4101:8-34-01 *Electrical.*

[Comment: When a reference is made within this rule to a federal statutory provision, an industry consensus standard, or any other technical publication, the specific date and title of the publication as well as the name and address of the promulgating agency are listed in rule 4101:8-44-01 of the Administrative Code. The application of the referenced standards shall be limited and as prescribed in section 102.5 of rule 4101:8-1-01 of the Administrative Code.]

SECTION 3401
ELECTRICAL

3401.1 *Electrical.* *The provisions of the National Electrical Code, NFPA 70, shall be incorporated herein and shall govern the installation, testing and operation of the electrical systems of one-, two- and three-family dwellings and their accessory structures except for the following:*

1. ***Section 210.8(A)(2) shall be modified to read:***

   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 *except for the receptacle located to serve a garage door opener when the device is a single receptacle and located in the ceiling.*

2. ***Section 210.8(A)(5) shall be modified to read:***

   Unfinished portions or areas of the basement not intended as habitable rooms.

   Exceptions:

   1. A receptacle supplying only a permanently installed fire alarm or burglar alarm system shall not be required to have ground-fault circuit-interrupter protection.
   2. *A single receptacle located to serve a sump pump shall not be required to have ground-fault circuit-interrupter protection when there is a duplex receptacle with ground-fault circuit-interrupter protection within six (6) feet of the sump pump.*

3. ***Section 210.8(D) shall be deleted.***

4. ***Section 210.12(A) shall be modified to read:***

All 120-volt single-phase, 15- and 20-ampere branch circuits supplying outlets or devices installed in dwelling unit kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sun rooms, recreational rooms, closets, hallways, laundry rooms, or similar rooms or areas shall be protected by any of the means described in 210.12(A)(1) through (6):

(l) A listed combination-type arc-fault circuit interrupter, installed to provide protection of the entire branch circuit.

(2) A listed branch/feeder-type AFCI installed at the origin of the branch-circuit in combination with a listed outlet branch-circuit type arc-fault circuit interrupter installed at the first outlet box on the branch circuit. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet of the circuit.

(3) A listed supplemental arc protection circuit breaker installed at the origin of the branch circuit in combination with a listed outlet branch-circuit type arc-fault circuit interrupter installed at the first outlet box on the branch circuit where all of the following conditions are met:

a. The branch-circuit wiring shall be continuous from the branch-circuit overcurrent device to the outlet branch-circuit arc-fault circuit interrupter.

b. The maximum length of the branch-circuit wiring from the branch-circuit overcurrent device to the first outlet shall not exceed 15.2 m (50 ft.) for a 14 AWG conductor or 21.3 m (70 ft.) for a 12 AWG conductor.

c. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet of the circuit.

(4) A listed outlet branch-circuit type arc-fault circuit interrupter installed at the first outlet on the branch circuit in combination with a listed branch-circuit overcurrent protective device where all of the following conditions are met:

a. The branch-circuit wiring shall be continuous from the branch-circuit overcurrent device to the outlet branch-circuit arc-fault circuit interrupter.

b. The maximum length of the branch-circuit wiring from the branch-circuit overcurrent device to the first outlet shall not exceed 15.2 m (50 ft.) for a 14 AWG conductor or 21.3 m (70 ft.) for a 12 AWG conductor.

c. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet of the circuit.

d. The combination of the branch-circuit overcurrent device and outlet branch-circuit AFCI shall be identified as meeting the requirements for a system combination-type AFCI and shall be listed as such.

(5) If RMC, IMC, EMT, Type MC, or steel-armored Type AC cables meeting the requirements of 250.118, metal wireways, metal auxiliary gutters, and metal outlet and junction boxes are installed for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, it shall be permitted to install a listed outlet branch-circuit type AFCI at the first outlet to provide protection for the remaining portion of the branch circuit.

(6) Where a listed metal or nonmetallic conduit or tubing or Type MC cable is encased in not less than 50 mm (2 in.) of concrete for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, it shall be permitted to install a listed outlet branch-circuit type AFCI at the first outlet to provide protection for the remaining portion of the branch circuit.

Exception *No 1*: Where an individual branch circuit to a fire alarm system installed in accordance with 760.41(B) or 760.121(B) is installed in RMC, IMC, EMT, or steel-sheathed cable, Type AC or Type MC, meeting the requirements of 250.118, with metal outlet and junction boxes, AFCI protection shall be permitted to be omitted.

Exception No. 2: Branch circuits supplying receptacle outlets installed to serve only the kitchen countertop surfaces shall be permitted to be installed without arc-fault circuit interrupter protection.

5. ***Section 210.64 shall be modified to read:***

At least one 125-volt, single-phase, 15- or 20-ampere-rated receptacle outlet shall be installed in an accessible location within 7.5m (25 ft.) of the indoor electrical service equipment. The required receptacle outlet shall be located within the same room or area as the service equipment.

Exception No. 1: The receptacle outlet shall not be required to be installed in one-, two-, *or three*-family dwellings.

Exception No. 2: Where the service voltage is greater than 120 volts to ground, a receptacle outlet shall not be required for services dedicated to equipment covered in Articles 675 and 682.

SECTION 3402
EMERGENCY AND STANDBY POWER SYSTEMS

3402.1 ***Installation.*** *Emergency and standby power systems shall be installed in accordance with this code and NFPA 70. The performance, classification, transfer, testing, and maintenance of emergency and standby power systems shall also comply with either NFPA 110 (liquid- and gas- fueled systems) or NFPA 111 (battery and inertia systems), as applicable.*

3402.1.1 Stationary generators. *Stationary emergency and standby power generator assemblies shall be listed in accordance with UL 2200.*

3402.1.1.1 Engine-driven generators. *The installation of liquid- and gas-fueled stationary internal combustion engines and gas turbines used to drive generator assemblies shall meet the requirements of NFPA 37.*

3402.1.1.1.1 Fuel tanks connected to generator assemblies. *Fuel tanks piped to and supplying fuel for engine-driven generator assemblies may be engine-mounted, located inside of a building, outside of a building, or on a roof in accordance with NFPA 37 or NFPA 30.*

3402.1.1.1.1.1 Engine-mounted tanks. *Engine-mounted tanks located outdoors may be located in accordance with Section 4.1.4 of NFPA 37 and shall be vented in accordance with NFPA 30. Engine-mounted tanks shall be provided with adequate clearance to enable filling, maintenance, and testing, shall be safeguarded against public access, and shall be protected from impact.*

3402.1.1.1.1.2 Other fuel tanks. *Fuel tanks, other than engine-mounted tanks, piped to and supplying the generator engine shall be located, installed, and vented in accordance with the applicable sections of NFPA 37 or located, installed, and vented in accordance with NFPA 30.*

3402.1.1.1.2 Gaseous fuel supply. *Where an internal combustion engine supplied with gaseous fuel powers emergency or standby generators, the fuel gas storage and piping system shall comply with NFPA 37 and Chapter 24.*

Replaces:	4101:8-34-01
Effective:	7/1/2019
Five Year Review (FYR) Dates:	07/01/2024

CERTIFIED ELECTRONICALLY

Certification

12/14/2018

Date

Promulgated Under:	119.03
Statutory Authority:	3781.10(A)(1)
Rule Amplifies:	3781.01, 4740.14, 3791.04, 3781.11, 3781.10, 3781.06
Prior Effective Dates:	01/01/2013, 01/01/2016