where the necessary equipment to establish and maintain a synchronous condition is provided.

Item 33: Adding the requirement that the signals of this section be able to be constantly noticed by someone 24-hours a day, everyday.

AMENDMENT 700.6

Amend NEC 2023, page 627:

700.6 Signals. Audible, visual, and facility or network remote annunciation devices shall be provided, where applicable, for the purpose described in 700.6(A) through (D).

Replace with:

700.6 Signals. Audible, visual, and facility or network remote annunciation devices shall be provided, where applicable, for the purpose described in 700.6(A) through (D). These devices shall be installed in a location that is attended at all times.

Item 34: Adding the requirement that emergency sources shall be listed or approved.

AMENDMENT 700.12(A)

Amend NEC 2023, page 629:

700.12(A) Power Source Consideration. In selecting ~~an~~ emergency source of power, consideration shall be given to the occupancy and the type of service to be rendered, whether of minimum duration, as for evacuation of a theater, or longer duration, as for supplying emergency power and lighting due to an indefinite period of current failure from trouble either inside or outside the building.

Replace with:

700.12(A) Power Source Consideration. In selecting a listed or approved emergency source of power, consideration shall be given to the occupancy and the type of service to be rendered, whether of minimum duration, as for evacuation of a theater, or longer duration, as for supplying emergency power and lighting due to an indefinite period of current failure from trouble either inside or outside the building.

Item 35: Adding the requirement that the signals of this section be able to be constantly noticed by someone 24-hours a day, everyday.

AMENDMENT 701.6

Amend NEC 2023, page 633:

701.6 Signals. Audible and visual signal devices shall be provided, where practicable, for the purposes described in 706.6(A), (B), (C), and (D).

Replace with:

701.6 Signals. Audible and visual signal devices shall be provided, where practicable, for the purposes described in 706.6(A), (B), (C), and (D). These devices shall be installed in a location that is attended at all times.

Item 36: Adding the requirement that legally required standby sources shall be listed or approved.

AMENDMENT 701.12(A)

Amend NEC 2023, page 629:

700.12(A) Power Source Consideration. In selecting a legally required standby source of power, consideration shall be given to the type of service to be rendered, whether of short-time duration or long duration.

Replace with:

700.12(A) Power Source Consideration. In selecting a listed or approved legally required standby source of power, consideration shall be given to the type of service to be rendered, whether of short-time duration or long duration.

Request for Changes Pursuant to N.C. Gen. Stat. § 150B-21.10

Staff reviewed these Rules to ensure that each Rule is within the agency's statutory authority, reasonably necessary, clear and unambiguous, and adopted in accordance with Part 2 of the North Carolina Administrative Procedure Act. Following review, staff has issued this document that may request changes pursuant to G.S. 150B-21.10 from your agency or ask clarifying questions.

If the request includes questions, please contact the reviewing attorney to discuss.

In order to properly submit rewritten rules, please refer to the following Rules in the NC Administrative Code:

- Rule 26 NCAC 02C .0108 – The Rule addresses general formatting.
- Rule 26 NCAC 02C .0404 – The Rule addresses changing the introductory statement.
- Rule 26 NCAC 02C .0405 – The Rule addresses properly formatting changes made after publication in the NC Register.

Note the following general instructions:

1. You must submit the revised rule via email to oah.rules@oah.nc.gov. The electronic copy must be saved as the official rule name (XX NCAC XXXX).
2. For rules longer than one page, insert a page number.
3. Use line numbers; if the rule spans more than one page, have the line numbers reset at one for each page.
4. Do not use track changes. Make all changes using manual strikethroughs, underlines and highlighting.
5. You cannot change just one part of a word. For example:
    - Wrong: "~~a~~Association"
    - Right: "~~association~~ Association"
6. Treat punctuation as part of a word. For example:
    - Wrong: "day~~,~~; and"
    - Right: "~~day,~~ day; and"
7. Formatting instructions and examples may be found at: www.ncoah.com/rules/examples.html

If you have any questions regarding proper formatting of edits after reviewing the rules and examples, please contact the reviewing attorney.

Brian Liebman
Commission Counsel
Date submitted to agency: February 2, 2024

REQUEST FOR CHANGES PURSUANT TO G.S. 150B-21.10

AGENCY: Building Code Council

RULE CITATION: 2024 North Carolina Electrical Code

DEADLINE FOR RECEIPT: Friday, February 16, 2024.

***PLEASE NOTE:* This request may extend to several pages. Please be sure you have reached the end of the document.**

The Rules Review Commission staff has completed its review of this Rule prior to the Commission's next meeting. The Commission has not yet reviewed this Rule and therefore there has not been a determination as to whether the Rule will be approved. You may email the reviewing attorney to inquire concerning the staff recommendation.

In reviewing this Rule, the staff recommends the following changes be made: *OSFM State Electrical Division: Note: Even though this administrative section (Article 10) is underlined in its entirety, it has been virtually unchanged and added to the various NECs to create the State Electrical Code every three years for many decades underlined in the same manner and without issue from the Rules Review Commission. Major changes to this section may cause confusion and conflict with the users of this code.*

Article 10
In 10.1, you say that "the Code" or "this Code" will refer to the North Carolina Electrical Code—as opposed to the National Electrical Code. However, in 10.2, you use "the code" to refer to the NEC. Please correct here and in any other location this may be an issue. OSFM State Electrical Division: The term "code" was struck in section 10.2 and replaced with "2023 Edition of the National Electrical Code (NFPA-70 - 2023).

In 10.2, you say that "Article 80 Administration and Enforcement of the code is hereby not adopted and does not apply". I don't see an Article 80 in the print copy of the 2023 NEC provided to us. The print copy I have starts at Article 90.

Similarly, I'm assuming there are Articles 10-80 of the NEC somewhere, given that the NC state specific amendments refer to Article 10 and Article 80. Is this correct? OSFM State Electrical Division: Article 80 is located towards the back of the NEC in Annex H. To clarify, Article 80 Administration and Enforcement has been struck and replaced with "Informative Annex H Administration and Enforcement (Article 80)".

In 10.4, p.2, where in the Administrative Code are you referring to? Would it be possible to give a more precise cross-reference? OSFM State Electrical Division: Similar to local ordinances, there is not one specific area in the 2024 NC Administrative Code and Polices that this section is directing the user of the electrical code. The purpose is to clarify that the electrical code does not dictate the general administration of enforcement duties. No changes were made per this comment.

In 10.4, who decides when the provisions of other codes are determined to be contrary to the requirements of this code? OSFM State Electrical Division: This section is telling

the user of the electrical code that this is the supreme code with respect to electrical systems. There is no special decision that must be made that is different than applying the other technical standards of the NEC to installation methods that may or may not be in conflict with manufacturer's specifications or similar; in which the electrical code is to be followed regardless. No changes were made per this comment.

Similarly, in 10.6, is it possible to give a more precise cross-reference? Is it 101.2.3.8 of the Admin Code, which refers to the North Carolina Existing Buildings Code? Does the Existing Buildings Code apply here at all? Please specify. OSFM State Electrical Division: There is no one specific area in the 2024 NC Administrative Code and Policies for this subject. Depending on the circumstances various sections could apply. The Existing Building Code has no effect or association with the electrical code or with equipment under the jurisdiction of the electrical code. No changes were made per this comment.

In 10.7.1, what must be approved by the Inspection Department? The connection, the source, the building, or the system? OSFM State Electrical Division: The electrical system is what must be approved. To clarify, the section has been altered by rewriting the phase as "technical codes until the electrical system is approved".

Also in 10.7.1, what is the Inspection Department? Is this a state department, a local entity? The statute referenced (G.S. 143-143.2) states that the inspection must be by the "appropriate official electrical inspector or inspection department". Who is that? Please be more specific. OSFM State Electrical Division: To clarify and simplify, "Inspections Department" has been struck and replaced with the "electrical inspector with jurisdiction" in 10.7.1 and 10.7.2.

In 10.7.2, I do not believe G.S. 143-143.2 authorizes the Inspection Department to disconnect utilities, and the other statutes cited here have been repealed, effective June 19, 2020 by SL 2020-25. Please provide proper statutory authority. OSFM State Electrical Division: G.S. 143.143.2 has been accepted by Rules Review to support this section for many decades. SL 2020-25 did combine and relocate the 160A and 153A previously cited sections; this was not caught when updating to the 2023 because only this first section in Article 10 is ever altered every three years when the electrical code is updated. Those statutes have been revised to the reflect the relocated statues in 160D.

Is there statutory authority for any portion of 10.8, 10.9, or 10.10? None has been cited. OSFM State Electrical Division: Section 10.8.1 has the statutory reference of "(General Statutes 160D-403(g))". This statute reference is added to the end of the sentence. This is the statutory reference the 2024 NC Administrative Code and Policies uses to justify Temporary Certificate of Occupancy's in section 204.9.3.

OSFM State Electrical Division: Section 10.9 has no direct statute. This is telling the user of the code that there are many statutes and rules that may be required to be followed in addition to the requirements of the electrical code based on the circumstances of the installation. Thus, the electrical code is not the exclusive regulatory requirement for electrical systems. No changes were made per this comment.

Brian Liebman
Commission Counsel
Date submitted to agency: February 2, 2024

OSFM State Electrical Division: Section 10.10 is both a technical code and administrative section derived from the technical language in the NEC. This section was added in the 2020 electrical code to simplify altering several sections of the NEC with amendments that state the same requirement for the many different wiring methods. No changes were made per this comment.

In 10.8.2 (6), what are the "applicable requirements" of the Electrical Code? A cross reference may be helpful here. OSFM State Electrical Division: There is no one section of the NEC that can be cited. Each installation is unique. No changes were made per this comment.

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Brian Liebman
Commission Counsel
Date submitted to agency: February 2, 2024

SUBMISSION FOR PERMANENT RULE

1. Rule-Making Agency: NC Building Code Council

2. Rule citation & name (name not required for repeal):
2023 NC Electrical Code (230613 Item B-3)

3. Action:
☒ **ADOPTION** ☐ **AMENDMENT** ☐ **REPEAL** ☐ **READOPTION** ☐ **REPEAL through READOPTION**

4. Rule exempt from RRC review?
☐ **Yes. Cite authority:**
☒ **No**

5. Rule automatically subject to legislative review?
☐ **Yes. Cite authority:**
☒ **No**

6. Notice for Proposed Rule:

☒ **Notice Required**
Notice of Text published on: August 15, 2023 in NC Register, August 1, 2023 agency website
Link to Agency notice: https://www.ncosfm.gov/230912-notice1hearing
Hearing on: September 12, 2023
Adoption by Agency on: December 12, 2023
☐ **Notice not required under G.S.:**
Adoption by Agency on:

7. Rule establishes or increases a fee? (See G.S. 12-3.1)

☐ **Yes**
Agency submitted request for consultation on:
Consultation not required. Cite authority:

☒ **No**

8. Fiscal impact. Check all that apply.

☐ **This Rule was part of a combined analysis.**

☐ **State funds affected**
☐ **Local funds affected**
☒ **Substantial economic impact (≥$1,000,000)**
☒ **Approved by OSBM**
☐ **No fiscal note required**

9. REASON FOR ACTION

9A. What prompted this action? Check all that apply:

☒ **Agency**
☐ **Court order / cite:**
☐ **Federal statute / cite:**
☐ **Federal regulation / cite:**
☐ **Legislation enacted by the General Assembly**
Cite Session Law:
☐ **Petition for rule-making**
☐ **Other:**

9B. Explain: The NEC is amended and published every three years through a consensus process at the NFPA. The 2023 NEC is the latest published edition and represents national industry and life-safety updates. The newest edition provides the industry with a standard that regulates the newest equipment and technology in accordance with the most current practices. The NC Amendments represent changes proposed by the Ad-Hoc Committee that complement North Carolina construction methods.

Certain changes in the Code will both increase and decrease the cost of installation in various circumstances. This rule is anticipated to decrease and increase construction costs overall. This rule is anticipated to increase the cost of a dwelling by $80 or more. This rule is not expected to affect local and state funds. This rule is anticipated to a cause a substantial impact. A fiscal note has been prepared as is included with this submittal. For the NCBCC to adopt the proposed North Carolina amendments to the 2023 National Electrical Code to create the 2023 North Carolina Electrical Code and meet the requirements of NCGS Chapter 150B Administrative Procedures Act, the 2017 and 2020 NC Electrical Codes are required to be repealed. The NCBCC introduced a petition to repeal the 2017 and 2020 North Carolina Electrical Codes on 12/12/23. The effective date of these repeals is 1/1/25.

The delayed effective date of this Rule is January 1, 2025.
The Statutory authority for Rule-making is G. S. 143-136; 143-138.

SUBMISSION FOR PERMANENT RULE

10. Rulemaking Coordinator: David B. Rittlinger David B. Rittlinger Phone: (919)647-0008 E-Mail: david.rittlinger@ncdoi.gov Additional agency contact, if any: Phone: E-Mail:	11. Signature of Agency Head* or Rule-making Coordinator:  *If this function has been delegated (reassigned) pursuant to G.S. 143B-10(a), submit a copy of the delegation with this form. Typed Name: David B. Rittlinger Title: Interim NCDOI-OSFM Deputy Commissioner of Engineering and Chief Code Consultant

RRC AND OAH USE ONLY

Action taken:

- ☐ RRC extended period of review:
- ☐ RRC determined substantial changes:
- ☐ Withdrawn by agency
- ☐ Subject to Legislative Review
- ☐ Other:

Documents included:

1. Proposed North Carolina Amendments to the 2023 NEC to establish the 2023 North Carolina Electrical Code.* Revision 1 dated 2/15/24.

   Free online access to the 2023 NEC (NFPA 70 National Electrical Code) can be found the link here: https://link.nfpa.org/free-access/publications/70/2023

   Underlined text indicates North Carolina proposed amendments to the 2023 NEC (NFPA 70 National Electrical Code) to establish the 2023 North Carolina Electrical Code.

   ~~Struckthrough~~ text indicates proposed deletions to the 2023 NEC (NFPA 70 National Electrical Code) to establish the 2023 North Carolina Electrical Code.

   *Of note, the Cover page, Contents, Committee Personnel and Index are not included as they do not contain permanent rule content. The permanent rule content is Article 90 through Chapter 9 of the 2023 NEC (NFPA 70 National Electrical Code) along with proposed North Carolina Amendments to establish the 2023 North Carolina Electrical Code.

2. Fiscal Note for the 2023 State Electrical Code.**

   **Pages 1 through 15 contain the fiscal note. Pages 16 through 20 contains the substantial changes between the 2020 North Carolina Electrical Code and the adopted 2023 North Carolina Electrical Code. Pages 21 through 26 contains the 2023 NEC Ad Hoc Committee Identification of Fiscal Change Significance from the 2020(2017 for one- & two-family dwellings) State Electrical Code to the Proposed 2023 State Electrical Code as well as a list of the Ad-Hoc Committee Members.

3. 8/14/23 OSBM approval of fiscal note correspondence (RE_Approval – 2023 Revisions to NC Electrical Code.

4. Appendix C Code Change Proposal North Carolina Building Code Council (231212 Item B-12) Repeal the 2017 NC Electrical Code and 2020 NC Electrical Code effective 1/1/2025 so the 2023 NC Electrical Code can be effective 1/1/2025.*** A link to the petition can be found here: https://www.ncosfm.gov/news/events/building-code-council-meeting-december-12-2023

   ***A Notice of Hearing for inclusion in the 1/16/24 NC Register was submitted by the agency on 12/19/23 to NC-OAH. This agency petition is scheduled to have an NCBCC public hearing on 3/18/24 and final adoption by the NCBBC on 3/19/24.

SUBMISSION FOR PERMANENT RULE

(see attached documents)

Burgos, Alexander N

From: Liebman, Brian R
Sent: Friday, February 2, 2024 10:53 AM
To: Rittlinger, David B
Cc: Childs, Nathan D; Burgos, Alexander N
Subject: NC Electrical Code - Extension Letter
Attachments: 01.2024 BCC Extension letter.pdf

Good morning gentlemen,

Attached, please find a letter regarding the extension granted by the Commission at the January meeting. As we discussed, I will have requests for changes to you shortly, and I think we will be able to wrap this up for the February regular meeting.

Thanks,
Brian

Brian Liebman
Counsel to the North Carolina Rules Review Commission
Office of Administrative Hearings
(984)236-1948
brian.liebman@oah.nc.gov

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Email correspondence to and from this address may be subject to the North Carolina Public Records Law and may be disclosed to third parties by an authorized state official.

Burgos, Alexander N

Subject: FW: NC Building Code Council - Submission for Permanent Rule: 2023 North Carolina Electrical Code

From: Rittlinger, David B <david.rittlinger@ncdoi.gov>
Sent: Monday, January 29, 2024 10:22 AM
To: Liebman, Brian R <brian.liebman@oah.nc.gov>
Cc: Burgos, Alexander N <alexander.burgos@oah.nc.gov>; Holder, Karen <Karen.Holder@ncdoi.gov>; Childs, Nathan D <nchilds@NCDOJ.GOV>
Subject: RE: NC Building Code Council - Submission for Permanent Rule: 2023 North Carolina Electrical Code

Brian,
Good morning.
I hope you are well. Thank you for your email and for your efforts. It was also nice to talk with you last week.

I want to confirm with you that you have received everything that the NC Building Code Council promised to provide you to streamline your review of the 2023 NC Electrical Code and the three other technical code volumes (NC Energy Conservation, NC Fuel-Gas and NC Mechanical), already submitted to the Rules Review Commission for review. The NC building Code Council anticipates submitting the five remaining technical codes as follows:
1. Plumbing and Residential: To the Rules Review Commission for review in February, together with their corresponding formatted review aids.
2. Building, Existing Building, and Fire Prevention: To the Rules Review Commission for review in March, together with their corresponding formatted review aids.

As you know, the NC Building Code Council has been working diligently to ensure that all ten volumes of the NC State Building Code are adopted and approved well in advance of the June 30, 2024 deadline established by N.C. Gen. Stat. § 143-138(d) and in time for the NC Building Code Council to publish and share the updated codes with the regulated public prior to their January 1, 2025 effective date. In my view, the reason that § 143-138(d) requires that final adoption of the code updates occur "at least" six months before they become effective is to allow time for the NC Building Code Council to publish and distribute paper code volumes to the regulated public. In addition, section 143-138.1(a) requires that the NC Code Council and OSFM provide for instructional classes for the various trades affected by the Code "[p]rior to the effective date of Code changes pursuant to 143-138[.]"

I met with the publisher last week. According to the publisher, if the Rules Review Commission approves the last code volumes at its April 2024 meeting, the NC Building Council, NC Code Officials Qualifications Board and OSFM will only have two months (November and December 2024) to hold the required trainings to code officials, architects, engineers and contractors where paper copies of those codes can be distributed.

While we understand that that these rules are technical and voluminous in nature, we are concerned that the NC Building Code Council, NC Code Officials Qualifications Board and OSFM will be unable to comply with their statutory duties if review is unduly delayed. Accordingly, we would respectfully ask that the Rules Review Commission staff complete their review of the 2023 NC Electrical Code so that it can be considered at the Rules Review Commission's February meeting.

Please let me know if you have any questions.
Thank you again for your work on this,

David B. Rittlinger, PE, LEED AP
Deputy Commissioner of Engineering
Engineering & Codes Division

North Carolina Office of State Fire Marshal
1429 Rock Quarry Road, Suite 105
Raleigh, NC 27610
919.647.0008

david.rittlinger@ncdoi.gov

Link to free view of 2018 NC Codes
https://codes.iccsafe.org/codes/north-carolina

Burgos, Alexander N

From: Liebman, Brian R
Sent: Tuesday, January 23, 2024 10:17 AM
To: Rittlinger, David B
Cc: Burgos, Alexander N; Holder, Karen; Childs, Nathan D
Subject: RE: NC Building Code Council - Submission for Permanent Rule: 2023 North Carolina Electrical Code

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning,

I am continuing to work on the 2024 Electrical Code, and while I've made some progress going through it, I think it's very likely that we're going to need to take an extension. As I discussed with David earlier today, so far, I do not see anything major that would warrant an objection, and it doesn't appear we've received any comments thus far. That said, I want to be thorough, and given the scope here, I think an extension is the best way to go. The January meeting is approaching next Wednesday, and even if I were able to get requests out to you today or tomorrow, that doesn't leave any time to respond and work out the issues. I can make the extension request at the meeting, if you all are more comfortable with that, or y'all can make the request here in writing. Just let me know.

Best,
Brian

Brian Liebman
Counsel to the North Carolina Rules Review Commission
Office of Administrative Hearings
(984)236-1948
brian.liebman@oah.nc.gov

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From: Rittlinger, David B <david.rittlinger@ncdoi.gov>
Sent: Wednesday, December 20, 2023 10:40 AM
To: Rules, Oah <oah.rules@oah.nc.gov>
Cc: McGhee, Dana <dana.McGhee@oah.nc.gov>; Burgos, Alexander N <alexander.burgos@oah.nc.gov>; Liebman, Brian R <brian.liebman@oah.nc.gov>; Holder, Karen <Karen.Holder@ncdoi.gov>; Childs, Nathan D <nchilds@NCDOJ.GOV>
Subject: NC Building Code Council - Submission for Permanent Rule: 2023 North Carolina Electrical Code

Good morning RRC,

Attached is one NC Building Code Council submission for permanent rule for the 2023 North Carolina Electrical Code.
I have attached MS Word copies and pdf's of Form 400 and the Proposed North Carolina Amendments to the 2023 NEC to establish the 2023 North Carolina Electrical Code.
I have also included pdf's of the fiscal note, OSBM approval of the fiscal note correspondence and Appendix C Code Change Proposal North Carolina Building Code Council (231212 Item B-12) Repeal the 2017 NC Electrical Code and 2020 NC Electrical Code.

Page two of the Form 400 provides a list of contents and information to assist RCC Council and the RRC's review of this submission for permanent rule.
Have also attached pdf of a consolidated document of this content named "2023 North Carolina Electrical Code Submission for Permanent Rule".
I will be delivering printed copies of the attached content along with a soft copy of the 2023 National Electrical Code (NFPA 70) to your office at around 3:30pm today.

It is my understanding that these rules will be included in the 1/31/24 RRC agenda for consideration.
Let me know if you have any questions or comments.

Thank you for your work on this.
Have a great day.

David B. Rittlinger, PE, LEED AP
Chief Code Consultant
Code Interpretations Supervisor
Engineering Division

N.C. Department of Insurance
Office of State Fire Marshal
1202 Mail Service Center
Raleigh, NC 27699-1202
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Link to free view of 2018 NC Codes
https://codes.iccsafe.org/codes/north-carolina

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