
From: BCUC <commission.secretary@bcuc.com>
Sent: Sunday, February 18, 2018 10:48 AM
To: Commission Secretary BCUC:EX
Subject: Letter of Comment
Attachments: CHARGING ELECTRIC VEHICLES.docx

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Proceeding name: BCUC Regulation of Electric Vehicle Charging Service Inquiry

Are you currently registered as an intervener or interested party: No

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Comment:

I am a retired physicist and have five years experience owning a Nissan Leaf and nine months experience of owning a Chevy Bolt

CHARGING ELECTRIC VEHICLES

There are three types of charging systems for electric vehicles. Below I discuss each with recommendations for the future.

LEVEL 1 CHARGES: These chargers are provided with the vehicle by its manufacturer. They are very slow, taking up to four days to charge a 60kwh battery. They can be plugged into a 120v domestic outlet and can take up to 12A, so therefore should be plugged into a dedicated circuit. “ I suggest that the building code be modified to say that electrical outlets in garages and carports should be dedicated circuits”.

LEVEL 2 CHARGERS J1772 : These chargers have standardized plugs which can be used on all electric vehicles except Teslas. (Tesla sells an adaptor to J1772 plugs) . They can recharge a 60kwh battery in about 10hours. These are ideal chargers for an EV owner to have in their garage or carport (G/C), but they require 240v to power them and most G/C's are not wired for 240V. Therefore I suggest that the building code be modified to say that “Garages and carports in new houses and stratas should have a 240v circuit wired”. These are also ideal chargers to have in hotels where guests could charge overnight. These chargers put a fairly heavy load on the grid, so to encourage use during low demand times I recommend that “B.C. Hydro charge reduced rates from midnight until 06.00 a.m.”

The 60kwh's of energy that can be stored in modern ev's is equivalent to about one days hydro use for the average household in the winter and about one week in the summer. So when there is a power outage it could be a useful source of energy for household emergency use but unfortunately, except in Japan, it is not possible to convert the 400v d.c. in the batteries to 129v a.c. “ I suggest that B.C. Hydro encourage the production of invertors that can be plugged into electric cars to convert their battery voltage to 120v a.c.”

LEVEL 3 CHARGERS” These chargers can charge an EV in about an hour or so, but unfortunately there are there are three standards, CHAdeMO (Japanese), CCS/SAE (European) and Tesla (U.S.). I suggest that the BC Utilites Commision ask the federal government to “ encourage an international standard for level 3 chargers”.

Level 3 chargers are not required on local trips but are very useful on long road trips. I suggest that they should be mandatory in “shopping malls, ferry terminals, and full

service remote gasoline stations". Unlike other level chargers, level 3 chargers normally charge for the electricity used, typically about 37 cents/kwh. This I think is too high, the charge should be limited to say 15c/kwh.