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## 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 July 1, 2025 (see Session Law 2024-57, Section 1F.3), 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) GFCI Sump Pumps
(7) 210.8(B)
(8) 210.8(F)
(9) 210.12(E)
(10) 210.52(B)(2)
(11) EV Chargers
(12) 230.71(B)
(13) 230.85
(14) 250.50
(15) 250.53(A)(2)
(16) 250.140
(17) 250.142(B)
(18) 300.3(B)
(19) Table 300.5
(20) 300.9
(21) 300.26
(22) 314.29
(23) 320.23(A)
(24) 334.15(C)
(25) 410.2
(26) 410.16(C)
(27) 517.26
(28) 555.10
(29) 680.1
(30) 680.4
(31) 680.21(D)
(32) 680.26(B)(2)
(33) 700.4(C)(2)
(34) 700.6
(35) 700.12(A)
(36) 701.6
(37) 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

Informative Annex H, Administration and Enforcement (Article 80) of the 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 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 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 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 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 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, 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 (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**

**AMENDMENT 100**

**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.

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**Item 2: Deleting subsection (c) of section 110.26(E)(2)**

**AMENDMENT 110.26(E)(2)(c)**

**(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.
(c) Deleted.

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

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**Item 3: Retaining the language from 2017 NEC and Amendment for section 210.8 for clarifying that cabinet doors shall not be considered doors or doorways when applying this section**

**AMENDMENT 210.8**

**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: See 215.9 for GFCI 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**

**AMENDMENT 210.8(A) Exceptions**

**(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.*

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**Item 5: Retaining the language from 2017 NEC for section 210.8(A)(5) to not included finished basements**

**AMENDMENT 210.8(A)(5)**

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

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**Item 6: SESSION LAW 2024-49: Location of GFCI Indicator Light for Sump Pump Protection**

**Ground Fault Circuit-Interrupter (GFCI) Protection for Sump Pumps Located in Crawlspaces and Basements**

For single-phase 15- and 20- ampere receptacles supplied by a branch circuit dedicated to electric sump pumps to prevent flooding installed in locations specified in Sections 210.8(A)(4) and 210.8(A)(5) that are required to have ground-fault circuit interrupter protection for personnel, the ground-fault circuit interrupter protection reset for those receptacles must be installed at a readily accessible location within the dwelling unit, and with an indicator light, and clear descriptive labeling to indicate that the receptacles are de-energized due to ground-fault protection application rendering the sump pumps inoperable.

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**Item 7: Adding GFCI receptacle Exception for sewer lift pumps to section 210.8(B) both indoors and exterior**

**AMENDMENT 210.8(B) Exceptions**

**(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 8: Deleting requirements mandating well pump outlets be GFCI protected.**

**AMENDMENT 210.8(F) Exception**

**(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.

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

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**Item 9: Replacing the length of 1.8 m (6 ft) with 15.24 m (50 ft) in the Exception for section 210.12(E)**

**AMENDMENT 210.12(E) Exception**

**(E) Branch Circuit Wiring Extensions, Modifications, or Replacements.** If 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 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 10: Adding an Exception to section 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**

**AMENDMENT 210.52(B)(2) Exception**

**(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.*

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**Item 11: SESSION LAW 2024-49:**

**Exclude Electric Vehicle Supply Equipment (EVSE) Load from Feeder and Service Load Calculations for Dwellings Subject to the North Carolina Residential Code**

Notwithstanding Article 220, Branch-Circuit Feeder, and Service Local Calculations, and Section 220.57, Electric Vehicle Supply Equipment (EVSE) Load, of the 2023 North Carolina Electrical Code, electric vehicle supply equipment (EVSE) loads shall not be required for the purpose of calculating loads for electrical feeder or service to dwellings subject to the North Carolina Residential Code.

**Item 12: Adding subsection (7) for allowing temporary services to use the 2017 NEC requirements of section 230.71(B)**

**AMENDMENT 230.71(B)**

**(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

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**Item 13: Adding text that specifically recognize that meter/panel combos, service rated transfer switches, and main service panels meet the provisions of this section**

**AMENDMENT 230.85**

**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.

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**Item 14: Replacing the word "present" with "available" in section 250.50**

**AMENDMENT 250.50**

**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 15: Adding Exception for a temporary service in section 250.53(A)(2)**

**AMENDMENT 250.53(A)(2)**

**(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.*

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**Item 16: Adding a second Exception to section 250.140 and expanding the original Exception in subsection (3)**

**AMENDMENT 250.140(B)**

**(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 or copper-clad 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.

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**Item 17: Adding an Exception No. 4 for section 250.142(B)**

**AMENDMENT 250.142(B)**

**(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 18: Adding subsection (5) for existing panelboards in dwellings to section 300.3(B)**

**AMENDMENT 300.3(B)**

**(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)(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.

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**Item 19: Modifying Column 4 heading of Table 300.5(A) to increase voltage to 250 Volts and increase amperage to 50 Amperes**

**SEE NEXT PAGE ---->**

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**Item 20: Adding an Exception to section 300.9**

**AMENDMENT 300.9**

**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: Modifying Column 4 heading of Table 300.5(A) to increase voltage to 250 Volts and increase amperage to 50 Amperes

## AMENDMENT Table 300.5(A)

**Table 300.5(A) Minimum Cover Requirements, 0 to 1000 Volts ac, 1500 Volts dc, 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 Electrical Metallic Tubing, Nonmetallic Raceways Listed for Direct Burial Without Concrete Encasement or Other Approved Raceways | | Column 4 Residential 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[1,2] | 6[1,2] |
| 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)<br>100 (in raceway) | 6<br>4 | 150 (direct burial)<br>100 (in raceway) | 6<br>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 21: Replacing entire section with TIA 23-8 issued by the NFPA**

**AMENDMENT 300.26**

**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.
   d. Conductors with other types and thicknesses of insulation shall be permitted if listed for Class 1 circuit use.

(3) Overcurrent Protection
   a. Overcurrent protection for conductors 14 AWG copper and larger shall be provided in accordance with the conductor ampacity, without applying the ampacity adjustment and correction factors specified in 310.15 to the ampacity calculation.
   b. Overcurrent protection shall not exceed 7 amperes for 18 AWG copper conductors and 10 amperes for 16 AWG copper and 14 AWG copper-clad aluminum.

   *Exception: The overcurrent protection specified in 300.26(C)(3)(a) and 300.26(C)(3)(b) shall not be required where this Code requires or permits other overcurrent protection ratings.*

**Item 22: Replacing entire section with TIA 23-10 issued by the NFPA**

**AMENDMENT 314.29**

**(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 $cm^3$ (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 $cm^3$ (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 23: Rewriting section 320.23(A) for clarification with NC Building Designs**

**AMENDMENT 320.23(A)**

**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.*

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**Item 24: Removing Crawl Spaces from section 334.15(C) for clarification with NC Building Designs**

**AMENDMENT 334.15(C)**

**(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 25: Adding Exception to definition of Closet Storage Space in section 410.16(A) for clarification with NC Building Designs**

**AMENDMENT 410.16(A)**

**410.16(A) 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 410.16(A) Exception.*

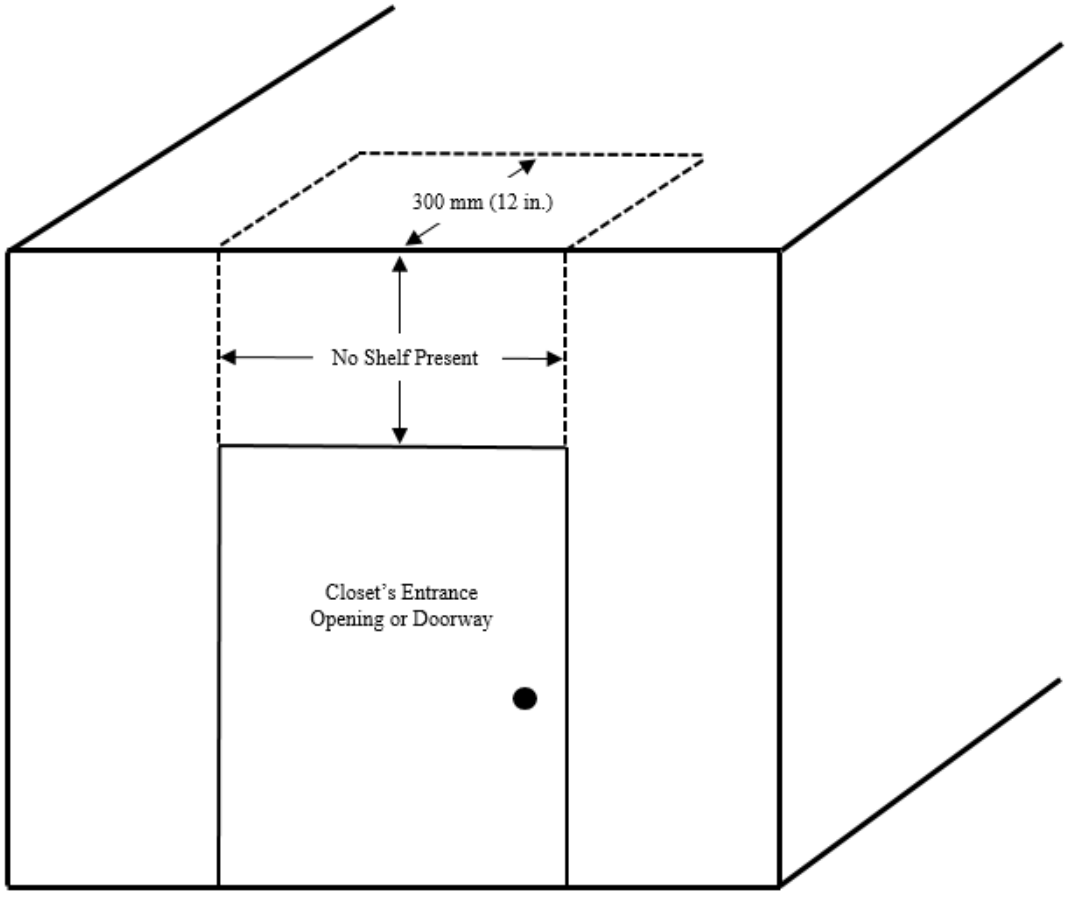


***Figure 410.16(A) Exception : Clothes Closet Storage Space Exception***

**Item 26: Adding subsection (6) to 410.16(D) to allow certain lighting fixtures in Exception to definition of Closet Storage Space in section 410.16(A) for clarification with NC Building Designs**

**AMENDMENT 410.16(D)**

**(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 410.16(A) Exception.*

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**Item 27: Adding additional language to include "Critical Branch Circuits" the application of the section**

**AMENDMENT 517.26**

**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 28: Adding additional language to the signage requirement of section 555.10**

**AMENDMENT 555.10**

(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!"

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**Item 29: Adding enterable aquariums to the scope of Article 680**

**AMENDMENT 680.1**

**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.

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**Item 30: Deleting new section 680.4 because no State recognized standard currently exists for inspections and testing of existing pools**

**AMENDMENT 680.4**

**680.4 Inspections After Installation.** Deleted.

**Item 31: Revising section 680.21(D) to incorporate the intent of a current amendment with the new Code for existing pool pump motor circuitry**

**AMENDMENT 680.21(D)**

**(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.

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**Item 32: 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)**

**(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.
(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.

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.

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**Item 33: Adding the requirement that emergency sources shall be listed or approved**

**AMENDMENT 700.4(C)(2)**

**(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.

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**Item 34: 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**

**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 35: Adding the requirement that emergency sources shall be listed or approved**

**AMENDMENT 700.12(A)**

**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.

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**Item 36: 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**

**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.

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**Item 37: Adding the requirement that legally required standby sources shall be listed or approved**

**AMENDMENT 701.12(A)**

**701.12(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.