

2015 CEC[®]
CODE CHANGES
RELATED TO
WIRING DEVICES &
CABLE MANAGEMENT

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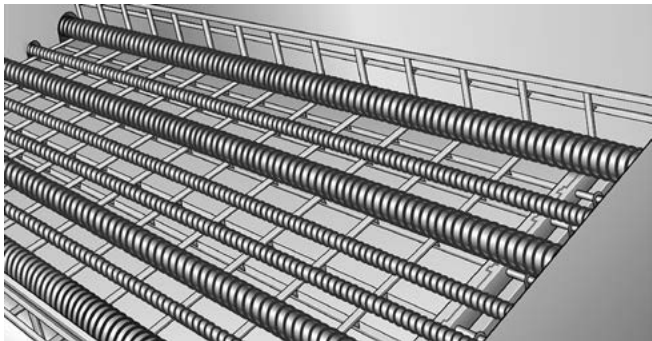
 **legrand[®]**

TABLE OF CONTENTS

Rule 12-904, Subrule (2) Conductors in Raceways	1
Rule 12-2200, Subrule (7) Method of Installation: Cable Trays	2
Rule 12-2208, Subrules (3) and (4) Provisions for Bonding Cable Tray Systems	3
Rule 12-3000, Subrule (10) and Rule 12-3002, Subrule (2) Floor Boxes and Flush-Mounted Covers	4
Rule 12-3016, Subrules (3) and (4) Outlet Boxes, Cabinets and Fittings	5
Rule 24-106, Subrule (7) Receptacles in Basic Care Areas	6
Rule 26-700, Subrule (13) General Requirements: Receptacles	7
Rule 26-702, Subrules (2) and (3) Receptacles Exposed to the Weather	8
Rule 26-712, Item (a) and Requirement (vi) under Item (d) Receptacles for Dwelling Units	9
Rule 26-720 Special Terminology	10
Rule 26-724, Item (e) Branch Circuits for Dwelling Units	11

TABLE OF CONTENTS

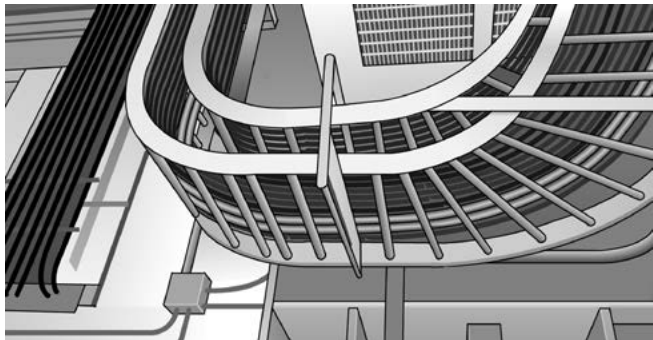
Rule 26-724, Item (f) Branch Circuits for Dwelling Units	12
Rule 26-724, Item (g) Branch Circuits for Dwelling Units	13
Rule 66-404 Receptacles	14
Rule 66-456, Subrule (2)(c) Single-conductor cable connections	15
Rule 66-456, Subrules (5) and (6) Single-conductor cable connections	16
Rule 68-202, Subrule (1) (b) Pumps	17
Rule 78-052, Subrule (4) Marinas and Yacht Clubs – Receptacles	18
Rule 78-102, Subrule (3) Marine Wharves, Structures and Fishing Harbours – Receptacles	19
Rule 86-300, Subrules (2) and (3) Electric Vehicle Charging Systems – Control and Protection	20
Rule 86-306 Receptacles for Electric Vehicle Supply Equipment	21
Rule 86-400 Electric Vehicle Supply Equipment Locations – Indoor Charging Sites	22

RULE 12-904, SUBRULE (2)**Conductors in Raceways**

- **Conductors that are connected to different power or distribution transformers or other different sources of voltage are allowed to be contained within cable tray.**

The intent of Subrule (2) within Rule 12-904 is to prevent conductors connected to different power or distribution transformers or other different sources of voltage from becoming crossed and impressing another voltage on a circuit. This is accomplished by prohibiting these different voltage source conductors from being installed in the same raceway or compartment channel of a multiple-channel raceway.

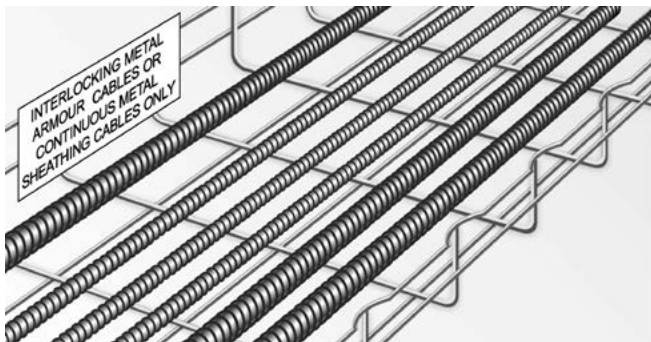
However, a change to Subrule (2) now exempts conductors that are run in cable tray, provided that they meet the installation requirements summarized within the content of Rule 12-2202.

RULE 12-2200, SUBRULE (7)**Method of Installation: Cable Trays**

- **Cable trays shall be permitted to have reduced clearances through chases, under gratings and process pipes, and around other such obstructions.**

Although the proceeding Subrule (6) of Rule 12-2200 requires that adequate working clearances be provided to provide access to cable tray installations, modular assemblies such as natural gas compressor stations and gas plants may be required to have the electrical installation completed using a cable and cable tray as the wiring method. Due to the constraints of space in these units and within similar installations, it is often difficult to maintain these clearances as outlined. As a result, Subrule (7) now allows for reduced clearances in installations where the cable tray passes through chases, under grating, under process pipes and around other similar obstructions.

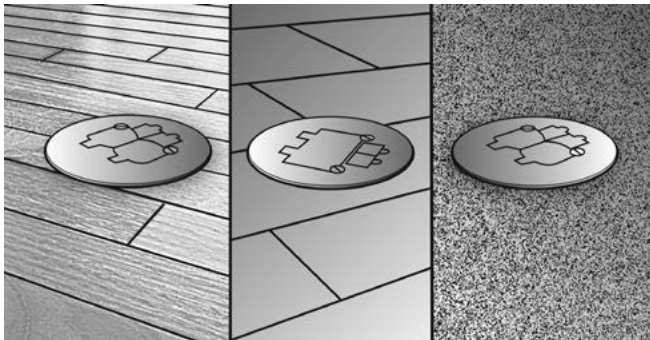
Provisions for Bonding Cable Tray Systems



- A new exception allowing metal cable tray to not be bonded to ground has been added.

While taking care to ensure that cable trays are installed as a complete system before any conductors or cables are run, metal cable tray is not required to be bonded to ground where all of the cables contained within the tray either have an interlocking metal armour, or have a continuous metal sheath that is permitted to be used as a bonding method.

All metal cable trays that are not bonded due to this exception must be conspicuously marked with this warning notice: "INTERLOCKING METAL ARMOUR CABLES OR CONTINUOUS METAL SHEATH CABLES ONLY".

RULE 12-3000, SUBRULE (10) AND RULE 12-3002, SUBRULE (2)**Floor Boxes and Flush-Mounted Covers****■ New requirements for installations of floor boxes and flush-mount floor box covers.**

Rule 12-3000, Subrule (10) was added to specify that floor boxes (similar to existing installation requirements of cabinets, outlets and terminal fittings) are also to be installed in accordance with the manufacturer's installation instructions for the type of floor intended, as well as the requirement that these instructions are to be provided with the floor box product. Similarly, Rule 12-3002, Subrule (2) was added to establish a requirement that flush-mounted floor box covers are to be specifically approved for the type of floor, with accompanying instructions.

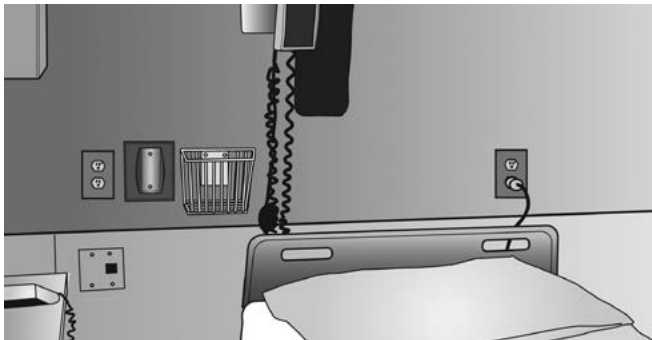
The illustration above depicts flush-mount floor box covers for these flooring types:

1. Hardwood floor
2. Laminate floor
3. Carpet floor

RULE 12-3016, SUBRULES (3) AND (4)**Outlet Boxes, Cabinets and Fittings**

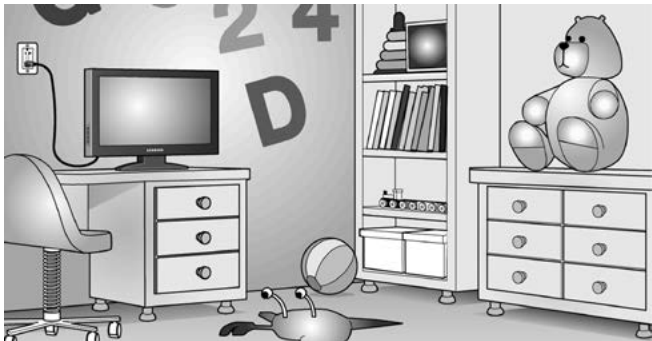
- **Installation requirements addressing environmental ingress protection has been expanded to include wet locations.**

New Subrule (3) requires that wet location cover plates are to be installed to ensure that the intended seal between the outlet box and the cover prevents exterior elements from entering the enclosure and causing corrosion. Correspondingly, new Subrule (4) requires that flush boxes, cabinets and fittings are to be of a type suitable for the intended locations, including those installation environments considered to be wet locations.

RULE 24-106, SUBRULE (7)**Receptacles in Basic Care Areas**

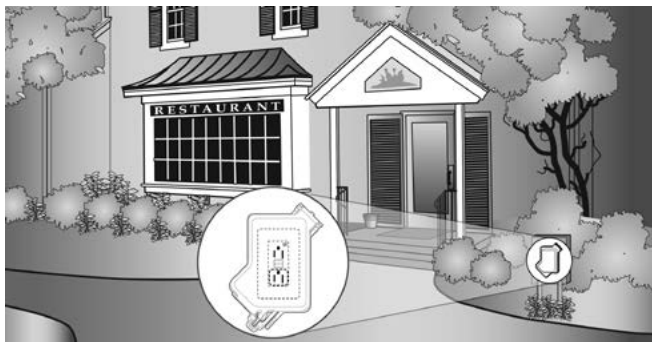
- **Isolated ground receptacles are no longer permitted in basic care areas.**

Subrule (7) was added to disallow the use of isolated ground type receptacles in basic care areas, as there was concern that redundant grounding required in these areas may not be adequately achieved when using isolated ground receptacles.

RULE 26-700, SUBRULE (13)**General Requirements: Receptacles**

- **Receptacles considered to be inaccessible are not required to be tamper resistant.**

When receptacles of CSA configurations 5-15R and 5-20R are for dedicated stationary appliances or installed over 2 m from the floor or finished grade, they are deemed to be inaccessible to children. New Subrule (13) provides this exemption to Subrule (12) that pertains to child care facilities; receptacles that are located as described here within these locations are not required to be tamper resistant.

RULE 26-702, SUBRULES (2) AND (3)**Receptacles Exposed to the Weather**

- **New marking requirements and broader usage opportunities for these environments.**

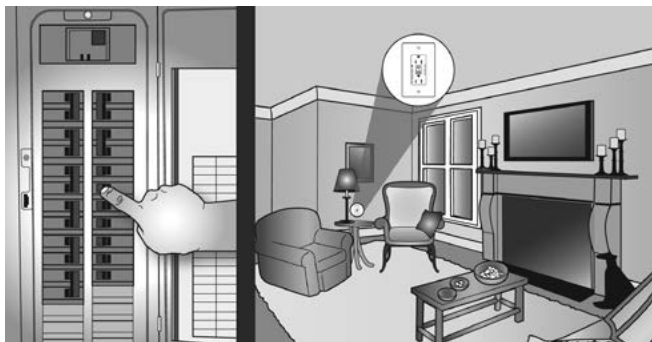
Subrule (2) now requires that receptacles exposed to the weather of CSA configurations 5-15R, 5-20R, 5-20RA, 6-15R, 6-20R and 6-20RA that are provided with cover plates suitable for wet locations whether or not a plug is inserted into the receptacle are to be marked "Extra Duty", with the marking to be visible after installation. Subrule (3) now permits the covers for these same CSA configurations to be marked "Wet Location Only When Cover Closed" or equivalent when: (a) installed facing downward at an angle of at least 45° or less from the horizontal, or (b) installed at least 1 m above finished grade and not in a wet location.

RULE 26-712, ITEM (A) AND REQUIREMENT (VI) UNDER ITEM (D)**Receptacles for Dwelling Units****■ Clarifications to ensure that there are the required number of receptacles installed in kitchens.**

Rule 26-712 provides details for all the locations in dwellings where receptacles are required, with the intent being to ensure an adequate quantity of receptacles are installed throughout to facilitate the use of electrical appliances while simultaneously minimizing the usage of extension cords. Item (a) and Requirement (vi) under Item (d) have been clarified and aligned to ensure that the method of “determining layout of receptacles in finished walls” as summarized within Rule 26-712, Item (a) is also utilized when referencing dining areas and remaining finished walls that form parts of kitchens as described in Requirement (vi) under Item (d). Prior language required a minimum of one duplex receptacle to be installed within these areas, when in fact the layout method that shall apply in these applications may actually require additional devices.

RULE 26-720

Special Terminology



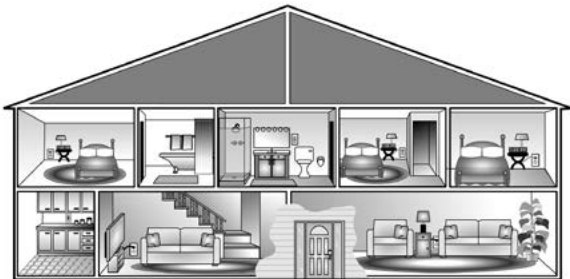
- **Definitions for arc-fault protection and related products are provided here.**

Pertaining to branch circuits for residential occupancies, the terms arc-fault protection, combination-type arc-fault circuit interrupter and outlet branch-circuit-type arc-fault circuit interrupter are all defined here, as their usage within residential branch circuit applications is becoming more prevalent.

RULE 26-724, ITEM (E)**Branch Circuits for Dwelling Units**

- **Receptacles on individual branch circuits are to be installed in accordance with amended Rule 26-712 (d) (vi).**

Formerly addressed in Rule 26-722, Item (e), Rule 26-724, Item (e) provides for alignment with amended Rule 26-712 (d)(vi) by requiring that an individual branch circuit be provided for receptacles installed in dining areas forming parts of a kitchen to allow for the use of high-wattage appliances.

RULE 26-724, ITEM (F)**Branch Circuits for Dwelling Units**

- **Significant expansion within the residential occupancy where AFCI protection is required.**

Whereas the earlier Rule 26-722, Item (f) was limited to sleeping facilities within a dwelling unit, amended Rule 26-724, Item (f) now requires that all branch circuits supplying 125V receptacles rated 20A or less be protected by a combination-type AFCI as defined in Rule 26-720. The few exceptions to this rule include those areas where the circuits are required to have ground-fault protection (washrooms, kitchen counter work surfaces), and those areas where there is some likelihood that a nuisance trip would go unnoticed (receptacles for kitchen refrigeration and sump pump applications).

Branch Circuits for Dwelling Units



- **Allows for the use of outlet branch-circuit-type arc-fault circuit interrupter (OBC AFCI).**

In lieu of the combination-type arc-fault circuit interrupter required in amended Rule 26-724, Item (f), Item (g) summarized here now allows an OBC AFCI to be used, provided that it is installed at the first outlet on the branch circuit, and the wiring method for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet consists of metal raceway, armoured cable or non-metallic conduit or tubing to provide for added mechanical protection for the circuit conductors.

RULE 66-404

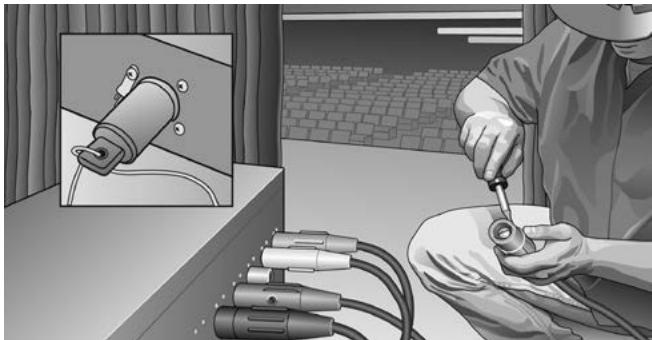
Receptacles



- **New rule for receptacles located in midways, carnivals, fairs and festivals.**

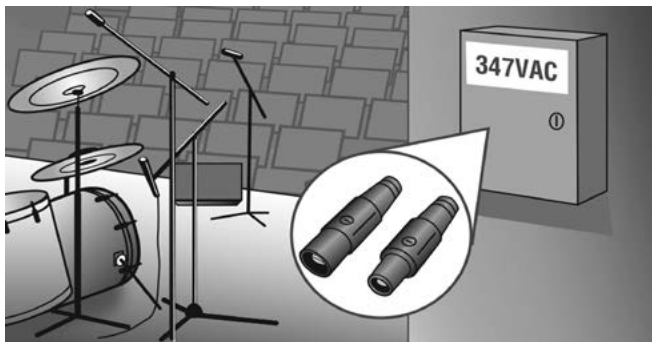
Receptacles having CSA configuration 5-15R or 5-20R that are installed in traveling midways, carnivals, fairs and festivals that are intended to supply loads in outdoor or damp locations shall be protected by a Class A GFCI. Many of these applications utilize cord and plug-connected equipment, where cords are commonly placed or are run through damp and wet locations.

Single-conductor cable connections

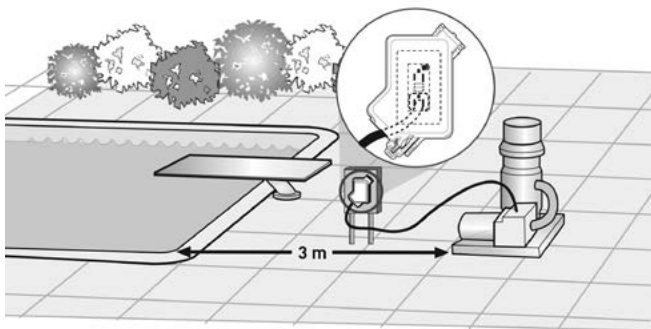


- **New requirement for seal or cap while connector is not in use.**

Plug-in connectors for single-conductor cables are still to be of a locking type, and to either incorporate a mechanical interlock to prevent wrong connections or to be colour-coded; however, a new added requirement is that all connections that are not in use are to be covered with an acceptable seal or cap.

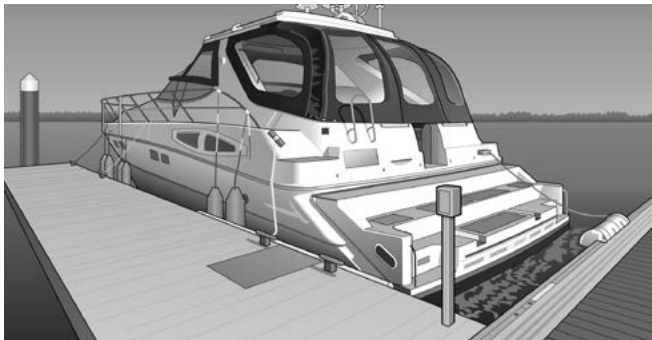
RULE 66-456, SUBRULES (5) AND (6)**Single-conductor cable connections****■ New installation subrules added to Rule 66-456.**

Inline single-pin connectors are available in ratings above 150 volts-to-ground. These devices, commonly used in the entertainment field, are rated up to 600 V and are used in certain situations to carry other than 120/208 V on an entertainment set or location. Because the same connector can be used on different voltage systems, there is a potential hazard arising from cross-connecting different voltage systems. For mechanical protection, new Subrule (5) requires that connections that form part of a circuit greater than 150 volts-to-ground be enclosed in a lockable non-conductive box or similar enclosure. New Subrule (6) (a) requires that the lockable enclosure be labeled on the outside with the system voltage, while new Subrule (6) (b) requires that the enclosure be acceptable to the AHJ.

RULE 68-202, SUBRULE (1) (B)**Pumps**

- **Required to be protected by a Class A GFCI.**

Rule 68-202, Subrule (1)(b) is clarified to require that swimming pool pumps be protected by a Class A GFCI if located within 3 m of the inside walls of the pool, and not suitably separated from the pool area by a fence, wall or other permanent barrier.

RULE 78-052, SUBRULE (4)**Marinas and Yacht Clubs – Receptacles**

- **All receptacles are to be protected by a Class A GFCI.**

The previous exception that did not require receptacles of CSA configuration L5-15R and L5-20R supplying shore power to boats to be Class A GFCI protected has now been removed. All receptacles rated at 125 V, 15 A or 20 A installed in conformance with Subrule (1) of Rule 78-052 are to be Class A GFCI protected.

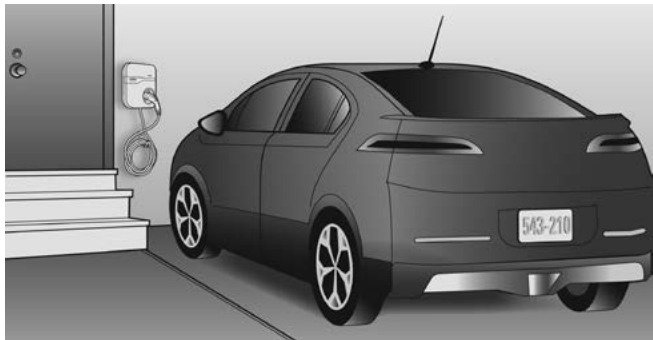
RULE 78-102, SUBRULE (3)

Marine Wharves, Structures and Fishing Harbours – Receptacles



- All receptacles are to be protected by a Class A GFCI.

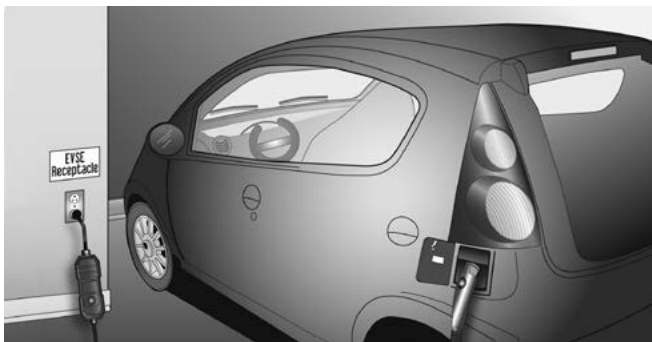
The previous exception that did not require receptacles that were utilized to supply shore power to boats to be Class A GFCI protected has now been removed. All receptacles rated at 125 V, 15 A or 20 A installed in conformance with Subrule (1) of Rule 78-102 are to be Class A GFCI protected.

RULE 86-300, SUBRULES (2) AND (3)**Electric Vehicle Charging Systems – Control and Protection****■ New subrules added pertaining to electric vehicle supply equipment (EVSE) supplied by separate branch circuits under Rule 86-300.**

EVSE requires a dedicated circuit to prevent overload and subsequent nuisance tripping of overcurrent protection on the branch circuit that supplies the charging system. EVSE can draw high currents for fast charging; if a Level 2 EVSE requiring a 240V, 30A circuit is to be installed, there may not be enough capacity remaining to add this as a new branch circuit to an existing 100A panel. Owing to the fact that there may be insufficient capacity in the power distribution system to accommodate a new dedicated branch circuit just for this purpose, there is now an exception provided in new Subrule (2). This allows the EVSE to be connected to a branch circuit supplying other load(s), given controls are in place to prevent the calculated demand of the circuit from being exceeded to ensure the circuit is not overloaded.

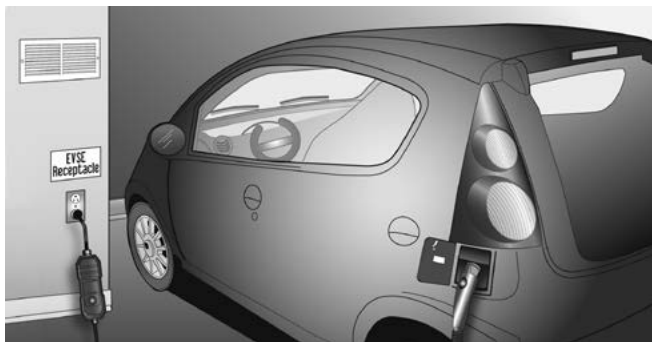
New Subrule (3) requires that for all exceptions permitted in new Subrule (2), the requirements in 2015 CE Code, Part 1: Section 8 — Circuit Loading and Demand Factors must be used to calculate demand. A specific requirement related to this exception in Subrule 8-106(2) requires that where two or more loads are switched so that only one can be used at a time, the load with greatest demand shall be used to determine the calculated demand.

Receptacles for Electric Vehicle Supply Equipment



- **Prior references to “electric vehicle charging equipment” within Rule 86-306 have been changed to “electric vehicle supply equipment”.**

Each receptacle that is to be used for charging an electric vehicle must be labeled in a legible and permanent manner identifying it as an EVSE receptacle. Other requirements include that the receptacle must be a CSA 5-20R single receptacle supplied by a 20 A, 125 V branch circuit, or an appropriate CSA configured receptacle referenced from 2015 CE Code, Part 1: Diagrams 1 or 2 when the branch circuit is rated more than 20 A or more than 125 V. In addition, the receptacle is to be protected by a Class A Type GFCI when installed outdoors within 2.5 m of finished grade.

RULE 86-400**Electric Vehicle Supply Equipment Locations – Indoor Charging Sites**

- **Prior references to “electric vehicle charging equipment” within Rule 86-400 have been changed to “electric vehicle supply equipment”.**

Where electric vehicles are charged indoors, ventilation must be provided if required by the manufacturer’s instructions for the electric vehicle or the EVSE. Depending upon the type of batteries utilized by the electric vehicle, adequate ventilation must be provided to prevent any dangerous accumulation of hazardous gas.

Within Rule 86-400, requirements include for the provision of an electrical interlock ensuring the ventilation equipment is operating when the EVSE is operating, as well as the functionality that the EVSE must be turned off if the supply to the ventilation equipment is interrupted.

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