

OESC Code Rule 26-744

Description of the change: Amend Rule 26-744 Supply connection for appliances

Background

The 18th Edition/1977 Rule 26-744(4) Ontario only Rule was introduced. The Rule mandates the installation of a 240V electric range receptacle, even if gas supply piping or gas connection outlet has been provided for a free-standing gas range. Furthermore, as a general clean up of redundant rules, Ontario only Subrules pertaining to the wiring of an electric dryer are to be removed.

Rationale

26-744(4), (12) and (13) rationale

Currently, as the Rule is written, all new installations or a kitchen renovation in a dwelling unit mandates the consumer to install the 240 V 50 A receptacle at a suitable location, to supply electric energy for an electric range. However, if the consumer wants to install a gas line to supply a gas range in their kitchen, the Rule mandates the 240 V 50 A receptacle still be installed, even though the 240 V 50 A receptacle will not be used. The consumer will be paying the cost of the gas line on top of the cost for the electric range branch circuit which may never be used. This will provide no added safety to the installation.

When the consumer provides a gas line, existing Rule 26-712(d)(ii) will require a 120 V receptacle to be installed at the intended location, to supply electric energy to the gas range.

The proposal will align with the current electric clothes dryer subrule 26-744(2) which requires the installation of a 240 V 30 A receptacle when the electric clothes dryer is intended to be installed.

As part of energy conservation, the current 2012 Ontario Building Code Ontario Reg. 332/12 Article 12.3.1.6 will require one source of energy to supply cooking appliances, effective January 1, 2015.

12.3.1.6. Energy Supply for Kitchen and Laundry Facilities after December 31, 2014

(1) *This Article applies to construction for which a permit has been applied for after December 31, 2014.*

(2) *In order to supply energy to cooking appliances and clothes dryers, every kitchen and laundry space shall be provided with,*

- (a) an electrical outlet,*
- (b) a natural gas line, or*
- (c) a propane line.*

The proposal will avoid conflicting requirements between the Ontario Building Code and the Ontario Electrical Safety Code.

Subrule (12) contains information to apply Section 12 wiring methods and Section 14 wiring protection. There is no added value since this is apparent when wiring a device.

Rule 8-200 provides the requirements to calculate the minimum ampacity of a single dwelling consumer service. Specifically, Rule 8-200(iv) requires 6000 W load to be added into the calculation when an electric range is provided. If the consumer is providing the gas piping and gas range, Ontario Rule 26-744(4) mandates the service size to include the 25 A (6000 W) load factor, which will not be used. This requirement increases the cost of the installation with no additional safety added. Furthermore, if the consumer at a later date removes the gas range and installs the wiring for the electric range, the consumer service size will not be required to be upgraded if the 25 A load factor is added.

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Below is an example of a consumer service load calculation assuming a single dwelling unit with total living area of 279 m² (3500sq ft) and other loads as described below:

Load Designation	Calculated with electric range provided (W)	Calculated without electric range provided (W)
Basic load-first 90m ²	5000	5000
Basic load-additional area	3000	3000
Air conditioning	4000	4000
Electric range	6000	0
Electric dryer	1250	1250
Total calculated	19250	13250
Min ampacity of the service	80.21 A	55.21 A
Required minimum service size	100 A	100 A

26-744(10) and (11) rationale

Subrule (10) provides no added value as this is apparent when providing supply to intended electric clothes dryer. The same logic can be used for Subrule (11).

Supporting References

The current cost to supply the following items:

- #8/3 CU NMD90 Romex 40 m roll is \$235/ 40 m=\$5.88/m
- 14-50R receptacle \$4.69
- 4 x 4 outlet box \$5.79
- 40 A double pole breaker depending on panel manufacturer can range between \$25.00-\$50.00

For example, if the intended distance from the panelboard to the kitchen is located approx 10 m, the material cost would be approx \$110.00 plus labour.

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Code Proposal

26-744 Supply connections for appliances

- (1) Electric heating and cooking appliances shall have only one point of connection for supply.
- (2) Where an electric clothes dryer having an input in excess of 1500 W at 115 V but not exceeding 30 A is intended to be installed in a dwelling unit, a receptacle of CSA Configuration 14-30R, as shown in Diagram 1, shall be installed for the supply of energy to the appliance.
- (3) An electric clothes dryer having an input in excess of 1500 W at 115 V but not exceeding 30 A, and used in a dwelling unit, shall be cord-connected by means of a cord and attachment plug of CSA Configuration 14-30P to the receptacle referred to in Subrule (2).

 Delete CE Code Rule 26-744(4) and replace with:

~~(4) A receptacle of CSA Configuration 14-50R, as shown in Diagram 1, shall be installed at a suitable location in every single dwelling and in every dwelling unit of an apartment or similar multi-dwelling building for supplying electric energy to an electric range.~~

- (4) Where a free-standing electric range, having a calculated demand of 50 A or less, is intended to be installed in a dwelling unit, a receptacle of CSA Configuration 14-50R, as shown in Diagram 1, shall be installed for the supply of electric energy to the appliance.
- (5) The receptacle required by Subrule (4) shall be permitted to be connected to a branch circuit rated at not less than 40 A.
- (6) The receptacle required by Subrule (4) shall be installed
 - (a) above the finished floor at a height not exceeding 130 mm to the centre of the receptacle;
 - (b) as near midpoint as is practicable, measured along the floor line of the wall space intended for the electric range; and
 - (c) with the U- ground slot orientated to either side.
- (7) In a dwelling unit, a free-standing electric range having a calculated demand of 50 A or less shall be cord-connected by means of a cord and attachment plug of CSA Configuration 14-50P. Continued
- (8) Appliances that are intended for connection by a wiring method as specified in Section 12 shall be permitted to be cord-connected using an attachment plug and receptacle.
- (9) The receptacles required by Subrules (2) and (4) shall be flush-mounted wherever practicable.

 Add Rules 26-744(10), (11), (12) and (13) as follows:

- ~~(10) Where a wiring system intended to supply an electric clothes dryer is installed, it shall be connected to a receptacle as outlined in Subrule (3) at the load end and connected to the panelboard at the supply end.~~
- ~~(11) Where a receptacle as required by Subrule (3) is installed, it shall be connected to the panelboard by a wiring system as specified in Section 12.~~
- ~~(12) The range receptacle referred to in Subrule (4) shall be connected to the panelboard by a wiring system as specified in Section 12 and shall have overcurrent protection as required by Section 14.~~
- ~~(13) Notwithstanding Subrule (4), the range receptacle need not be installed in
 - (a) dwelling units where a built-in gas-fired or electric cook top or a built-in gas-fired or electric oven is installed;
 - (b) other than single dwellings where provision has been made for a gas range; or
 - (c) dwelling units where power from a supply authority is not available and the capacity of local generation is less than 6 kW.~~