

## Amendments to the 2014 National Electrical Code

The following articles, paragraphs, and sentences of the *2014 National Electrical Code (NEC)* are hereby amended as follows: Standard type is text from the NEC. Underlined text is text inserted. ~~Lined through type is deleted text from NEC.~~ A double asterisk (\*\*) at the beginning of an article identifies an amendment carried over from the 2011 edition of the code and a triple asterisk (\*\*\*) identifies a new or revised amendment with the 2014 code.

**\*\*\*Article 90.4: add the following provision:**

**Supervision of Work.** In the actual work of installing, maintaining, altering or repairing any electric conductors or equipment which requires a permit, apprentice electricians shall be directly supervised by a higher grade classification of electrical license when electrical work is being performed.

Informational Note: As defined by the State of Texas in Title 8, Occupational Code Chapter 1305 administered by the Texas Department of Licensing and Regulation for proper grade classifications of electrical license.

*(REASON FOR CHANGE: To provide consistent licensing requirements for supervision of apprentice electricians in the North Central Texas region, which is currently the accepted practice in the region.)*

**\*\*\*Article 100; add the following to definitions:**

Engineering Supervision. Supervision by a Qualified State of Texas Licensed Professional Engineer engaged primarily in the design or maintenance of electrical installations.

*(REASON FOR CHANGE: To better define the qualifications for engineering supervision. This term is used twenty four times in the National Electrical Code.)*

**\*\*\*Article 100; amend the following definition:**

**Intersystem Bonding Termination.** A device that provides a means for connecting intersystem bonding conductors for communication systems and other systems ~~such as metallic gas piping systems~~ to the grounding electrode system. Bonding conductors for other systems shall not be larger than 6 AWG.

*(REASON FOR CHANGE: To allow for a termination point for other bonding conductors in addition to communication systems that are required by the various model codes. 6 AWG was chosen to coincide with the minimum size of bonding conductor required to the intersystem bonding jumper.)*

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**\*\*\*Article 110.2; change the following to read as follows:**

**110.2 Approval.** The conductors and equipment required or permitted by this Code shall be acceptable only if approved. Approval of equipment may be evident by listing and labeling of equipment by a Nationally Recognized Testing Lab (NRTL) with a certification mark of that laboratory or a qualified third party inspection agency approved by the AHJ.

*Exception: Unlisted equipment that is relocated to another location within a jurisdiction or is field modified is subject to the approval by the AHJ. This approval may be by a field evaluation by a NRTL or qualified third party inspection agency approved by the AHJ.*

~~Manufacturer's self-certification of any equipment shall not be used as a basis for approval by the AHJ~~

Informational Note No 1: See 90.7, Examination of Equipment for Safety, and 110.3, Examination, Identification, Installation, and Use of Equipment. See definitions of *Approved, Identified, Labeled, and Listed.*

Informational Note No. 2: Manufacturer's self-certification of equipment may not necessarily comply with US product safety standards as certified by a Nationally Recognized Testing Lab.

Informational Note No. 3: NFPA 790 and 791 provide an example of an approved method for qualifying a third party inspection agency.

*(REASON FOR CHANGE: To add clarity and provide more positive options for enforcement and approval of unlisted equipment.)*

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**\*\*\*Article 210.52(G) (1) Garages: delete the following**

**(1) Garages.** In each attached garage (and in each detached garage with electric power. ~~The branch circuit supplying this receptacle(s) shall not supply outlets outside of the garage.~~ At least one receptacle outlet shall be installed for each car space.

*(REASON FOR CHANGE: Installations in compliance with this Code are not necessarily efficient, convenient, or adequate for good service or future expansion of electrical use.)*

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**\*\*Article 230.71(A); add the following exception:**

Exception: Multi-occupant buildings. Individual service disconnecting means is limited to six for each occupant. The number of individual disconnects at one location may exceed six.

*(REASON FOR CHANGE: This is currently the accepted installation practice of the region. No noteworthy complaints have surfaced. It is more reasonable than the current NEC requirements. It allows more than six disconnects grouped at one location. This also allows designers more flexibility in the placement of electrical meters and main service disconnects.)*

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**\*\*\*Article 240.91; delete the Article.**

*(REASON FOR CHANGE: Present day equipment is not listed and has not been evaluated for the use. Removing this article may prevent both installers and AHJ's from misapplying the Code.*

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**\*\*Article 300.11; add the following exception:**

Exception: Ceiling grid support wires may be used for structural supports when the associated wiring is located in that area, not more than two raceways or cables supported per wire, with a maximum nominal metric designation 16 (trade size 1/2").

*(REASON FOR CHANGE: To provide limited support of raceways and cables by ceiling grid support wire.)*

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**\*\*Article 310.15(B) (7); change to read as follows:**

**(7) This Article shall not be used in conjunction with 220.82.**

*(REASON FOR CHANGE: 310.15(B) (7) has been revised and the table has been deleted.)*

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**\*\*\*Article 500.8 (A) (3) changed to read as follows:**

**500.8 Equipment.**

Articles 500 through 504 require equipment construction and installation that ensure safe performance under conditions of proper use and maintenance.

Informational Note No. 1: It is important that inspection authorities and users exercise more than ordinary care with regard to installation and maintenance.

Informational Note No. 2: Since there is no consistent relationship between explosion properties and ignition temperature, the two are independent requirements.

Informational Note No. 3: Low ambient conditions require special consideration. Explosion proof or dust-ignition proof equipment may not be suitable for use at temperatures lower than -25°C (-13°F) unless they are identified for low-temperature service. However, at low ambient temperatures, flammable concentrations of vapors may not exist in a location classified as Class I, Division 1 at normal ambient temperature.

**(A) Suitability.** Suitability of identified equipment shall be determined by one of the following:

- (1) Equipment listing or labeling
- (2) Evidence of equipment evaluation from a qualified testing laboratory or inspection agency concerned with product evaluation
- (3) Evidence acceptable to the authority having jurisdiction such as a manufacturer's self-evaluation or ~~an owner's engineering judgment.~~ an engineering judgment signed and sealed by a qualified Registered licensed Professional Engineer in the State of Texas.

Informational Note: Additional documentation for equipment may include certificates demonstrating compliance with applicable equipment standards, indicating special conditions of use, and other pertinent information.

*(REASON FOR CHANGE: Carry over from previous amendment with change to better define the qualifications for an engineering judgment.)*

**\*\*\*Article 505.7 (A) changed to read as follows:**

#### **505.7 Special Precaution.**

Article 505 requires equipment construction and installation that ensures safe performance under conditions of proper use and maintenance.

Informational Note No. 1: It is important that inspection authorities and users exercise more than ordinary care with regard to the installation and maintenance of electrical equipment in hazardous (classified) locations.

Informational Note No. 2: Low ambient conditions require special consideration. Electrical equipment depending on the protection techniques described by 505.8(A) may not be suitable for use at temperatures lower than -20°C (-4°F) unless they are identified for use at lower temperatures. However, at low ambient temperatures, flammable concentrations of vapors may not exist in a location classified Class I, Zones 0, 1, or 2 at normal ambient temperature.

**(A) Implementation of Zone Classification System.** Classification of areas, engineering and design, selection of equipment and wiring methods, installation, and inspection shall be performed by a qualified persons Registered licensed Professional Engineer in the State of Texas.

*(REASON FOR CHANGE: Carry over from previous amendment with change to better define the qualifications for an engineering judgment.)*

**\*\*\*Article 517.30 Essential Electrical Systems for Hospitals; create a new (H) and add the following language:**

**(G) Coordination.** Overcurrent protective devices serving the equipment branch of the essential electrical system shall be coordinated for the period of time that a fault's duration extends beyond 0.1 second.

Exception No. 1: Between transformer primary and secondary overcurrent protective devices, where only one overcurrent protective device or set of overcurrent protective devices exists on the transformer secondary.

Exception No. 2: Between overcurrent protective devices of the same size (ampere rating) in series.

Informational Note: The terms coordination and coordinated as used in this section do not cover the full range of overcurrent conditions.

**(H) Selective Coordination.** Overcurrent protective devices serving the life safety, and critical branches of the essential electrical system shall be selectively coordinated with all supply-side overcurrent protective devices.

Exception No. 1: Between transformer primary and secondary overcurrent protective devices, where only one overcurrent protective device or set of overcurrent protective devices exists on the transformer secondary.

Exception No. 2: Between overcurrent protective devices of the same size (ampere rating) in series.

Informational Note: The terms coordination and coordinated as used in this section do not cover the full range of overcurrent conditions.

*(REASON FOR CHANGE: Changes made by deleting the definition of emergency systems in Article 517 Health Care Facilities and removing emergency systems as "Essential Electrical Systems for Hospitals in 517.30(B) (2), plus the new addition of section 517.30(G) for "Coordination" instead of using selective coordination, has diminished the reliability of the "Life Safety and Critical Branches of the Essential*

*Electrical System” to deliver power to vital loads. By providing only “coordination,” the instantaneous portion of the time-current curve has been eliminated from the overcurrent device settings.)*

**\*\*\*Article 680.25(A) changed to read as follows:**

**680.25 Feeders.**

These provisions shall apply to any feeder on the supply side of panel boards supplying branch circuits for pool equipment covered in Part II of this article and on the load side of the service equipment or the source of a separately derived system.

**(A) Wiring Methods.**

**(1) Feeders.** Feeders shall be installed in rigid metal conduit, intermediate metal conduit. The following wiring methods shall be permitted if not subject to physical damage:

- (1) Liquid tight flexible nonmetallic conduit
- (2) Rigid polyvinyl chloride conduit
- (3) Reinforced thermosetting resin conduit
- (4) Electrical metallic tubing where installed on or in a building
- (5) Electrical nonmetallic tubing where installed within a building
- (6) Type MC Cable where installed within a building and if not subject to corrosive environment
- (7) Nonmetallic-sheathed cable
- (8) Type SE cable

~~Exception: A feeder within a one-family dwelling or two-family dwelling unit between remote panelboard and service equipment shall be permitted to run in flexible metal conduit or an approved cable assembly that includes an insulated equipment grounding conductor within its outer sheath. The equipment grounding conductor shall comply with 250.24(A)-(5).~~

*(REASON FOR CHANGE: Carry over from previous amendments. Text changed to reflect 2014 National Electrical Code. Exception deleted per Errata No.70-14-2)*

**END**