Upcoming Changes to the CEC 2015 Edition
Already Approved by Unanimous Vote
Not Required to be Considered in Charlottetown in June

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SCC Conference June 2014 - Banff, AB
SUBCOMMITTEE RECOMMENDATION FOR PART I BALLOT

Subject No. 3457-74

Amend Subrule 74-004(3) as shown:

74-004  Wiring methods – (see Appendix B)

“

(3) For installations covered by this Section of the Code, in areas not accessible to the public, single conductors and cable assemblies shall be of the type indicated in Table 19 selected in accordance with Rule 4-008(1) as suitable for direct earth burial and shall be installed as follows:

(no change to remainder of Subrule)
SUBCOMMITTEE RECOMMENDATION FOR PART I BALLOT

Subject No. 3768-16

Revise Rule 16-116 and Item 16-210(2)(d) as shown.

16-116 Mechanical protection of remote control circuits
Where mechanical damage to a remote control circuit would result in a hazardous condition as outlined in Rule 16-010, all conductors of such remote control circuits shall be installed in conduit, electrical metallic tubing, or be otherwise suitably protected from mechanical injury damage or other injurious harmful conditions such as moisture, excessive heat, or corrosive action.

16-210 Conductors for Class 2 circuit wiring (see Appendix B)

(2) Type ELC conductors shall be limited in use to

(d) where concealed or exposed, when not subject to mechanical injury damage.
SUBCOMMITTEE RECOMMENDATION FOR PART I BALLOT

Subject No. 3833

62-308 Heating cable sets installed on or wrapped around surfaces

(1) Heating cable sets installed on or wrapped around surfaces shall be secured in place by suitable fastening devices that will not damage the heating unit and that are suitable for the temperature involved.

(2) Heating cable sets wrapped over valves, equipment, or expansion joints in piping systems shall be installed in such a manner as to avoid damage when movement occurs at these areas.

(3) The metal braid or sheath of each heating cable set shall be bonded to ground.
SUBCOMMITTEE RECOMMENDATION FOR PART I BALLOT

Subject No. 3834

Delete 62-314(2)

62-314 Heating panel sets installed on tanks, vessels, or pipes for industrial application

(1) Heating panel sets shall be secured in place by suitable fastening devices.
(2) The metal covering of each heating panel set shall be bonded to ground
SUBCOMMITTEE RECOMMENDATION FOR PART I BALLOT

Subject No. 3839

Revise Rule 62-100 as shown.

62-100 General Rules
Rules 62-102 to 62-130 apply to both fixed space and surface all heating installations, except where specifically noted.
SUBCOMMITTEE RECOMMENDATION FOR PART I LETTER BALLOT

Subject No. 3795

Revise Table 65 as shown with the understanding that the change will not be included in the CE Code until after the changes are included in CSA Standards C22.2 No 94.1 and C22.2 No 94.2 and adopted by the Integrated Committee for Industrial Enclosures.

Table 65

Enclosure selection table for non-hazardous locations
(See Rules 2-400 and 2-402.)

<table>
<thead>
<tr>
<th>Provides a degree of protection against the following environmental conditions</th>
<th>Indoor use</th>
<th>Indoor / outdoor use</th>
<th>Submersible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accidental contact with live parts</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Falling dirt</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Dripping and light splashing of non-corrosive liquids</td>
<td>—</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Circulating dust, lint, fibres, and flyings</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Settling dust, lint, fibres, and flyings</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Hosedown and splashing water</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Corrosion</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Occasional temporary submersion</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Occasional prolonged submersion</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Oil and coolant seepage, spraying and splashing</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Rain, snow, and external formation of ice†</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>External formation of ice§</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Wind-blower dust</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

* Without knockouts.
† With knockouts.
‡ External operating mechanism(s) is not required to operate when the enclosure is ice covered.
§ External operating mechanism(s) shall be operable when the enclosure is ice covered.
SUBCOMMITTEE RECOMMENDATION FOR PART I BALLOT

Subject No. 3842

Revise Subrule 62-114(6) as shown.

62-114 Overcurrent protection and grouping (see Appendix B)

(6) Where a service, feeder, or branch circuit is used solely for the supply of energy to heating equipment device sets, the load, as determined using Rule 62-116, shall not exceed

(a) 100% of the rating or setting of the overcurrent devices protecting the service conductors, feeder conductors, or branch circuit conductors when the fused switch or circuit breaker is marked for continuous operation at 100% of the ampere rating of its overcurrent devices; or
(b) 80% of the rating or setting of the overcurrent devices protecting the service conductors, feeder conductors, or branch circuit conductors when the fused switch or circuit breaker is marked for continuous operation at 80% of the ampere rating of its overcurrent devices.
SUBCOMMITTEE RECOMMENDATION FOR PART I BALLOT

Subject No. 3851

(A) Delete reference to Appendix B from 62-400

62-400 Heating cable sets installed in pipes, ducts, or vessels (see Appendix B)

(B) Move Appendix B note and associated Table from 62-400 to 62-102

Rule 62-400 62-102

Usage marking of heating devices and cross-references to Table 60 of the Canadian Electrical Code, Part I (18th edition, 1998) — Heating cable set type designations and applications

(No change to table)
SUBCOMMITTEE RECOMMENDATION FOR PART I BALLOT

Subject No. 3853

(A) Change title of proposed Rule 62-111

62-111 Installation of heating devices—Temperature of adjacent combustible materials

Heating devices shall be installed so that any adjacent combustible materials shall not be subjected to temperatures in excess of 90 °C.

(B) Delete Subrule 62-122(3)

62-122 Installation of series heating cable sets

(1) The heating portion of a series heating cable set shall not be shortened, and any cable set that does not bear its original markings shall be considered to have been shortened unless the installer can demonstrate by instrument measurements, that the characteristics of the series heating cable set have not been altered.

(2) The entire length of the heating portion, including connections to non-heating leads, shall be installed within the heating area.

(3) Series heating cable sets shall be installed so that the temperature on any part will not exceed 90 °C, except as permitted in Rule 62-304(1).

(4) The heating portions of series heating cable sets shall not be run closer than 200 mm to any outlet to which a luminaire or other heat-producing equipment is liable to be connected.
SUBCOMMITTEE RECOMMENDATION FOR PART I BALLOT

Subject No. 3854-26

NOTE: Final approval of this subject is contingent on approval of Subject 3854-62.

Delete Rule 26-756

26-756 Induction and dielectric heating equipment

(1) Overcurrent devices shall meet the requirements of Section 14, except in circuits supplying non-motor generator equipment the overcurrent device shall be permitted to be rated or set at not more than 200% of the ampacity of the circuit conductors.

(2) A readily accessible disconnecting means having a rating in accordance with Section 28 shall be provided for each generator or group of generators at a single location.

(3) The supply circuit switch shall be permitted to be used as the disconnecting means if the circuit supplies only one generator.

(4) Exposed non-current-carrying metal parts of each piece of equipment shall be bonded to a common bonding point that shall be bonded to ground.
SUBCOMMITTEE RECOMMENDATION FOR PART I BALLOT

Subject No. 3431

32-108 Current supply

(1) A fire alarm system shall be supplied by a separate circuit connected as close as practicable, without violating other Rules of this Code, to
(a) the load terminals of the service box;
(b) the secondary terminals of the transformer, where transformation is necessary in order to supply a utilization voltage required by the fire alarm system; or
(c) the terminals of a transfer switch, where the fire alarm system receives emergency power from an emergency power source that also supplies other electrical equipment.

(1) The power supply to a fire alarm system shall be provided by separate circuit.

(2) Notwithstanding Subrule (1), where a fire alarm system includes more than one control unit or transponder, the power supply to each control unit or transponder shall be permitted to be provided by a separate branch circuit.

(3) Overcurrent devices and disconnecting means for the separate circuit supplying a fire alarm system shall be clearly identified as the fire alarm power supply in a permanent, conspicuous, and legible manner, and the disconnecting means shall be coloured red and be lockable in the ON position.
SUBCOMMITTEE RECOMMENDATION FOR PART I BALLOT

Subject No. 3837

(A) Delete Subsection on Bare element water heaters as shown

Bare element water heaters

26-760 Special terminology (see Appendix B)

In this Subsection, the following definition applies:

**Bare element water heater**—a self-contained, factory-assembled water heater that heats water by direct contact with the uninsulated heating element wire.

26-762 General

(1) A bare element water heater shall be

   (a) Supplied from a grounded system
   (b) permanently connected to a branch circuit that supplies no other equipment; and
   (c) protected by a ground fault circuit interrupter of the Class A type.

(2) A bare element water heater shall not be located within 1.5 m of the point of utilization of the heated water.

(3) A bare element water heater shall be bonded to ground in accordance with Section 10.

(B) Delete Appendix B note to Rule 26-760

**Rule 26-760**

CSA C22.2 No. 64 requires that bare element water heaters be marked “BARE ELEMENT WATER HEATER” and “CHAUFFE-EAU A ELEMENT NU”. The requirements for bare element water heaters in CSA C22.2 No. 64 apply to permanently connected heaters and do not apply to cord-connected equipment.
SUBCOMMITTEE RECOMMENDATION FOR PART I BALLOT

Subject No. 3838

(A) Delete Rule 26-752 as follows

26-752 Infrared drying lamps
The following requirements shall apply to the installation of infrared drying lamps:

(a) Branch circuits shall be protected in accordance with Section 14;

(b) Lampholders of the medium base, unswitched, porcelain type or other types approved for the service shall be permitted to be used with lamps rated at 300 W or less;

(c) Screwshell lampholders shall not be used with lamps rated at more than 300 W unless approved for the purpose; and

(d) In industrial occupancies, lampholders shall be permitted to be operated in series on circuits of more than 150 volts to ground where adequate spacings for the higher circuit voltage are provided.
SUBCOMMITTEE RECOMMENDATION FOR PART I LETTER BALLOT

Subject No. 3861

A) Revised the Title of Table 9E to read:

Table 9E
(See Rule 12-909)
Cross-Sectional Areas of Rigid RTRC Conduit Type Marked IPS

B) Add a note to Table 9E to read:

Note: IPS is a marking on the conduit that defines the dimensions based on outside diameters of iron pipe sizes.

C) Revised the Title of Table 9F to read:

Table 9F
(See Rule 12-909)
Cross-Sectional Areas of Rigid RTRC Conduit Type Marked ID

D) Add a note to Table 9F to read:

Note: ID is a marking on the conduit that defines the dimensions based on inside diameters.
SUBCOMMITTEE RECOMMENDATION FOR PART I BALLOT

Subject No. 3863

Move and modify rule 62-500 and associated Appendix B note to 62-228

62-500228 Heaters for sauna rooms (see Appendix B)
(1) Heaters for sauna rooms shall be marked as being suitable for the purpose.
(2) Sauna heaters shall be installed in rooms that are built in accordance with the
nameplate size specifications and shall be fastened securely in place to ensure that the
minimum safe clearances indicated on the nameplate are not reduced.
(3) Each sauna heater shall be controlled by a thermostat or other temperature-regulating
device.
(4) Sauna heaters shall not be installed below shower heads or water spray devices.
(5) Each sauna heater shall be controlled by a timed cut-off switch having a maximum
time setting of one hour, with no override feature, which, if not forming part of the sauna
heater or cabinet, shall be mounted on the outside wall of the room containing the sauna
heater and shall disconnect all ungrounded conductors in the circuit supplying the heater.

Appendix B

Rule 62-500228
Sauna heaters should be secured in place ensuring that the minimum clearances
specified in the nameplate are not reduced. If the heater is provided with legs, they
should not be removed in favour of other supports. Covering combustible surfaces with
non-combustible material, such as metal tile or asbestos board, does not ensure safety
from fire.

Sauna heaters marked “FOR INSTALLATION ON CONCRETE FLOORS ONLY” should
not be installed on combustible floors, even if the floor is covered with ceramic tile,
asbestos board, or other non-combustible material.

Equipment or material of other than an electrical nature should not be installed or placed
within proximity of electrical equipment as to create, or in a manner that may
create a dangerous condition. Benches, shelves, guardrails, other structures, or
obstructions should not be placed closer to the heating unit than is permitted for the
clearances specified on the nameplate.

To properly control the maximum temperature in the room, the heat sensor for the
temperature control should be located near the heater. A timer should be installed to turn
off the heater after a predetermined or preset time.
SUBCOMMITTEE RECOMMENDATION FOR PART I BALLOT

Subject No. 3601

Add the following Appendix B Note for Subrule 68-058(1)

**Rule 68-058(1)**
This Rule is intended to establish an effective equipotential plane by bonding together metal parts of the pool and non-electrical equipment associated with the pool. A panelboard supplying pool electrical equipment need only be connected to this equipotential plane as detailed in Subrule (6).

If there is no electrical equipment associated with the pool in the pool vicinity, it is intended that the bonding conductor required by Rule 68-058(1) need only interconnect the metal parts identified in Rule 68-058(1).
SUBCOMMITTEE RECOMMENDATION FOR PART I BALLOT

Subject No. 3867
A) Revise Rule 12-2252 to read:

12-2252 Use of cablebus (see Appendix B)

(1) Class A cablebus shall be permitted for use installations where
   (i) accessible to the public; or
   (ii) Class B cablebus is permitted.

(a) protection from contact with conductors is provided by design and construction of the enclosure; or

(2) (b) installation is intended in areas where Class B cablebus shall be permitted only for installations where
   (i) accessible only to authorized persons;
   (ii) isolated by elevation or by barriers; and
   (iii) where qualified electrical maintenance personnel service the installation.

B) Add a new Appendix B note for Rule 12-2252 to read:

Rule 12-2252

CSA Standard C22.2 No 273 defines Class A and Class B cablebus as:

Class A cablebus — cablebus that provides protection from contact with conductors by design and construction of the enclosure.

Class B cablebus — cablebus that does not provide protection from contact with conductors by design and construction of the enclosure.

Cablebus not marked as Class A is considered to be Class B cablebus.

Rules 12-2252 and 12-2254

It is intended by these Rules that cablebus be manufactured to be suitable for indoor and outdoor use with load-bearing members of the cablebus system including side rails, rungs, and splices for maximum strength and equipment bonding conductor ratings. Straight sections of enclosure are capable of supporting spans of up to 3.7 m, including an allowance for wind and snow loading, within the maximum design load. Conductors are positively secured on supports spaced a maximum of 900 mm horizontally and 450 mm vertically along the length of the cablebus. Upon completion of the installation, the entire field assembly is approved as a complete system.
SUBCOMMITTEE RECOMMENDATION FOR PART I BALLOT

Subject No. 3877

Revise Rule 34-100 as shown.

34-100 Disconnecting means
(1) Each sign and outline lighting system installation, other than the portable type, shall be provided with a disconnecting means that shall
   (a) open all ungrounded conductors;
   (b) be suitable for conditions of installation such as exposure to weather; and
   (c) be integral with the sign or outline lighting, or be located within sight and within 9 m of the sign or outline lighting installation; and
   (d) be capable of being locked in the open position where it is located out of the line of sight or more than 9 m from the sign.

(2) Notwithstanding Item (1)(c), the disconnecting means shall be permitted to be located out of the line of sight or more than 9 m from the sign, provided that the disconnecting means is capable of being locked in the open position.
SUBCOMMITTEE RECOMMENDATION FOR PART I BALLOT

Subject No. 3856-C

*Project Manager’s Note:* Subject to approval of Subject 3856-0

Revise Appendix C, Annex C as shown.

Annex C — Guide to Subcommittee chairs for evaluation of proposals submitted in accordance with Clause C5.4.1 and for evaluation of Subcommittee reports required in accordance with Clause C5.4.5

(1) *(no change)*

(2) The Section Subcommittee that will be deliberating the proposed Code amendment should consider the following measurement points before accepting the submission for deliberation by the Subcommittee:

*(no change to (2)(a) through (2)(j))*

(k) Is the proposal in conflict with other CSA standards (i.e., the CSA Part II standards) or other Canadian safety standards for electrical equipment?

*Note:* The CE Code, Part I, is not supposed to include Part II (product design and construction) or other Canadian safety standards for electrical equipment requirements, unless it is as an interim measure and is substantiated accordingly.

*(no change to remainder of Annex C)*
Changes to the CEC 2015 Edition

SUBCOMMITTEE RECOMMENDATION FOR PART I BALLOT

Subject No. 3883-20

Subject to approval of Subject 3883-86, delete all of Rule 20-114.
SUBCOMMITTEE RECOMMENDATION FOR PART I BALLOT

Subject No. 3884

(A) Revise Rule 64-206 (formerly 50-010) as shown.

64-206 Ampere rating of photovoltaic source and output circuits
(1) The ampere rating of a photovoltaic source and output circuit shall be
   (a) the ampere rating of the overcurrent device protecting the circuit or the
       ampacity of the conductors, whichever is less; and
   (b) not less than 125% of the rated short-circuit current of that photovoltaic
       source’s circuit.
(2) For application of Rule 8-104, the continuous load shall be considered to be
   125% of the rated short-circuit current.

(B) Revise Rule 64-212 (formerly 50-012) to read:

64-212 Overcurrent protection for apparatus and conductors (see Appendix B)
(1) (unchanged)
(2) (unchanged)
(3) The overcurrent protective device for individual source circuits shall not be
   greater than 100% of the rated short circuit current of that photovoltaic source
   circuit.
(4) Where a value not exceeding 100% of the rated short circuit current as
    specified in Subrule (3) does not correspond to the standard rating of the
    overcurrent device, the next higher standard rating shall be permitted
(5) Overcurrent devices for photovoltaic source circuits shall be accessible and
    shall be grouped where practicable.
Changes to the CEC 2015 Edition

SUBCOMMITTEE RECOMMENDATION FOR PART I BALLOT

Subject No. 3886
Revise Rule 64-612 and Appendix B Note for Rule 64-022 as shown.

64-612 Grounding and bonding
(1) Turbine supporting structures shall be bonded to ground with a minimum No. 6 AWG. All non-current-carrying metal parts of the turbine including extra low voltage turbines shall be bonded to ground in accordance with Section 10.
(2) Ungrounded ac systems shall be provided with ground fault detection in accordance with Rule 10-106(2).
(3) Where lightning arresters are installed, they shall be installed in accordance with Rules 10-1000 and 10-1002.
(4) Where surge protective devices are installed, they shall be installed in accordance with Rule 26-520.

Appendix B

Rules 64-022 and 64-212
Equipment bonding is required even in extra-low voltage (12 and 24 V) systems not otherwise required to have a system ground. A grounding electrode must be added to an ungrounded system to accommodate equipment bonding. To maintain the shortest electrical time constant in each dc circuit, the equipment bonding conductor should be routed as close as possible to the circuit conductors. This facilitates the operation of overcurrent devices.
In many renewable energy systems, the bonding connection between the grounding conductor and exposed conductive surfaces is located in the inverter or a dc power centre that may require removal for service. In order to prevent shock and fire hazards, it is important that the bonding continuity be maintained even when the equipment is removed.
Additional information regarding the grounding and bonding requirements for off-shore hydrokinetic systems may be found in IEEE 45-2002: Recommended Practice for Electrical Installations on Shipboard.
SUBCOMMITTEE RECOMMENDATION FOR PART I BALLOT
Subject No. 3888

Add new Subrule 64-012(11) as shown.

(11) The disconnecting means for a hydrokinetic power system shall be permitted to be located beyond the limits defined in Subrule (2) provided that it is capable of being locked in the open position.
Thank You – Questions?

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