



CANADIAN ELECTRICAL CODE, PART I

Consolidated Memorandum of Revisions to the 2024 (26th) edition

Notes:

1. *This document contains the first memorandum of revisions.*
2. *Revisions are identified by a corresponding subject number in the right-hand margin.
First memorandum revisions are identified by a **black** number.*
3. *Unless specified otherwise, revisions are indicated only by strikeout and underline.
Revisions in this memorandum are subject to editing, formatting, and renumbering.
Revisions are also subject to modification or deletion by subsequent revisions.*
4. *The revisions in this memorandum were approved by the Committee on the Canadian Electrical Code, Part I, and by the Regulatory Authority Committee as of the date below.
The revisions are for information only and are not effective until adopted, with or without change, by the authority having jurisdiction, after the twenty-sixth edition is published.*
5. *To obtain the latest edition of this memorandum, visit the [CE Code, Part I Portal](#).*

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August 2024

Revision history

Date	Change	Document
August 7 2024	MOR 26-1 Released	MOR 1-2024 CE Code
Nov 20 2024	Added Note under SN4852	MOR 1-2024 CE Code R1

<h2>SECTION 0</h2>	
<p>Note: This revision is on hold pending the approval of SN4868 or SN4869.</p> <p>Add definition of Cable cleat and Intermediate restraint to read:</p> <p><u>Cable cleat – a device with a means of attachment to a mounting surface that secures cables when installed at intervals along the length of the cables.</u></p> <p><u>Intermediate restraint – a cable retaining device intended to be used with cable cleats, without being attached to a mounting surface, to hold cables together in formation or to provide resistance to electromechanical forces, or both.</u></p>	SN4870
<p>Note: This revision is suspended pending outcome of Subject 4801-86.</p> <p>Add definition for Electric vehicle to read:</p> <p><u>Electric vehicle — an automotive-type vehicle for use on public roads that</u></p> <p><u>a) includes automobiles, buses, trucks, vans, low-speed vehicles, motorcycles, and similar vehicles powered by one or more electric motors that draw current from a fuel cell, photovoltaic array, rechargeable energy storage system (such as a battery or capacitor), or other source of electric current;</u></p> <p><u>b) includes plug-in hybrid electric vehicles (PHEVs); and</u></p> <p><u>c) excludes off-road electric vehicles, such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, and mobility scooters for persons with disabilities.</u></p>	SN4801-0
<p>Delete definition of Panelboard, enclosed</p> <p>Panelboard, enclosed—an assembly of buses and connections, overcurrent devices and control apparatus with or without switches, or other equipment installed in a cabinet.</p>	SN4815

<h2>SECTION 2</h2>	
<p>Revise Subrule 2-310 2) to read:</p> <p>2-310 Entrance to, and exit from, working space (see Appendices B and G)</p>	SN4730-2

<p>2) Where a room or space referred to in Subrule 1) contains equipment that has a rating on the equipment nameplate of 1200 A or more, or is rated over 750 <u>1000</u> V, such equipment shall be arranged so that, in the event of a failure in the equipment, it shall be possible to leave the room or space referred to in Subrule 1) without passing the failure point, except that where this cannot be done, the working space requirement of Rule 2-308 1) and 2) shall be not less than 1.5 m.</p>	
<h2>SECTION 4</h2>	
<p><i>Revise Subrule 4-004 17) to read:</i></p> <p>17) <u>Except as required by Rule 4-006</u>, Where where the lower ampacity portion of a cable <u>or conductor</u> installation consisting of not more than four conductors <u>per run</u> in total does not exceed 10% of the circuit length or 3 m, whichever is less, the higher ampacity shall be permitted.</p>	SN4739
<p><i>Revise Rule 4-022 to read:</i></p> <p>4-022 Installation of <u>insulated neutral and</u> identified conductors (see Appendix B)</p> <p>1) Where a service, feeder, or branch circuit requires an identified <u>or a neutral</u> conductor, it shall be installed</p> <ul style="list-style-type: none"> a) in all separately enclosed switches and circuit breakers; b) in all centres of distribution associated with the circuit; <u>and</u> c) with all connections to the identified conductor being made in the enclosures and centres; and d) in such a manner that any identified conductor can be disconnected without disconnecting any other identified conductor. <p>2) The identified conductor shall be installed at each location of a manual or automatic control device for the control of permanently installed luminaires at a branch circuit outlet.</p> <p><u>3) The continuity of the neutral conductor of a multi-wire branch circuit shall be independent of device connections, such as connections for lampholders, receptacles, ballasts, etc., so that the devices can be disconnected without interrupting its continuity.</u></p>	SN4779
<p><i>Revise Rule 4-026 to read:</i></p> <p>4-026 Identification of insulated neutral conductors larger than No. 2 AWG copper or aluminum</p> <p><u>1) Except as required by Subrule 2)</u>, Ffor insulated neutral conductors other than those mentioned in Rule 4-024 1), identification shall either be continuous, as for No. 2 AWG and smaller, or else each continuous length of conductor insulation shall be suitably labeled or otherwise clearly marked at each end at the time of installation, so that it can be readily identified.</p> <p><u>2) Insulated neutral conductors used in a consumer's service in accordance with</u></p>	SN4792

<u>Sections 6 and 36 of this Code shall be identified by a white covering or by three continuous white stripes along the entire length of the conductor.</u>	
<p><i>Revise Rule 4-030 to read:</i></p> <p>4-030 Use of identified conductors</p> <p>1) An identified conductor shall not be used as a conductor for which identification is not required by these Rules; however, in armoured cable, aluminum-sheathed cable, copper-sheathed cable, an non-metallic-sheathed cable work, the identified conductor shall be permitted to be rendered permanently unidentifiable by painting or other suitable means at every point where the separate insulated conductors have been rendered accessible and visible by removal of the outer covering of the cable.</p> <p>2) Where armoured cable, aluminum-sheathed cable, copper-sheathed cable, or non-metallic- sheathed cable containing an identified conductor is used for single-pole, three-way, or four-way switch loops, it shall not be necessary to render the identified conductor permanently unidentified at the switch if the connections are made so that an unidentified conductor is the return conductor from the switch to the outlet.</p> <p>3) Where armoured cable, aluminum-sheathed cable, copper-sheathed cable, or non-metallic- sheathed cable is used so that the identified conductor forms no part of the circuit, the identified conductor shall be cut off short or other suitable means shall be employed to indicate clearly that the identified conductor does not form part of the circuit; this shall be done at every point where the separate conductors have been rendered accessible and visible by removal of the outer covering of the cable.</p> <p>4) Where conductors of a multi-wire branch circuit are installed, employing an identified conductor, the continuity of the identified conductor shall be independent of device connections, such as connections for lampholders, receptacles, ballasts, etc., so that the devices can be disconnected without interrupting the continuity of the identified conductor.</p>	SN4779

SECTION 6	
<p><i>Revise Rule 6-000 to read:</i></p> <p>6-000 Scope</p> <p>This Section applies to services, service equipment, and metering equipment for</p> <p>a) installations operating at voltages of 750 V 1000V or less; and</p> <p>b) installations operating at voltages in excess of 750 V 1000V except as modified by the requirements of Section 36.</p>	SN4730-6
<p><i>Add new terminology to Rule 6-100 to read:</i></p> <p>6-100 Special terminology (see Appendix B)</p>	SN4604

<p><u>Meter-mounted transfer switch – a transfer switch that is mounted between the jaws of the meter mounting device and the supply authority meter.</u></p>	
<p><i>Revise Rule 6-200 to read:</i></p> <p>6-200 Service equipment <u>(see Appendix B)</u></p> <ol style="list-style-type: none"> 1) Except as provided in Subrule 2), each consumer's service shall be provided with a single service box. 2) More than one service box shall be permitted to be connected to a single consumer's service, provided that <ol style="list-style-type: none"> a) the subdivision is made in a multiple or dual lug meter mounting device rated at not more than 600 A and 150 volts-to-ground; and b) the meter mounting device is located outdoors. 3) For the application of Rule 6-104, each subdivision of the meter mounting device shall be considered a consumer's service. 4) <u>Meter-mounted transfer switches shall be permitted to be connected on the line side of the service box provided that the</u> <ol style="list-style-type: none"> a) <u>meter-mounted transfer switch is rated for the calculated load in accordance with Rule 8-104;</u> b) <u>meter mounting device is rated not more than 200 A and installed in accordance with Rule 6-402 2); and</u> c) <u>installation includes a caution label on the meter mounting device or the meter-mounted transfer switch indicating that the generator shall not contain a system bonding jumper.</u> 	SN4604

<h2>SECTION 8</h2>	
<p><i>Revise Subrule 8-200 1) to read:</i></p> <p>8-200 Single dwellings (see Appendix B)</p> <ol style="list-style-type: none"> 1) The calculated load for the service or feeder supplying a single dwelling shall be based on the greater of Item a) or b): <ol style="list-style-type: none"> a) <ul style="list-style-type: none"> . . v) any electric tankless water heaters or electric water heaters for steamers, swimming pools, hot tubs, or spas with a demand factor of 100%; plus <u>v) except for electric storage-tank water heaters for domestic service, any electric water heaters with a demand factor of 100%; plus</u> vi) except as permitted by Rule 8-106 11), any electric vehicle supply equipment loads with a demand factor of 100%; plus vii) any loads, <u>including electric storage-tank water heaters for domestic service,</u> provided for that have a rating in excess of 1500 W, in addition to those outlined in Items i) to vi), at <ol style="list-style-type: none"> A) 25% of the rating of each load, if an electric range has been provided for; or 	SN4767-R

B) 100% of the combined load up to 6000 W, plus 25% of the combined load that exceeds 6000 W, if an electric range has not been provided for; or	
<p><i>Revise Subrule 8-202 1) to read:</i></p> <p>8-202 Apartment and similar buildings (see Appendix B)</p> <p>1) The calculated load for the service or feeder from a main service supplying loads in dwelling units shall be the greater of Item a) or b):</p> <ul style="list-style-type: none"> . . vi) any electric tankless water heaters or electric water heaters for steamers, swimming pools, hot tubs, or spas with a demand factor of 100%; plus <u>vi) except for electric storage-tank water heaters for domestic service, any electric water heaters with a demand factor of 100%; plus</u> vii) any electrical vehicle supply equipment loads, if they are supplied from a panelboard installed in a dwelling unit, with a demand factor of 100%; plus viii) any loads, <u>including electric storage-tank water heaters for domestic service</u>, provided for, in addition to those outlined in Items i) to vi), at <ul style="list-style-type: none"> A) 25% of the rating of each load with a rating in excess of 1500 W, if an electric range has been provided for; or B) 25% of the rating of each load with a rating in excess of 1500 W plus 6000 W, if an electric range has not been provided for; or 	SN4767-R

SECTION 10	
<p><i>Revise Subrule 10-212 3) to read:</i></p> <p>10-212 Grounding connections for solidly grounded separately derived ac systems (see Appendix B)</p> <ul style="list-style-type: none"> . . <p>3) A separately derived ac system operating at 750 V <u>1000 V</u> or less shall be permitted to be grounded by the system bonding jumper that is connected to the bonding conductor included in the primary supply.</p>	SN4730-10
<p><i>Revise Subrule 10-612 6) to read:</i></p> <p>10-612 Installation of bonding conductors</p> <ul style="list-style-type: none"> . . <p>6) Where a separate bonding conductor is run with single-conductor cables, it shall follow the same route as the cables <u>and shall not be encircled by magnetic material except where it is</u> <u>a) encircled together with the circuit conductors; or</u> <u>b) required for termination to electrical equipment.</u></p>	SN4754

<p><i>Revise Rule 10-708 to read:</i></p> <p>10-708 Equipotential bonding conductor size</p> <p>1) Except as permitted by Subrule 2) or 3), the size of an equipotential bonding conductor installed as exposed wiring where not subject to mechanical damage shall be</p> <p>a) not smaller than a) No. 6 AWG or larger if of copper; or b) No. 4 AWG or larger if of aluminum when installed as exposed wiring;-</p> <p>2) The size of an equipotential bonding conductor installed as concealed wiring, or provided with mechanical protection shall be permitted to be a minimum</p> <p>ab) No. 10 AWG or larger if of copper; or b) No. 8 AWG or larger if of aluminum when installed as concealed wiring or provided with mechanical protection; or-</p> <p>3c) The size of an equipotential bonding conductor shall be permitted to be as prescribed by Rule 10-616 when installed in accordance with Item 10-702 3).</p>	SN4828
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SECTION 12

Note: This revision is on hold pending approval of related changes to Section 76.

SN4148-12

Add new Rule 12-124 to read:

12-124 Temporary Installation of Single Conductor Cables

Except as provided for by other Rules of this Code, single conductor cables terminated into single-pole connectors for single-conductor cables shall only be installed in accordance with Rule 76-100.

Note: *This revision is on hold pending the approval of SN4394-4.*

SN4852

Revise Subrule 12-406 4) to read:

12-406 Uses of portable power cable (see Appendix B)

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- 4) Notwithstanding Subrule 3) a), Type DLO cable in sizes 1/0 or larger shall be permitted to be used in permanent installations in cable tray, provided that the cable
- a) is marked as Type TC cable;
 - b) conforms with the conditions of use for Type TC cable in accordance with Rule 12-2202 and as listed in Table 19;
 - c) terminates in
 - i) connectors marked for use with fine-strand conductors; or
 - ii) standard connectors with the use of ferrules; and
 - d) has an ampacity rating as described in ~~Table 12E and~~ Rule 4-004.

SECTION 18

Revise Rule 18-074 to read:

SN4851

18-074 Equipotential Bonding ~~in hazardous locations of extra-low voltage equipment~~ (see Appendix B)

- 1) ~~Exposed non-current-carrying metal parts of electrical extra-low voltage equipment shall be made equipotential with nearby conductive parts by a permanent conductive connection between them, including the frames or metal exteriors of motors, fixed or portable lamps or other utilization equipment, luminaires, cabinets, cases, and conduit, shall be bonded to ground using~~
- ~~a) bonding conductors sized in accordance with Rule 10-616; or~~
 - ~~b) rigid metal conduit with threaded couplings and threaded bosses on enclosures with joints made up tight.~~
- 2) ~~Notwithstanding Subrule 1), where raceways or cables incorporate an internal bonding conductor, box connectors with standard locknuts shall be permitted to bond the metallic armour or raceway.~~

SECTION 20

Revise Rule 10-060 to read:

SN4747

20-060 Scope (see Appendix B)

- 1) Rules 20-062 to 20-070 apply to locations in which compressed natural gas is dispensed to the fuel tanks of self-propelled vehicles and to associated compressors and storage facilities.
- 2) The Rules in this Subsection do not apply to vehicle refuelling appliances required to be installed in accordance with CSA B149.1 or CSA B108.1. ~~installed in accordance with CSA B149.1 that do not have storage facilities.~~

SECTION 22

Revise Rule 22-300 to read:

SN4150-D

22-300 Drip loops (see Appendix B)

Where ~~exposed insulated conductors~~ cables or non-metallic ~~jacketed~~ sheathed

cables enter into or issue from a Category 1 or Category 2 location, the insulated conductors or cables shall pass through the wall of the location in an upward direction from the Category 1 or Category 2 location, and in the case of exposed insulated conductors or cables, shall be in non-combustible, non-absorptive insulating sleeves <u>tubes</u> .	
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SECTION 26

Revise Rule 26-222 to read:

26-222 Drainage of stored charge of capacitors

- 1) Capacitors shall be provided with a means of draining the stored charge.
- 2) The draining means shall be such that the residual voltage will be reduced to 50 V or less after the capacitor is disconnected from the source of supply
 - a) within 1 min in the case of capacitors rated at ~~750 V~~ 1000V or less; and
 - b) within 5 min in the case of capacitors rated at more than ~~750 V~~ 1000V.
- 3) The discharge circuit shall be
 - a) permanently connected to the terminals of the capacitor bank; or
 - b) provided with automatic means of connecting it on removal of voltage from the line.
- 4) The discharge circuit shall not be switched or connected by manual means.
- 5) Motors, transformers, or other electrical equipment capable of constituting a suitable discharge path, connected directly to capacitors without the interposition of a switch or overcurrent device, shall be considered to constitute a suitable discharge path.

SN4730-26

Revise title of Rule 26-250 to read:

26-250 Overcurrent protection for power and distribution transformer circuits rated over ~~750 V~~ 1000V

SN4730-26

Revise title of Rule 26-252 to read:

26-252 Overcurrent protection for power and distribution transformer circuits rated ~~750 V~~ 1000V or less, other than dry-type transformers

SN4730-26

Revise title of Rule 26-254 to read:

26-254 Overcurrent protection for dry-type transformer circuits rated ~~750 V~~ 1000V or less (see Appendix B)

SN4730-26

<p><i>Revise Subrule 26-256 1) to read:</i></p> <p>26-256 Conductor size for transformers (see Appendix B)</p> <p>1) The conductors supplying transformers shall have an ampacity</p> <ul style="list-style-type: none"> a) not less than 125% of the rated primary current of the transformer for a single transformer; or b) not less than the sum of the rated primary currents of all transformers plus 25% of the rated primary current of the largest transformer for a group of transformers operated in parallel or on a common feeder, <u>not less than 125% of the rated primary current of the largest transformer and the sum of the remaining primary rated currents of all transformers in the group.</u> 	SN4858
<p><i>Add new Rule 26-719 (to be inserted before Rule 26-720) to read:</i></p> <p><u>26-719 Special terminology</u></p> <p><u>In this Subsection, the following definitions shall apply:</u></p> <ul style="list-style-type: none"> <u>a) "finished wall" shall mean any wall finished to within 450 mm of the floor with drywall, wood panelling, or like material; and</u> <u>b) a "controlled outlet duplex receptacle" shall mean an outlet that has an integral switching means to allow remote switching of the connected load;</u> 	SN4838
<p><i>Revise Rule 26-720 to read:</i></p> <p>26-720 General (see Appendices B and G)</p> <p>Receptacles for all residential occupancies (including dwelling units and single dwellings) shall meet the following requirements:</p> <ul style="list-style-type: none"> a) for the purposes of this Rule, i) "finished wall" shall mean any wall finished to within 450 mm of the floor with drywall, wood panelling, or like material; and ii) a controlled outlet duplex receptacle shall mean an outlet that has an integral switching means to allow remote switching of the connected load; <u>ba)</u> for the purposes of this Rule, all receptacles shall be CSA configuration 5-15R or 5-20R (see Diagram 1); <p>Renumber remaining items</p>	SN4838
<p><i>Revise Subrule 26-744 10) to read:</i></p> <p>26-744 Supply connections for appliances (see Appendix B)</p> <p>.</p> <p>.</p> <p>10) A permanently <u>or cord</u> connected electric heating and cooking appliance provided with multiple points of connection shall be permitted to be supplied from more than one branch circuit, provided that</p> <ul style="list-style-type: none"> a) the appliance is marked accordingly; and b) connection to the different branch circuits conforms to Rule 14-414 	SN4804

SECTION 28

Revise definition of Locked rotor current rating to read:

SN4886

Locked rotor current rating — a current rating marked on electric equipment or, where not marked, deemed to be equal to six times the full load current rating from the nameplate of the equipment or from Table 44 or 45 for ac motors, or ten times the full load current from the nameplate of the equipment or from Table D2 for dc motors, as applicable.

Revise Rule 28-102 to read:

SN4824

28-102 Portable motors

Connections to portable motors shall be permitted using flexible cord that has ~~an-a serviceability not less than that of Type S cord~~ extra-hard usage rating and is selected in accordance with Rule 12-102 4), unless the motor forms part of a motor-operated device.

SECTION 30

Revise Rule 30-310 to read:

SN4833

30-310 Luminaire as a raceway

1) Insulated branch circuit conductors run through a luminaire shall be contained in a raceway that is an integral part of the luminaire and that meets the requirements for a surface raceway, except that the insulated conductors of a 2-wire, 3-wire, or 4-wire branch circuit supplying the luminaires shall be permitted to be carried through luminaires marked as suitable for continuous row mounting.

2) Ballasts located within the luminaires referred to in Subrule 1) shall be deemed to be sources of heat and the conductors supplying the luminaires shall

- a) have a voltage rating not less than 600 V;
- b) have an insulation temperature rating not less than 90 °C; and
- c) be either
 - i) a type selected in accordance with Rule 12-102 3) as being suitable for use in raceways; or
 - ii) Type GTF, REW, TEW, ~~TBS~~, SIS, SEW-2, or SEWF-2 equipment wire installed in a raceway, provided that the insulated conductors are not smaller than No. 14 AWG and do not extend beyond the luminaires through raceways more than 2 m long.

3) Notwithstanding Subrule 2), non-metallic-sheathed cable shall be permitted to be used for supplying the luminaires, provided that it has a temperature rating of 90 °C.

Revise Rule 30-912 to read:

SN4730-30

<p>30-912 Wiring of recessed fluorescent luminaires</p> <p>Where a recessed fluorescent luminaire is installed in a suspended ceiling that creates a plenum or hollow space, wiring to the luminaire shall not be required to be in accordance with Rule 12-010 3), provided that</p> <ul style="list-style-type: none"> a) the luminaire is supplied by a flexible cord not exceeding 3 m in length and terminated with an attachment plug; b) the flexible cord is rated for at least 90 °C; and c) the flexible cord is selected in accordance with Rule 12-402 1) for <ul style="list-style-type: none"> i) hard usage where the supply voltage does not exceed 300 V; and ii) extra-hard usage where the supply voltage does not exceed 750 V 1000V. 	
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<h2>SECTION 34</h2>	
<p>Revise Rule 34-102 to read:</p> <p>34-102 Rating of disconnecting means and control devices</p> <p>Switches, flashers, and similar devices controlling neon supplies, transformers, and ballasts, <u>and other power supply equipment</u> shall be either designed for the purpose or have a current rating not less than twice the current rating of the neon supply, transformer, or ballasts, <u>the sign or outline lighting</u></p>	SN4909

<h2>SECTION 42</h2>	
<p>Revise Rule 42-004 to read:</p> <p>42-004 Receptacles and attachment plugs (see Appendix B)</p> <ul style="list-style-type: none"> 1) Where a welder is cord-connected, the rating of the receptacle and attachment plug shall be permitted to be less than the rating of the overcurrent devices protecting them, but not less than the rated primary current of the cord-connected welder. 2) Where a welder receptacle is installed, it shall be labelled to indicate <ul style="list-style-type: none"> a) the receptacle is intended for welder connection use only; b) the receptacle supply <u>insulated branch circuit</u> conductor AWG size; c) the supply <u>insulated branch circuit</u> conductor composition (i.e., “Cu” or “Al”); d) the supply <u>insulated branch circuit</u> conductor insulation designation and its temperature rating; and 	SN4789

<p>e) the ampere rating of the overcurrent device protecting the receptacle supply <u>insulated branch circuit</u> conductors based on the duty rating of the overcurrent device (i.e., 80% or 100%).</p>	
<p><i>Revise Rule 42-006 to read:</i></p> <p>42-006 Supply conductors <u>Conductor size for transformer arc welders and inverter welders</u></p> <p>1) The insulated supply <u>branch circuit</u> conductors for an individual transformer arc welder or <u>individual</u> inverter welder shall have an ampacity of not less than the value obtained by multiplying the rated primary current of that welder in amperes by the applicable factor from Table 42A.</p> <p>2) The insulated supply <u>feeder conductors or branch circuit</u> conductors for a group of two or more transformer arc welders or inverter welders shall have an ampacity not less than the sum of the currents determined for each welder in the group in accordance with Subrule 1) multiplied by a demand factor of</p> <ul style="list-style-type: none"> a) 100% of the two largest calculated currents of the welders in the group; plus b) 85% of the third largest calculated current of the welders in the group; plus c) 70% of the fourth largest calculated current of the welders in the group; plus d) 60% of the calculated currents of all remaining welders in the group. <p>3) Lower values than those given in Subrule 2) shall be permitted in cases where the work is such that a high operating duty cycle for individual welders is impossible.</p> <p><u>3) Where the installation is such that the sum of the currents of all welders that may operate at the same time is limited to a value less than that as calculated by Subrule 2), this value shall be permitted to be used to determine the ampacity of the insulated feeder and branch circuit conductors provided the calculated sum of the currents of all welders that may operate at the same time is based on their highest duty cycle rating.</u></p>	SN4789
<p><i>Revise Rule 42-008 to read:</i></p> <p>42-008 Overcurrent protection for transformer arc welders and inverter welders</p> <p>1) Each transformer arc welder and <u>or</u> inverter welder shall have overcurrent protection rated or set at not more than 200% of the rated primary current of the welder, unless the overcurrent device protecting the insulated supply <u>branch circuit</u> conductors meets this requirement.</p> <p>2) Each ungrounded conductor supplying a transformer arc welder and <u>or</u> inverter welder shall have overcurrent protection rated or set at not more than 200% of the allowable ampacity of the insulated conductor as specified in Table 1, 2, 3, or 4, except that the next higher rating or setting shall be permitted to be used where</p> <ul style="list-style-type: none"> a) the nearest standard rating of the overcurrent device is less than the rating or setting otherwise required by this Rule; or 	SN4789

<p>b) the rating or setting otherwise required by this Rule results in too frequent opening of the overcurrent device.</p> <p>3) The maximum rating or setting of an overcurrent device, protecting a feeder <u>conductors</u> supplying a group <u>two or more</u> of transformer arc welders and or inverter welders, shall not exceed a value calculated by determining the maximum rating or setting of overcurrent device permitted by Subrules 1) and 2) for the welder allowed the highest overcurrent protection and adding to this value the sum of ampacities as calculated by Rule 42-008 <u>42-006 1)</u> for all other welders in the group.</p>	
<p><i>Revise Rule 42-012 to read:</i></p> <p>42-012 Conductors, protection, and control of motor-generator arc welders</p> <p>1) The Rules of Sections 4 and 28 shall apply to motor-generator arc welders, except that</p> <ul style="list-style-type: none"> a) the motors shall be permitted to be marked in amperes only; and b) where the controller is built in as an integral part of the motor-generator set, the controller need not be separately marked, provided that the necessary data are on the motor nameplate. <p>2) The insulated supply <u>branch circuit</u> conductors for an individual motor-generator arc welder shall have an ampacity of not less than the value obtained by multiplying the rated primary current of that welder in amperes by the applicable factor from Table 42B.</p> <p>3) The insulated supply <u>feeder or branch circuit</u> conductors for a group of <u>two or more</u> motor-generator arc welders shall have an ampacity not less than the sum of the currents determined for each welder in the group in accordance with Subrule 2) multiplied by a demand factor of</p> <ul style="list-style-type: none"> a) 100% of the two highest calculated currents of the welders in the group; plus b) 85% of the third largest calculated current of the welders in the group; plus c) 70% of the fourth largest calculated current of the welders in the group; plus d) 60% of the calculated currents for all remaining welders in the group. <p>4) Lower values than those given in Subrule 3) shall be permitted in cases where the work is such that a high operating duty cycle for individual welders is impossible.</p>	SN4789
<p><i>Revise Rule 42-014 to read:</i></p> <p>42-014 Supply conductors <u>Conductor size</u> for resistance welders</p> <p>The ampacity of insulated supply <u>branch circuit</u> conductors shall be as follows:</p> <ul style="list-style-type: none"> a) where an individual seam resistance welder or an individual automatically fed resistance welder is operated at different times at different values of primary current or duty cycle, the insulated supply <u>branch circuit</u> conductors shall have an ampacity of not less than 70% of the rated primary current of the welder; b) where an individual manually operated non-automatic resistance welder is operated at different times at different values of primary current or duty cycle, the 	SN4789

<p>ampacity of the insulated supply <u>branch circuit</u> conductors shall be not less than 50% of the rated primary current of the welder;</p> <p>c) where an individual resistance welder operates at known and constant values of actual primary current and duty cycle, the insulated supply <u>branch circuit</u> conductors shall have an ampacity of not less than the value obtained by multiplying the actual primary current by the applicable factor from Table 42C; and</p> <p>d) where insulated <u>feeder or branch circuit</u> conductors supply two or more resistance welders, the insulated conductors shall have an ampacity of not less than the sum of</p> <ul style="list-style-type: none"> i) the value for the welder having the largest conductor ampacity as calculated from Items a), b), and c); and ii) 60% of the <u>calculated</u> conductor ampacities obtained for all the other welders. 	
<p><i>Revise Rule 42-016 to read:</i></p> <p>42-016 Overcurrent protection</p> <p>1) Every resistance welder shall have overcurrent protection rated or set at not more than 300% of the rated primary current of the welder unless the overcurrent device protecting the insulated supply <u>branch circuit</u> conductors gives equivalent protection.</p> <p>2) Every ungrounded conductor of a resistance welder shall have overcurrent protection rated or set at not more than 300% of the ampacity of the insulated conductor as specified in Table 1, 2, 3, or 4, except that the next higher rating or setting shall be permitted to be used where</p> <ul style="list-style-type: none"> a) the nearest standard rating of the overcurrent device is less than the rating or setting required by this Rule; or b) the rating or setting required by this Rule results in too frequent opening of the overcurrent device. <p>3) The maximum rating or setting of an overcurrent device protecting a feeder supplying a group of two or more resistance welders shall not exceed a value calculated by determining the maximum rating or setting of overcurrent device permitted by Subrules 1) and 2) for the welder allowed the highest overcurrent protection and adding to this value the sum of ampacities as calculated by Rule 42-014 <u>a), b), and c)</u> for all other welders in the group.</p>	SN4789

<h2>SECTION 52</h2>	
<p><i>Revise Rule 52-000 to read:</i></p> <p>52-000 Scope (<u>See Appendix B</u>)</p> <p>1) This Section applies to the installation of X-ray and other diagnostic imaging equipment operating at any frequency and supplements or amends the general requirements of this</p>	SN4295

Code.

2) Nothing in this Section shall be construed as specifying safeguards against direct, stray, or secondary radiation emitted by the equipment.

SECTION 56

Revise Rule 56-200 to read:

56-200 Non-conductive optical fiber cables (see Appendix B)

- 1) Non-conductive optical fiber cables shall not occupy the same raceway with insulated conductors of electric lighting, power, or Class 1 circuits, unless
 - a) the non-conductive optical fiber cables are functionally associated with the electric lighting, power, or Class 1 circuit not exceeding ~~750 V~~ 1000 V; and
 - b) the number and size of non-conductive optical fiber cables and other types of insulated conductors in the raceway meet with the applicable requirements for the electrical wiring method.
- 2) Non-conductive optical fiber cables shall not occupy the same cabinet, panel, outlet box, or similar enclosure housing the electric terminals of a lighting, power, or Class 1 circuit, unless
 - a) the non-conductive optical fiber cables are functionally associated with the lighting, power, or Class 1 circuit not exceeding ~~750 V~~ 1000 V, and the number and size of non-conductive optical fiber cables and other types of insulated conductors in the enclosure meet with the applicable requirements for the electrical wiring method; or
 - b) the non-conductive optical fiber cables are factory assembled in the enclosure.
- 3) Notwithstanding Subrules 1) and 2), for industrial establishments only, where conditions of maintenance and supervision ensure that only authorized persons service the installation, non-conductive optical fiber cables shall be permitted to occupy the same raceway, cabinet, panel, outlet box, or similar enclosure as electric power, control, or instrumentation cables.

SN4730-56

Revise Rule 56-204 to read:

56-204 Hybrid cables

- 1) Optical fibers shall be permitted within the same hybrid cable for electric lighting, power, or Class 1 circuit conductors not exceeding ~~750 V~~ 1000 V, or within the same hybrid cable for Class 2, communications, community antenna, or radio and television circuit conductors, provided that the functions of the optical fibers and the insulated conductors are associated.

SN4730-56

2) Hybrid cables shall be classed as cables in accordance with the type of circuit in the insulated conductors and shall be installed in accordance with the Code Rules applicable to the insulated circuit conductors.	
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SECTION 76	
<p><i>Revise Rule 76-002 to read:</i></p> <p>76-002 Conductors <u>and cables</u></p> <p>1) Conductors <u>and cables</u> shall be</p> <p style="padding-left: 20px;">a) of a type in accordance with Section 12; or</p> <p style="padding-left: 20px;">b) power supply cable or flexible cord of the outdoor type suitable for extra-hard usage as selected in accordance with Rule 12-402 1) or 12-406 (1).</p> <p>2) Conductors shall be insulated except as permitted by Rules 6-308, 10-112, and 10-116.</p> <p>3) Service conductors <u>and cables</u> shall be installed in accordance with Sections 6, 10, and 36.</p> <p>4) Overhead conductors <u>cables</u> shall be aerially supported on poles or other equally substantial means with the spacing of supports not to exceed the maximum span length allowable for the type of conductors <u>cables</u> used.</p>	SN3961-76

Tables	
<p><i>Revise notes to Table 1 to read:</i></p> <p>** See Rule 14-104 2)</p>	SN4889
<p><i>Revise notes to Table 3 to read:</i></p> <p>§ See Rule 14-104 2)</p>	SN4889

Revise Table 11A to read:

SN4878

Table 11A
Conditions of use, voltage, and temperature ratings of flexible cords, heater cords, equipment wire, portable power cables, elevator cables, stage lighting, and festoon cables
 (See Rule 12-102.)

(Note: This is not Table 11A in its entirety. Only affected columns of Table 11A are shown below)

Group or Classification (kind)		Portable power cables		
CSA Type designation		SH	SHD, SHD-GC, SHD-BGC and SHD-SP	SHD-R
Voltage ratings, V		5000, 8000, 15 000, 25 000, 35 000	2000, 5000, 8000, 15 000, 25 000, 35 000	2000
Temperature ratings, °C		90	90	90
Temperature ratings when exposed to oil, °C		-	-	-
Location	Dry	✓	✓	✓
	Damp	✓	✓	✓
	Wet	✓	✓	✓
	Exposed to oil	-	-	-
Where used	Not for hard usage	✓	✓	✓
	For hard usage	✓	✓	✓
	For extra-hard usage	✓	✓	✓
When	In a raceway Class 1 circuit (Section 16)	-	-	-
	Exposed to sunlight	-	-	-

Revise Title of Table 42A to read:

SN4789

Table 42A
Multiplication factors to determine the size of insulated [supply branch circuit](#) conductors for individual transformer arc welders and inverter welders
 (See Rule 42-006.)

<i>Revise Title of Table 42B to read:</i> Table 42B Multiplication factors to determine the size of insulated supply <u>branch circuit</u> conductors for individual motor-generator arc welders (See Rule 42-012.)	SN4789
<i>Revise Title of Table 42C to read:</i> Table 42C Multiplication factors to determine the size of insulated supply <u>branch circuit</u> conductors for individual resistance welders (See Rule 42-014.)	SN4789

Revise Table 45 to read:

SN4862

Table 45
Single-phase ac motors
 (See Rules 28-010 and 28-704.)

Single-phase ac motors full load current, A
 [see Notes 1) to 43)]

hp rating	115 V	<u>200 V</u>	<u>208 V</u>	230 V
1/6	4.4	<u>2.5</u>	<u>2.4</u>	2.2
1/4	5.8	<u>3.3</u>	<u>3.2</u>	2.9
1/3	7.2	<u>4.1</u>	<u>4</u>	3.6
1/2	9.8	<u>5.6</u>	<u>5.4</u>	4.9
3/4	13.8	<u>7.9</u>	<u>7.6</u>	6.9
1	16	<u>9.2</u>	<u>8.8</u>	8
1-1/2	20	<u>11.5</u>	<u>11</u>	10
2	24	<u>13.8</u>	<u>13.2</u>	12
3	34	<u>19.6</u>	<u>18.7</u>	17
5	56	<u>32.2</u>	<u>30.8</u>	28
7-1/2	80	<u>46</u>	<u>44</u>	40
10	100	<u>57.5</u>	<u>55</u>	50

Notes:

~~1) For full load currents of 208 and 200 V motors, increase the corresponding 230 V motor full load current by 10 and 15%, respectively.~~

~~21)~~ These values of motor full load current are to be used as guides only. Where exact values are required (e.g., for motor protection), always use the values on the motor nameplate.

~~32)~~ These values of full load current are for motors running at their usual speeds and motors with normal torque characteristics. Motors built for especially low speeds or high torques may have higher full load currents, and multi-speed motors have full load current varying with speed, in which case the nameplate current ratings shall be used.

~~43)~~ The voltages listed are rated motor voltages. ~~Corresponding nominal system voltages are 120 and 240 V. Refer to CSA C235.~~

Revise Table 50 to read:

SN4730-26

Table 50
Transformers rated over ~~750 V~~ 1000V having primary
and secondary overcurrent protection
 (See Rule 26-250.)

Transformer rated impedance	Maximum setting or rating of overcurrent device as a percentage of rated current of transformer				
	Primary side		Secondary side		
	Over 750 V 1000V		Over 750 V 1000V		750 V 1000V or less
	Circuit breaker setting, %	Fuse rating, %	Circuit breaker setting, %	Fuse rating, %	Circuit breaker setting or fuse rating, %
Not more than 7.5%	600	300	300	150	250
More than 7.5% and not more than 10%	400	200	250	125	250

Revise Table 65 to read:

SN4836

Table 65
Enclosure selection table for non-hazardous locations
 (See Rules 2-400 and 2-402.)

Provides a degree of protection against the following environmental conditions	Enclosure type															
	Indoor use						Indoor/outdoor use								Submersible	
	1	2	5	12* ^{‡‡}	12K† ^{‡‡}	13 ^{‡‡}	3 ^{‡‡}	3X ^{‡‡}	3R ^{‡‡}	3RX ^{‡‡}	3S ^{‡‡}	3SX ^{‡‡}	4 ^{‡‡}	4X ^{‡‡}	6 ^{‡‡}	6P ^{‡‡}
Accidental contact with live parts	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Falling dirt	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Dripping and light splashing of non-corrosive liquids	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Circulating dust, lint, fibres, and flyings	—	—	—	✓	✓	✓	✓	✓	—	—	✓	✓	✓	✓	✓	✓
Settling airborne dust, lint, fibres, and flyings	—	—	✓	✓	✓	✓	✓	✓	—	—	✓	✓	✓	✓	✓	✓
Hosedown and splashing water	—	—	—	—	—	—	—	—	—	—	—	—	X	X	✓	✓
Corrosive agents	—	—	—	—	—	—	—	✓	—	✓	—	✓	—	✓	—	✓
Occasional temporary submersion	—	—	—	—	—	—	—	—	—	—	—	—	—	—	✓	✓
Occasional prolonged submersion	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	✓
Dil and coolant seepage	—	—	—	✓	✓	✓	—	—	—	—	—	—	—	—	—	—
Dil or coolant spraying and splashing	—	—	—	—	—	✓	—	—	—	—	—	—	—	—	—	—
Rain, snow and sleet, and external formation of ice†	—	—	—	—	—	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rain, snow and sleet and external formation of ice§	—	—	—	—	—	—	—	—	—	—	✓	✓	—	—	—	—
Wind-blown dust	—	—	—	—	—	—	✓	✓	—	—	✓	✓	✓	✓	✓	✓

* Without knockouts.

† With knockouts.

‡ The external operating mechanism(s) is not required to operate when the enclosure is ice covered.

§ The external operating mechanism(s) shall be operable when the enclosure is ice covered.

^{‡‡} In addition to the Type designation, enclosures may have an optional ancillary marking "PW" denoting the enclosure is suitable for exterior cleaning with high-pressure power washers. (Example 4X-PW)

Revise Table 5D to read:

SN4860

Table 5D
Current rating correction factors where spacings are maintained
(in ventilated and ladder-type cable trays)
 (See Rule 4-004 and Table 12E.)

Number of insulated conductors or cables horizontally	1	2	3	4	5	6 or more
Number vertically (layers)						
1	1.00	0.93	0.87	0.84	0.83	0.82
2	0.89	0.83	0.79	0.76	0.75	0.74

Revise Table 12 to read:

SN4893

Table 12
Ampacity of flexible insulated copper conductor cord and equipment wire
(based on an ambient temperature of 30 °C)
 (See Rules 4-012 and 4-014.)

NOTE: Content of Table 12 to be revised (only the column affected are included in this document)

Size, AWG or kcmil	Ampacity	
	Flexible cord	
	Types NISPT-1, NISPT-2, SV\$, SVO\$, SVEO\$, SVOO\$, SVEOO\$, SJ†\$, SJE†\$, SJEW†\$, SJO†\$, SJEO†\$, SJOO†\$, SJEOO†\$, SJOW\$, SJEOW\$, SJOOW\$, SJEOOW\$, S†, SE†, SEW†, SO†, SEO†, SEOW†, SOO†, SEOO†, SEOOW†, SOW, SOOW, SPT-1, SPT-2, SPT-3, SVT\$, SVTO\$, SVTOO\$, SJT†\$, SJTO†\$, SJTOO†\$, ST†, STO†, STOO†, SJTW\$, SJTOW\$, SJTOOW\$, STW, STOW, STOOW, NISPE-1 , NISPE-2 , NISP-1 , NISP-2	
	2 current-carrying conductors	3 current-carrying conductors
27	-	-
26	-	-
24	-	-
22	-	-
20	2††	-
18	10	7
17	12	9
16	13	10
15	16	12
14	18	15
13	21	17
12	25	20
11	27	23
10	30	25
9	34	29
8	40	35
7	47	40
6	55	45
5	62	52
4	70	60
3	82	70
2	95	80

Appendix A

The list of Canadian Standards for electrical equipment developed by CSA Group and other accredited Standards development organizations will be reinstated in Annexes A.1 and A.2. of Appendix A in the published Code. The list will be a snapshot of the online version of Appendix A as at May 11 th , 2023.	
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Appendix B

Revise footnotes in Appendix B note to Rule 2-130 to read:

SN4769

* Communication and optical fiber cables marked ~~CMP, CMR, CMG, CM, CMX,~~ CMH, ~~OFNP, OFCP, OFNR, OFCR, OFNG, OFCG,~~ OFN, OFC, ~~OFNH, OFGH, and~~ communication and optical fiber cables marked FT4 have been found to meet the standard criteria for FT1.

† Communication and optical fiber cables marked ~~CMP, CMR,~~ CMG, ~~OFNP, OFCP,~~ OFNR, OFCR, OFNG, and OFCG have been found to meet the standard criteria for FT4.

‡ Communication and optical fiber cables marked CMP, OFNP, and OFCP have been found to meet the standard criteria for FT6.

Revise Appendix B note to Rule 4-004 1) d) and 2) d) to read:

SN4840

Rule 4-004 1) d) and 2) d)

The ampacities shown in Tables D8A to D11B have been determined using the Neher-McGrath methodology, as applied in IEEE 835, for the cable and insulated conductor arrangements shown in Diagrams D8, D9, D10, and D11.

Variations in any of the parameters that are specified in Diagrams D8 to D11 will impact the resulting ampacity listed in corresponding Tables D8-D11. For example, increasing the depth of burial will reduce the ampacity. Likewise, decreasing the spacing between conductors will reduce the ampacity. It is intended that when changes are made from the spacing and depth values shown in Diagrams D8 – D11, calculation of the ampacity should be performed in accordance with IEEE 835.

Tables D8A to D11B are based on 90 °C. If equipment rated at 75 °C, for example, is connected, then Rule 4-006 may limit the conductor termination ampacity.

For “stacked” arrangements of two single conductors per phase in parallel (one row located vertically over another row), it is recommended that ampacities be obtained from the Detail 5 column of Table D8A (copper) or Table D8B (aluminum) for direct buried cables or from the Detail 2 column of Table D9A (copper) or Table D9B (aluminum) for cables in underground raceways.*

Remainder of Appendix B note remains unchanged.

Add Appendix B Note for Rule 6-100 to read:

SN4604

<p><u>Rule 6-100</u> <u>Meter-mounted transfer switches are covered by ANSI/CAN UL1008M, Transfer Switch Equipment, Meter Mounted.</u></p>	
<p><i>Revise Appendix B note to Rule 6-112 5) to read:</i></p> <p>Rule 6-112 5) Components that meet the requirements of CSA C22.2 No. 82 include</p> <ul style="list-style-type: none"> a) tubular support members; b) support clamps; c) roof plates; d) supply service attachments, e.g., racks; e) service entrance heads; and f) support member terminations (i.e., at the lower end). <p>As an example, a consumer service that does not exceed 200 A and 750 V 1000V, and whose supply service span length is 30 m or less, is acceptable when the maximum unguyed projection of the support member does not exceed 1.5 m, the cantilever load does not exceed 270 kg, three support clamps are used, the upper one being located at the roofline and the other two being installed on the wall of the building, a roof plate is provided to prevent entrance of moisture, the supply conductors or cables are attached on the mast to comply with Rule <u>6-116</u>, and a clearance of not less than 915 mm is provided between the roof and the supply service attachment, except that the clearance may be reduced to 600 mm to the bottom of the drip loops. For a consumer service that exceeds 200 A or is over 750 V 1000V, or whose supply service span length is over 30 m, or for non-standard mast installations (multiple masts supporting each other), additional engineering provisions may be required, and consultation with the inspection department and supply authority may be necessary.</p>	SN4730-6
<p><i>Add Appendix B Note for Rule 6-200 4) to read:</i></p> <p><u>Rule 6-200 4)</u> <u>The grounding and bonding requirements for the installation of a meter-mounted transfer switch are covered in Section 10. Subrule 4) requires a caution label located on the meter mounting device or the meter-mounted transfer switch, using the following or equivalent wording:</u> <u>CAUTION: The generator neutral shall not be connected to the generator frame. CSA Standard C22.2 No 100 requires generators without the neutral bonded to the frame are marked as “NEUTRAL FLOATING”.</u></p>	SN4604
<p>Note: <i>This revision is on hold pending the approval of SN4394-4.</i></p> <p><i>Revise Appendix B note to Rules 8-104 5) b) and 6) b) to read:</i></p> <p>Rules 8-104 5) b) and 6) b)</p>	SN4853

It is intended that Subrule 5) b) or 6) b) be applied when the allowable ampacity of conductors is obtained from tables such as Table 1, 3, 12E , D8A, D8B, D9A, D9B, D17A, D17B, D17C, D17D, D17I, D17J, or D17M in accordance with Section 4.	
<p><i>Revise Appendix B note to Rules 8-200 and 8-202 to read:</i></p> <p>Rules 8-200 and 8-202 If more than one electric range is involved, the initial range will be provided for according to Rule 8-200 1) a) iv) or 8-202 1) a) v), and any subsequent ranges will be provided for by Rule 8-200 1) a) vii) or 8-202 1) a) vii).</p> <p><u>Examples of water heaters referred to in Rules 8-200 1) a) v) or 8-202 1) a) vi), include electric tankless water heaters and electric water heaters for steamers, swimming pools spas or hot tubs, or electric storage-tank water heaters not used for domestic service water heating. A domestic service water heater delivers hot water to fixtures used at a sink, shower, tub and any other appliance.</u></p>	SN4767-R
<p><i>Revise Appendix B note to Rule 10-212 to read:</i></p> <p><i>(paragraph directly preceding Figure B10-11 and title of Figure B10-11)</i></p> <p>This applies only to situations where both the primary and the secondary of the transformer are rated 750 V <u>1000 V</u> or less. At higher voltages, Section 36 requires a station ground electrode to be installed. Figure B10-11 illustrates this alternative means of grounding a system operating at 750 V or less.</p> <p style="text-align: center;">Figure B10-11 Grounding alternative for a separately derived system operating at 750 V <u>1000 V</u> or less</p>	SN4730-10
<p><i>Revise Appendix B note to Rule 10-302 to read:</i></p> <p>Rule 10-302 An impedance grounding device (also known as a neutral grounding device) consists of neutral grounding resistors, single-phase neutral grounding transformers, ground fault neutralizers (resonant or Petersen coil), three-phase zig-zag transformers, or combinations of these, whose purpose is to decrease the level of ground fault current for safety (reduced arc flash), to reduce loss of production, and to mitigate equipment damage.</p> <p>Other benefits of an impedance grounded system are to limit the voltage rise of the other phases so as not to exceed the line-to-line voltage and to stabilize the system voltage-to-ground both during normal operating conditions and during phase-to-ground fault conditions.</p> <p>Conductors for high-voltage systems (greater than 750 V <u>1000 V</u>) are typically insulated for line-to-ground voltages but are labelled as if they are to be applied on line-to-line, solidly grounded systems. A fault on a single phase of an impedance grounded system causes the line-to-ground voltage on the non-faulted phase (s) to rise as high as line-to-line voltage. If this voltage is likely to be applied for longer</p>	SN4730-10

<p>than 1 min, the insulation of the cable should be upgraded so that it can withstand this increased voltage. Cable suppliers should be consulted to confirm if the system being designed requires 100%, 133%, or 173% insulation (or the equivalent, such as the application of 1000 V cable on 600 V impedance grounded systems). The ground grid system of the supply authority should always be interconnected with the consumer's ground grid system. Where impedance grounding systems are installed, a grounded service conductor is not available for this purpose, and a separate conductor may have to be installed to interconnect the two ground grid systems.</p> <p>For systems experiencing a ground fault on one phase and permitted to remain energized in accordance with Table 17, maintenance practices should encourage timely corrective action to avoid the consequences resulting from a subsequent ground fault on a different phase.</p> <p>Figure B10-12 illustrates an impedance grounded system.</p>	
<p><i>Add an Appendix B note for Rule 18-074 to read:</i></p> <p><u>Rule 18-074</u> <u>Rule 10-600 2) exempts extra-low voltage equipment from the requirement for bonding as there is no shock hazard. However, in hazardous locations, a fault to the enclosure or a static generated charge can create an ignition capable spark (for example, with paint spray booths and dust handling systems, or where a person coming comes in proximity to extra-low voltage equipment). A connection to ground at the equipment would be sufficient to meet this requirement. An example of making the extra-low voltage equipment equipotential is by mounting an instrument to steel which is in contact with the facility ground grid. For more information on static electricity control, see recommended practice NFPA 77 and IEC TS60079-32-1.</u></p>	SN4851
<p><i>Revise Appendix B note to Rule 20-060 to read:</i></p> <p><u>Rule 20-060</u> <u>A vehicle refueling appliance without storage is certified in accordance with CSA/ANSI NGV 5.2. and installed in accordance with CSA B149.1. For vehicle refuelling appliances connected to storage, see CSA B108.1.</u> Information on the non-electrical aspects of compressed natural gas (NGV) <u>(CNG)</u> refuelling stations and NGV <u>CNG</u> storage facilities may be found in CSA B149.1 <u>or CSA B108.1 as applicable.</u></p>	SN4747
<p><i>Revise Appendix B note to Rule 22-002 to read:</i></p> <p><u>Rule 22-002</u> Examples of some, but not all, of the occupancies in which Category 1 or Category 2 locations may be encountered are listed in Table B22-1.</p> <p style="text-align: center;">Table B22-1 Examples of Category 1 and Category 2 locations</p>	SN3917

Category 1	
Basements (other than in residential occupancies) Bathhouses Bottling works Breweries Canneries Cold storage plants Dairies (commercial and farm)	Dye works Ice cream plants Ice plants Laundries (commercial) Stables for cattle only Stables for horses in rural farm areas
Category 2	
Abattoirs Casing rooms Chemical works (some) Fertilizer rooms Glue houses Hide cellars Meat-packing plants	Metal refineries Potato storage facilities Pulp mills Railway round houses Stables for horses Sugar mills Tanneries
<i>Add an Appendix B note for Rule 22-300 to read:</i>	
Rule 22-300 <u>Cables that run from a Category 1 or 2 location to another location can transfer liquid or moisture to the other location that might drip on unprotected electrical wiring or equipment. This Rule requires that suitable precautions are taken to prevent this from occurring.</u>	
<i>Revise Appendix B note to Rule 26-420 to read:</i>	
Rule 26-420 Low-voltage surge protective devices (SPDs) or transient voltage surge suppressors are surge suppression products designed for repeated suppression of transient voltage surges on 50 and 60 Hz power circuits not exceeding 750 V 1000V. IEEE C62.41.1 and C62.41.2 describe three general categories of operating environment for surge protective devices. The three system exposure environments are Category A, Category B, and Category C. Surge rating for Category A is intended for outlets and long branch circuits that exceed 10 m in length from Category B or 20 m in length from Category C. Surge rating for Category B is intended for feeders and short branch circuits, distribution panels, heavy appliance outlets with short connections to the service entrance, and lighting systems in large buildings. Surge rating for Category C is intended for outdoor and service entrance installations, service drops from a pole to a building, and underground lines to a well pump. The CSA C22.2 No. 269 series of Standards covers five types of surge protective devices as described in Table B26-1.	

<p><i>Revise Appendix B note to Rule 26-744 10) to read:</i></p> <p>Rule 26-744 10) Some permanently connected <u>and cord connected</u> appliances are <u>permitted to be</u> provided with <u>more than one</u> multiple points of supply as permitted by in accordance with the applicable safety Standard for electrical equipment and are marked accordingly.</p>	SN4804
<p><i>Revise Appendix B note to Rule 46-306 1) to read:</i></p> <p>Rule 46-306 1) Where approved unit equipment includes a list of lamps suitable for remote installations, the requirements of CSA C22.2 No. 141</p> <ul style="list-style-type: none"> <u>a) provide integrated overcurrent protection for the remote lamp's circuit; and</u> <u>b) take into account a voltage drop of 5% in the remote lamp's circuit, unless the list specifies that certain lamps conform to the requirements with a greater voltage drop.</u> <p>Note 4 of Table D3 can be used to determine approximate permissible circuit lengths.</p>	SN4883
<p><i>Add an Appendix B note for Rule 52-000 to read:</i></p> <p>Rule 52-000 <u>Code users should reference Section 24 when imaging equipment installation is located within a Patient Care Area as defined in Section 24.</u></p>	SN4295

Appendix C

<p><i>Add new Clause C5 to read:</i></p> <p><u>C5 Canadian Electrical Code/ National Building Code Liaison Committee</u></p> <p><u>C5.1 Terms of reference</u> <u>The Canadian Electrical Code, Part I (CE Code, Part I) / National Building Code of Canada (NBCC) Liaison Committee shall be responsible for</u></p> <ul style="list-style-type: none"> a) <u>monitoring applicable revisions to the NBCC for the purpose of correlation with Appendix G,</u> <ul style="list-style-type: none"> i) <u>advising the Committee on the CE Code, Part I of relevant NBCC priorities, workplans, activities and revisions that could impact electrical installations, and</u> ii) <u>developing proposals to revise the CE Code, Part I, or the NBCC, or both, where necessary to maintain coordination between the CE Code, Part I and the NBCC,</u> b) <u>monitoring proposed revisions to the CE Code, Part I and advising the Section Subcommittee and the Committee on the CE Code, Part I where such revisions could</u> 	SN4873
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<ul style="list-style-type: none"> i) <u>result in loss of coordination between the CE Code, Part I and the NBCC, or</u> ii) <u>conflict with the provisions of Clause C11.26, C11.27, or C11.28, and</u> c) <u>revising and maintaining Appendix G, in coordination with relevant provisions of the NBCC.</u> <p><u>C5.2 Structure</u> <u>The Executive Committee shall appoint a Chair and a Vice-Chair for the CE Code, Part I/NBCC Liaison Committee. The Chair shall be a voting member of the Committee on the CE Code, Part I. The Vice-Chair shall act as the Committee Chair in the absence of the Chair.</u></p> <p><u>C5.3 Liaison committee membership</u></p> <p><u>C5.3.1</u> <u>It is recommended that representation on the Liaison Committee include the following categories</u></p> <ul style="list-style-type: none"> a) <u>committees responsible for development of the National Building Code of Canada,</u> b) <u>the Chair of the Section 32 Subcommittee;</u> c) <u>the Chair of the Section 46 Subcommittee; and</u> d) <u>a Project Manager provided by CSA.</u> <p><u>C5.3.2</u> <u>It is further recommended that</u></p> <ul style="list-style-type: none"> a) <u>The Liaison Committee be composed of not more than 12 members;</u> b) <u>at the discretion of the committee Chair, the number of members be increased if further representation is required;</u> c) <u>at least three members be voting members of the Committee on Part I; and</u> d) <u>if practicable, the Liaison Committee membership be balanced in representation from the various geographical areas of Canada.</u> 	
<p><i>Revise Clause C6.1 to read:</i></p> <p>C6.1 A request for an amendment to the <i>CE Code, Part I</i> may be submitted to the Project Manager of the Committee on Part I by any person, organization, or committee (see Annex-B). <u>through the following website: https://codeproposal.csagroup.org/</u></p>	<p>SN4798</p>

<p style="text-align: center;">Annex B</p> <p style="text-align: center;">Request for an amendment to the Canadian Electrical Code, Part I</p> <p>Notes:</p> <ol style="list-style-type: none"> 1) This Annex contains the suggested form to be used when requesting a change to the CE Code, Part I. See Clause C6. 2) An electronic version of this form is available for download from www.csa.org/standards/areas-of-focus/electrical/cecode-proposals. <div style="border: 1px solid black; padding: 10px;"> <p>TO: The Project Manager of the Committee on Part I</p> <p>FROM:</p> <p>AFFILIATION:</p> <p>DATE:</p> <p>RE: Request for an Amendment to Rule(s):</p> <p>Primary reasons for request (mark with an "x"):</p> <p>☐ Improve safety</p> <p>☐ Address new technology</p> <p>☐ Correlate with electrical product Standard requirements</p> <p>☐ Correlate with other relevant Standards*</p> <p>☐ Clarify existing wording</p> <p><small>*Relevant Standards include the National Electrical Code, the National Building Code of Canada, CSA C22.3 No. 1, CSA Z32, CSA C282, etc.</small></p> <p>Request (specifically worded):</p> <p>Reasons for request:</p> <p>Supporting information:</p> <p><small>Notice: By submitting this proposal (the "Proposal") to CSA Group, you assign all right, title and interest in the copyright to the Proposal to CSA Group, and you waive all moral rights associated with the Proposal. By submitting this Proposal to CSA Group, you represent and warrant that the Proposal does not contain any content that you do not have a right to transmit and assign under any law or under contractual or fiduciary relationships (such as inside information, proprietary and confidential information learned or disclosed as part of employment relationships or under nondisclosure agreements); or any content that infringes any patent, trademark, trade secret, copyright or other proprietary rights) of any party, and acknowledge that CSA Group is relying on this representation and warranty.</small></p> </div>	
<p>Revise Clause C6.2.1 to read:</p> <p>C6.2.1</p> <p>A request for an amendment to the Code shall</p> <p><u>a) apply only to installations covered by the Scope of the Code;</u></p> <p><u>b) include a specifically worded proposal,</u></p> <p><u>c) include reasons for the proposal, and</u></p> <p><u>d) include supporting data.</u></p> <p>The wording to be added, changed, or deleted shall be submitted in such a way that the</p> <p>intent <u>request for an amendment shall be submitted in such a way that the intent of the</u></p> <p><u>proposed additions, deletions or revisions</u> is clear.</p> <p>C6.2.2</p> <p>An unclear proposal <u>Requests for an amendment that do not meet the requirements of</u></p> <p><u>Clause C6.2.1</u> may be returned to the submitter by the Project Manager after</p>	SN4459-C

consultation with the Section Chair and the Chair of the Committee on Part I.

Appendix D

Revise Table D1 to read

SN4897

Trade designation (CSA Standard)	CSA type designation	Voltage rating	Number of circuit insulated conductors	Size range, AWG or kcmil	Insulation	Covering on each insulated conductor	Outer covering	Reference Notes
Communications cable (C22.2 No. 214)	CMP	300	1 or multiple conductor or multiple coaxial	30 to 6	Thermoplastic	None	Thermoplastic jacket with or without a metal sheath or braid	38
	CMR							36
	CMG							
	CM							
	Cross-connect							
	CMX and CMUC							
	CMH							

Revise note 36) of Table D1 to read

SN4897

36) ~~CMG~~ [CMUC](#) cables that are used to electrically connect communications equipment to a telecommunications network must be not smaller than No. 26 AWG copper. Cables with insulated conductors of No. 28 and No. 30 AWG copper must be permitted for other types of communication applications.

Appendix I

Delete all existing entries in Appendix I

Add the following entry to Appendix I:

SN4914

[Rule 2-100 3\)](#)

[Question: Where the distribution panel is circuit breakers of various sizes, do you need to mark the maximum breaker size on the label adjacent to the breaker?](#)

[Answer: Yes](#)

Add the following entry to Appendix I:

SN4901-A

[Rule 4-004](#)

<p><u>Question:</u> Based on the literal text of Rule 4-004(1)(d) and 4-004(2)(d) in conjunction with Diagram D9, does Diagram D9 apply to underground installations in “conduit and raceway”?</p> <p><u>Answer:</u> Yes</p>	
<p><i>Add the following entry to Appendix I:</i></p> <p><u>Rule 4-004</u></p> <p><u>Question:</u> Based on the literal text of Rule 4-004(1)(d) and 4-004(2)(d) in conjunction with Diagram D11, does Diagram D11 apply to underground installations in “conduit and raceway”?</p> <p><u>Answer:</u> Yes</p>	SN4901-B

Appendix J, Annex J18

Revise Rule J18-072 to read:

SN4851-J18

J18-072 Equipotential Bonding ~~in hazardous locations of extra-low voltage equipment~~ (see Annex JB)

- ~~1) Exposed non-current-carrying metal parts of electrical extra-low voltage equipment shall be made equipotential with nearby conductive parts by a permanent conductive connection between them, including the frames or metal exteriors of motors, fixed or portable lamps or other utilization equipment, luminaires, cabinets, cases, and conduit, shall be bonded to ground using~~
 - ~~a) bonding conductors sized in accordance with Rule 10-616; or~~
 - ~~b) rigid metal conduit with threaded couplings and threaded bosses on enclosures with joints made up tight.~~
- ~~2) Notwithstanding Subrule 1), where raceways or cables incorporate an internal bonding conductor, box connectors with standard locknuts shall be permitted to bond the metallic armour or raceway.~~

Appendix J, Annex JB

Add an Annex JB note for Rule J18-072 to read:

SN4851-J18

Rule J18-072

Rule 10-600 2) exempts extra-low voltage equipment from the requirement for bonding as there is no shock hazard. However, in hazardous locations, a fault to the enclosure or a static generated charge can create an ignition capable spark (for example, with paint spray booths and dust handling systems, or where a person comes in proximity to extra-low voltage equipment). A connection to ground at the equipment would be sufficient to meet this requirement. An example of making the extra-low voltage equipment equipotential is by mounting an instrument to steel which is in contact with the facility ground grid. For more information on static electricity control, see recommended practice NFPA 77 and IEC TS60079-32-1.

Subjects incorporated into this Memorandum of Revisions							
MOR 26-1		MOR 26-2		MOR 26-3		MOR 26-4	
3917	4730-2						
4295	4730-26						
4604	4730-30						
4739	4730-56						
4747	4730-6						
4754	4767-R						
4769	4801-0						
4779	4851-J18						
4789	4901-A						
4792	4901-B						
4798							
4804							
4815							
4824							
4828							
4833							
4836							
4838							
4840							
4851							
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4870							
4873							
4878							
4883							
4886							
4889							
4893							
4897							
4909							
4914							
3961-76							
4148-12							
4150-D							
4459-C							
4730-10							