Section 18-41. National Electrical Code – Adopted and Amended

(A) A certain document~~s~~, one copy of which is on file in the City Clerk's Office of the City of Peoria, being marked and designated as "National Electrical Code, ~~2014~~ 2017 Edition," published by the National Fire Protection Association is hereby adopted, as amended herein, as the Electrical Code of the City of Peoria.

(B) The National Electrical Code, ~~2014~~ 2017 Edition, is amended as follows:

(1) Article 210 "Branch Circuits", is hereby amended as follows:

210.8 Ground-Fault Circuit-Interrupter Protection for Personnel.

(A) Dwelling Units. All 125-volt, single-phase, 15- and 20-ampere receptacles installed in the locations specified in 210.8(A)(1) through (~~10~~11) shall have ground-fault circuit interrupter protection for personnel.

(1) Bathrooms
(2) Garages, and also accessory buildings that have a floor located at or below grade level not intended as habitable rooms and limited to storage areas, work areas, and areas of similar use.
(3) Outdoors
Exception to (3): Receptacles that are not readily available and are supplied by a branch circuit dedicated to electric snow-melting, deicing, or pipeline and vessel heating equipment shall be permitted to be installed in accordance with 426.28 or 427.22, as applicable.
(4) Crawl spaces - at or below grade level
(5) Unfinished portions or areas of the basement not intended as habitable rooms
Exception to (5): A receptacle supplying only a permanently installed fire alarm or burglar alarm system shall not be required to have ground-fault circuit-interrupter protection.
Informational Note: See 760.41(B) and 760.121(B) for power supply requirements for fire alarm systems.

Receptacles installed under the exception to 210.8(A)(5) shall not be considered as meeting the requirements of 210.52(G).

(6) Kitchens – where the receptacles are installed to serve the countertop surfaces
(7) Sinks – where receptacles are installed within 1.8m (6ft)from the top inside edge of the bowl of the sink
(8) Boathouses
(9) Bathtubs or shower stalls – where receptacles are installed 1.8m (6ft) of the outside edge of the bathtub or shower stall
(10) Laundry areas
(11) Other indoor damp and wet locations

(B)Other Than Dwelling Units. All ~~125-volt,~~ single-phase receptacles rated 150 volts to ground or less, 50 amperes or less and three-phase receptacles rated 150 volts to ground or less, 100 amperes or less installed in the following locations ~~15 and 20-ampere receptacles installed in the locations specified in 210.8(B)(1) through (8)~~ shall have ground-fault circuit-interrupter protection for personnel.

(1) Bathrooms

(2) Kitchens

(3) Rooftops

Exception: Receptacles on rooftops shall not be required to be readily accessible other than from the rooftop.

(4) Outdoors

Exception No. 1 to (3): Receptacles on rooftops shall not be required to be readily accessible other than from the rooftop.

Exception No. 2 to (3) and (4): Receptacles that are not readily accessible and are supplied by a branch circuit dedicated to electric snow-melting, deicing, or pipeline and vessel heating equipment, shall be permitted to be installed in accordance with 426.28 or 427.22, as applicable.

Exception No. 3 to (4): In industrial establishments only, where the conditions of maintenance and supervision ensure that only qualified personnel are involved, an assured equipment grounding conductor program as specified in 590.6(B)(2) shall be permitted for only those receptacle outlets used to supply equipment that would create a greater hazard if power is interrupted or having a design that is not compatible with GFCI protection

(5) Sinks – where receptacles are installed within 1.8 m (6 ft) of the outside edge of the sink

Exception No. 1 to (5): In industrial laboratories, receptacles used to supply equipment where removal of power would introduce a greater hazard shall be permitted to be installed without GFCI protection.

Exception No. 2 to (5): for receptacles located in patient bed locations of general care or critical care areas of health care facilities other than those covered under 210.8(B)(1), GFCI protection shall not be required.

(6) Indoor damp and wet locations

(7) Locker rooms with associated showering facilities

(8) Garages, service bays, and similar areas other than vehicle exhibition halls and showrooms

210.52(G)(1) Garages. In each attached garage and in each detached garage with electric power, at least one receptacle outlet shall be installed in each vehicle bay ~~and~~ at not less than (18) inches and not more than 1.7m (51/2 ft) above the floor.

(2) Article 250 “Grounding and Bonding”, is hereby amended as follows:

250.118 Types of Equipment Grounding Conductors.

The equipment grounding conductor run with or enclosing the circuit conductors shall be one or more or a combination of the following:

(1) A copper, aluminum, or copper-clad aluminum conductor. This conductor shall be solid or stranded; insulated, covered, or bare; and in the form of a wire or a busbar of any shape.
(2) Rigid metal conduit.
(3) Intermediate metal conduit.
(4) Electrical metallic tubing with an additional equipment grounding conductor.
(5) Listed flexible metal conduit meeting all the following conditions:
a. The conduit is terminated in listed fittings.
b. The circuit conductors contained in the conduit are protected by overcurrent devices rated at 20 amperes or less.
c. The combined length of flexible metal conduit and flexible metallic tubing and liquid tight flexible metal conduit in the same ground-fault current path does not exceed 1.8 m (6 ft).
d. If used to connect equipment where flexibility is necessary to minimize the transmission of vibration from equipment or to provide flexibility for equipment that requires movement after installation, an equipment grounding conductor shall be installed.
(6) Listed liquid tight flexible metal conduit meeting all the following conditions:
a. The conduit is terminated in listed fittings.
b. For metric designators 12 through 16 (trade sizes 3/8 through 1/2), the circuit conductors contained in the conduit are protected by overcurrent devices rated at 20 amperes or less.
c. For metric designators 21 through 35 (trade sizes 3/4 through 1-1/4), the circuit conductors contained in the conduit are protected by overcurrent devices rated not more than 60 amperes and there is no flexible metal conduit, flexible metallic tubing, or liquid tight flexible metal conduit in trade sizes metric designators 12 through 16 (trade sizes 3/8 through 1/2) in the ground-fault current path.
d. The combined length of flexible metal conduit and flexible metallic tubing and liquid tight flexible metal conduit in the same ground-fault current path does not exceed 1.8 m (6 ft).
e. If used to connect equipment where flexibility is necessary to minimize the transmission of vibration from equipment or to provide flexibility for equipment that requires movement after installation, an equipment grounding conductor shall be installed.

(7) Flexible metallic tubing where the tubing is terminated in listed fittings and meeting the following conditions:

a. The circuit conductors contained in the tubing are protected by overcurrent devices rated at 20 amperes or less.

b. The combined length of flexible metal conduit and flexible metallic tubing and liquid tight flexible metal conduit in the same ground-fault current path does not exceed 1.8 m (6 ft).

(8) Armor of Type AC cable as provided in 320.108.

(9) The copper sheath of mineral-insulated, metal-sheathed cable.

(10) Type MC cable that provides an effective ground-fault current path in accordance with one or more of the following:

a. It contains an insulated or uninsulated equipment grounding conductor in compliance with 250.118(1)

b. The combined metallic sheath and uninsulated equipment grounding/bonding conductor of interlocked metal tape–type MC cable that is listed and identified as an equipment grounding conductor

c. The metallic sheath or the combined metallic sheath and equipment grounding conductors of the smooth or corrugated tube-type MC cable that is listed and identified as an equipment grounding conductor

(11) Cable trays as permitted in 392.10 and 392.60.

(12) Cablebus framework as permitted in 370.3.

(13) Other listed electrically continuous metal raceways and listed auxiliary gutters.

(14) Surface metal raceways listed for grounding

(3) Article 310 “Conductors for General Wiring” is hereby amended as follows:

310.15(B)(7) <u>120/240-Volt,</u> Single-Phase Dwelling Services and Feeders. For one-family dwellings and the individual dwelling units of two-family and multifamily dwellings, service and feeder conductors supplied by a single-phase, 120/240-volt system shall be permitted to be sized in accordance with 310.15(B)(7)(1) through (4).

~~For one-family dwellings and the individual dwelling units of two-family and multifamily dwellings, single-phase feeder conductors consisting of 2 ungrounded conductors and the neutral conductor from a 208Y/120-volt system shall be permitted to be sized in accordance with 310.15(B)(7)(1) through (3).~~

(1) For a service rated 100 through 400 amperes, the service conductors supplying the entire load associated with a one-family dwelling, or the service conductors supplying the entire load associated with an individual dwelling unit in a two-family or multifamily dwelling, shall be permitted to have an ampacity not less than 83 percent of the service rating.

(2) For a feeder rated 100 through 400 amperes, the feeder conductors supplying the entire load associated with a one-family dwelling, or the feeder conductors supplying the entire load associated with an individual dwelling unit in a two-family or multifamily dwelling, shall be permitted to have an ampacity not less than 83 percent of the feeder rating.

(3) In no case shall a feeder for an individual dwelling unit be required to have an ampacity greater than that specified in 310.15(B)(7)(1) or (2).

(4) Grounded conductors shall be permitted to be sized smaller than the ungrounded conductors, if the requirements of 220.61 and 230.42 for service conductors or the requirements of 215.2 and 220.61 for feeder conductors are met. Where correction or adjustment factors are required by 310.15(B)(2) or (3), they shall be permitted to be applied to the ampacity associated with the temperature rating of the conductor.

Informational Note No. 1: The service or feeder ratings addressed by this section are based on the standard ampacity ratings from 240.6(A).

Informational Note No. 2: See Example D7 in Annex D.

(4) Article 334, "Nonmetallic-Sheathed Cables: Types NM, NMC, and NMS", is hereby amended as follows:

334.10 Uses Permitted.

Type NM, Type NMC, and Type NMS cables shall be permitted to be used in the following, except as prohibited in 334.12:

(1) One- and two-family dwellings and their attached or detached garages, and their storage buildings.

(2) Multifamily dwellings permitted to be of Types III, IV, and V construction

(3) Other dwelling unit accessory buildings and structures in accordance with 334.10(1) and (2) ~~and other provisions of this Code~~.

Informational Note No. 1: Types of building construction and occupancy classifications are defined in NFPA 220-2012, *Standard_on Types of Building Construction*, or the applicable building code, or both.

Informational Note No. 2: See Informative Annex E for determination of building types [NFPA 220, Table 3-1].

(4) Cable trays in <u>dwelling</u> structures ~~permitted to be Types III, IV, or V~~ in accordance with 334.10(1) and (2) where the cables are identified for the use.

Informational Note: See 310.15(A)(3) for temperature limitation of conductors.

~~e~~(5) Types I and II construction in accordance with 334.10(1) and (2) where installed within raceways permitted to be installed in Types I and II construction.

(A) Type NM. Type NM cable shall be permitted as follows:

(1) For both exposed and concealed work in normally dry locations except as prohibited in 334.10(3).

(2) To be installed or fished in air voids in masonry block or tile walls

(B) Type NMC. Type NMC cable shall be permitted as follows:

(1) For both exposed and concealed work in dry, moist, damp, or corrosive locations, except as prohibited by 334.10(3).

(2) In outside and inside walls of masonry block or tile

(3) In a shallow chase in masonry, concrete, or adobe protected against nails or screws by a steel plate at least 1.59 mm (1/16 in.) thick and covered with plaster, adobe, or similar finish

C) Type NMS. Type NMS cable shall be permitted as follows:

(1) For both exposed and concealed work in normally dry locations except as prohibited in 334.10(3)

(2) To be installed or fished in air voids in masonry block or tile walls

~~**334.12 Uses Not Permitted.**~~

~~**(A) Types NM, NMC, and NMS.** Types NM, NMC, and NMS cables shall not be permitted as follows:~~

~~(1) In any dwelling or structure not specifically permitted in 334.10(1), (2), and (3)~~

~~(2) As service-entrance cable~~

~~(3) In hoistways or on elevators or escalators~~

~~(4) Embedded in poured cement, concrete, or aggregate~~

~~**B) Types NM and NMS.** Types NM and NMS cables shall not be used under the following conditions or in the following locations:~~

~~(1) Where exposed to corrosive fumes or vapors~~

~~(2) Where embedded in masonry, concrete, adobe, fill, or plaster~~

~~(3) In a shallow chase in masonry, concrete, or adobe and covered with plaster, adobe, or similar finish~~

~~(4) In wet or damp locations~~