

DEMAND FACTORS AND USE OF RULE 8-106 FOR SINGLE DWELLINGS**Date of Issue: February 8, 2023****Information Bulletin No: IB-EL 2022-01**

The following bulletin provides guidance on the application of rules pertaining to the 2021 BC Electrical Code Regulation. The requirements of local municipal authorities having jurisdiction may vary. Prior to undertaking work, installers should consult with local authorities having jurisdiction to determine their requirements.

Scope:

This bulletin provides clarification on Rule 8-106 8), and how additional loads, such as a hot tub or electrical vehicle supply equipment, can be added to the existing service of a single dwelling unit.

Code definitions related to Rule 8-106 8)

Basic load – the load of lighting and receptacle circuits, based on the outside dimensions of a specific area of building occupancy, as listed in Table 14.

Calculated load – the load calculated in accordance with the applicable requirements of this Section.

Rule 8-106 8)

Where additional loads are to be added to an existing service or feeder, the augmented load shall be permitted to be calculated by adding the sum of the additional loads, with demand factors as permitted by this Code, to the maximum demand load of the existing installation as measured over the most recent 12-month period, but the new calculated load shall be subject to Rule 8-104 5) and 6).

Based on Rule 8-106 8), the code allows for use of a “maximum demand load” as obtained from the local utility, indicating the existing demand over the last 12 (or more) months. The new load (hot tub, electric vehicle charger, etc.) can then be added to the utility supplied load to calculate the new demand.

Because most utilities provide their customers with a supplied value in an averaged hourly interval (kWh) a correction factor needs to be applied to ensure that there are no peaks that would be intermittent and end up being averaged out during the intermittent metering.

In consultation with several utilities in the province and other Canadian electrical safety regulators, a safety factor of 25% would make allowance for any load diversity that might occur during the hour.

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The service will need to be labelled as per 2-100 n) “other markings to ensure safe and proper operation” to indicate the newly determined kW load calculation based on the historical data and 8-106 8) as well as the date the calculation was performed. Any further additions in load(s) will require a new 12 months of historical information.

Example:

Max Amps = ((highest Utility supplied value in an hourly interval kWh) X 125%) X 1000 / 240V)

- 200A service for a single dwelling unit
- Utility supplied document indicates the maximum kWh reading as 22.29 kWh
- owner looking to add 40A hot tub

Max kWh = 22.29 kWh X 1.25= 27.86

Max Amps = 27.86 X 1000 = 27860 ÷ 240 = 116 A

200 A Service – 116 A = 84 A for future loads.

The marking *The augmented load is 156A (116A historical plus the 40A hot tub load) based on 8-106 8)

Sample :

Augmented Load (8-106 8)	Date of Calculation
156A	DD-MM-YYYY

Provincial Safety Manager

References:

Safety Standards Act

Electrical Safety Regulation

Safety Standards General Regulation

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