

Wednesday, June 20, 2018

Donald Flintoff
6071 Dover Road
Richmond, BC
Don_flintoff@hotmail.com

British Columbia Utilities Commission
Att'n: Commission Secretary
commission.secretary@bcuc.com

**Re: British Columbia Utilities Commission – An Inquiry into the Regulation of Electric Vehicle Charging Service –June 27, 2018 Procedural Conference
Donald Flintoff - Written Submission as per Order G-96-18**

Dear Mr. Wruck,

Please find my written submission for the Procedural Conference - the Inquiry into the Regulation of Electric Vehicle Charging Service (Inquiry) established by Order G-96-18 [Ex. A-34]. In addition to my submission on scope, evidentiary record, further review process and timeline of subsequent process; I've also included comment on the Expanded Inquiry Scope – Appendix A.

Yours truly,

Donald Flintoff.

Submission:

1. The appropriate scope of the Inquiry. Whether the scope of the Inquiry as contemplated in Exhibit A-1 in January 2018 is sufficient or should be expanded or refined. Appendix A of this letter includes a draft Expanded Inquiry Scope for discussion.

The scope should be refined (clarified and narrowed). The Commission should provide a determination on whether the Clean Energy Act (CEA) and its amendment applies to all public utilities [Clean Energy Act, S.B.C. 2010, c. 22, s. 35. Other: OIC 295/2012. February 7, 2017] and is applicable in this Inquiry - both in general and especially the following sections:

Greenhouse gas reduction

18 (1) In this section, "**prescribed undertaking**" means a project, program, contract or expenditure that is in a class of projects, programs, contracts or expenditures prescribed for the purpose of reducing greenhouse gas emissions in British Columbia.

(2) In setting rates under the *Utilities Commission Act* for a public utility carrying out a prescribed undertaking, **the commission must set rates that allow the public utility to collect sufficient revenue in each fiscal year to enable it to recover its costs incurred with respect to the prescribed undertaking.**

(3) **The commission must not exercise a power under the *Utilities Commission Act* in a way that would directly or indirectly prevent a public utility referred to in subsection (2) from carrying out a prescribed undertaking.**

If the above applies, then the Commission must not prevent a public utility from carrying out a prescribed undertaking and the Commission must set rates that allow the public utility to collect sufficient revenue in each fiscal year to enable it to recover its costs incurred with respect to the prescribed undertaking. If this is so, then there is no risk of cross-subsidization.

FortisBC (FBC) believes the Clean Energy Act and its amendments are applicable to DCFC charging stations and these stations are a prescribed undertaking. [Ex. C12-3. p.2, p 35]

BC Hydro (BCH), on the other hand, states there is no obligation to serve; but instead relies upon the revised Mandate Letter dated August 24, 2017 - Government's expectations regarding the principles which are to be considered in the development of BC Hydro's Service Plan. [Ex. C1-4, p.1]

In the August 24, 2017 letter, the Minister's expectation is:

- Provide leadership in advancing government's climate action strategies, including through:
 - fuel switching and electrification initiatives in the transportation, oil and gas, and other sectors;
 - initiatives under the *Greenhouse Gas Reduction (Renewable and Low Carbon Fuel Requirements) Act*, to further reduce emissions in the transportation sector;
 - policies and programs to increase the energy efficiency of buildings;

However, in a subsequent letter¹ dated April 18, 2018, the Minister outlines three key commitments expected of all Crown agencies. "The first commitment is to make life more affordable." Cross-subsidization, while small, still increases the cost and does not seem to comply with the first mandate. The second mandate is "...to deliver the services people count on." As the ownership of EVs is small in relation to ICEs, it would be difficult to demonstrate that an EV charging station is a service that people count on; rather it is a choice. "The third commitment is to build a strong, sustainable, innovative economy that works for everyone." One of the commitments is:

- Provide leadership in advancing the Government's climate action strategies, including through electrification, fuel switching, and energy efficiency initiatives in the built environment, transportation, oil and gas, and other sectors;

¹ <https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/accountability-reports/openness-accountability/2018-2019-bc-hydro-mandate-letter.pdf>

This statement could be inferred to be upheld by the Clean Energy Act and its amendment. Further, the first key commitment appears to oppose the cross-subsidization that is being considered.

Hence, the need for the Commission to address this matter of interpretation and application of the Clean Energy Act, its amendment OIC 101² (Greenhouse Gas Reduction (Clean Energy) Regulation, B.C. Reg.102/2012, is amended) for this Inquiry (British Columbia Utilities Commission - An Inquiry into the Regulation of Electric Vehicle Charging Service) prior to any further process as it applies to all public utilities including those not yet included or exempted from the definition of a public utility.

If all those wishing to provide EV charging stations are, by definition, a public utility; and if the Clean Energy Act and its amendment OIC 101³ (Greenhouse Gas Reduction (Clean Energy) Regulation applies; and the EV charging stations meet the definition of a prescribed undertaking; then:

- ***The Commission the Commission must not prevent a public utility from carrying out a prescribed undertaking and the Commission must set rates that allow the public utility to collect sufficient revenue in each fiscal year to enable it to recover its costs incurred with respect to the prescribed undertaking. Thus, no cross-subsidization can occur outside each fiscal year.***

Hence the Commission's jurisdiction would be limited to setting rates. See BCH Response to Flintoff's IR1, 1.2.1 and 1.2.1.1 [Ex. C1-4, p 1 of 1]

Also, it would be helpful to the participants if the Commission would provide a determination on whether or not the owner/operators of these EV charging stations are public utilities by definition or not.

2. Whether the existing evidentiary record contains adequate information for the Panel's report, given the scope of the Inquiry:
 - a. If so, whether the Inquiry should now proceed to final argument.

After providing the determinations in (1), the Inquiry should proceed to final argument.

- b. If not, what is the appropriate further regulatory review process to gather more evidence for an adequate evidentiary record?

N/A

3. The appropriate timeline of any subsequent process considering the interveners' submissions on items #1 and #2 above.

Considering the size of the record, the appropriate timeline for Final Argument should be not before Friday, August 24, 2018.

² http://www.bclaws.ca/civix/document/id/oic/oic_cur/0101_2017

³ http://www.bclaws.ca/civix/document/id/oic/oic_cur/0101_2017

4. Any other procedural or scope matters interveners wish to present to the Panel for consideration.

None, except for Item #1 above.

Appendix A

Submission on General principles for utility regulation or exemption

1. The framework that the BCUC should consider in determining the regulatory regime for electric vehicle (EV) charging service. For example, should the framework consider the degree of competition, degree of customer captivity, policies to foster growth in EV industry, etc., and what relative weightings should be given to different criteria?

A possible evaluation matrix:

Framework Components	Relative Weightings	Comments
Government Policy (Growth in EV Market)	3	Other programs/projects may have a better outcome.
Need by Ratepayers	9	Low (majority of the public have ICEs not EVs)
Need by EV Industry	1	High (sales may decline)
Investment by EV Industry in BC	7	Low
Risks of Technology Changes	1	New Batteries/Chargers may be developed; and the Hydrogen-Fuel Cell is a serious contender for EVs.
Risk of Cross-Subsidization	1	Risk is high
Amount of Cross-Subsidization	9	Amount is low
the degree of competition to supply charging stations	9	Low
degree of customer captivity	4	Medium (L1&2 stations are plentiful)
The risk of stranded assets	5	Location sensitive
Loss of Federal and Provincial Fuel Tax	1	Currently the amount is low. However, this taxation loss must be made up by other taxes.
Applicability of current rate structures to supply EV charging stations	1	Both FBC and BCH general service rates can be applied.

Relative weightings: 1 being the highest, 10 being the lowest.

2. The appropriate regulatory regime for the following EV charging services, including any combination thereof:

- (a) Public level 1 or 2 stations
- (b) Public DCFC stations
- (c) Stations in multi-unit residential buildings (MURBs)

For a, b and c above, see Flintoff's response [Ex. C4-7, p.3] to BCUC IR 1below.

Assuming that other provincial legislation or regulation does not apply to the public utilities, the factors that could be considered in developing the classes (a class of cases exemption to government in relation to EV charging service) are:

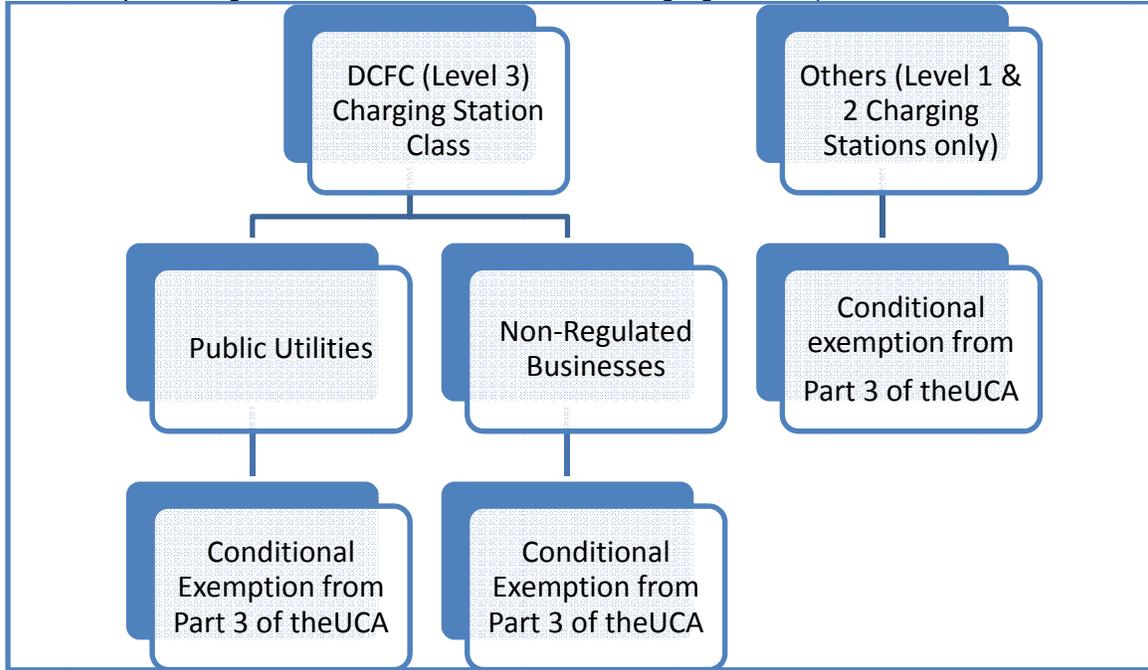


Figure 1 Classes seeking Exemption

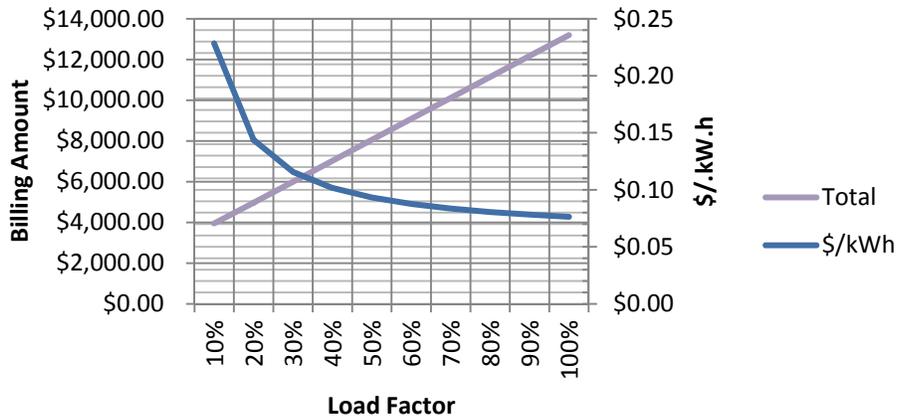
The class, "Others", would have a very low impact on demand load on the grid until such time as the EV numbers become significant. This class (level 1 &2 charging stations only) could include: MURBS, Employers, tenants, stratas, etc. Municipalities are already exempt. The Commission could seek a partial or conditional exemption for level 1 &2 charging stations.

The Commission could seek a partial or conditional exemption for all DCFC (Level 3 and up) charging stations in order to reduce the regulatory burden, but retain demand billing.

(d) Stations in rural areas

The appropriate regulatory regime for the following EV charging services is the status quo. The load factor is more of concern as some of these charging stations may not be profitable.

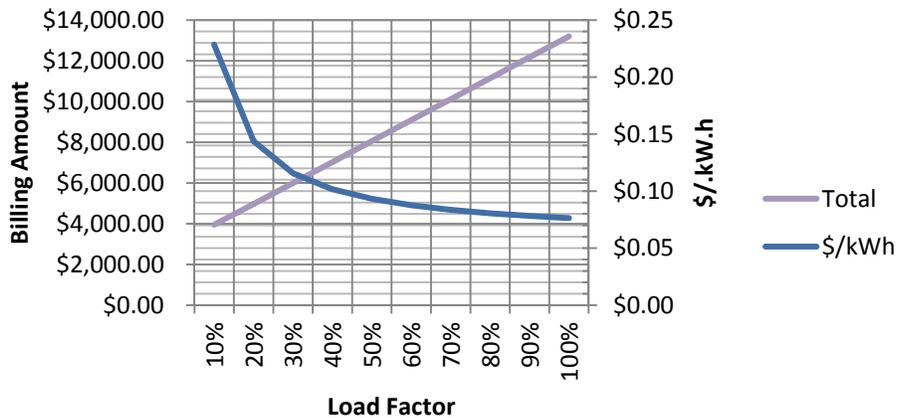
BCH Energy Charges for 240kW DCFC station vs Load Factor for LGS Rates



(e) Stations in urban areas

The appropriate regulatory regime for the following EV charging services is the status quo. The load factor is more of concern as some of these charging stations may not be profitable.

BCH Energy Charges for 240kW DCFC station vs Load Factor for LGS Rates



(f) Public utilities such as BC Hydro (BCH) and FortisBC Inc. (FBC) being the owners and/or operators of the stations

see Flintoff's response [Ex. C4-7, p.3] to BCUC IR 1, (2) above.

(g) Private companies not otherwise a public utility being the owners and/or operators of the stations

see Flintoff's response [Ex. C4-7, p.3] to BCUC IR 1, (2) above.

3. The benefits and detriments of regulating or granting an exemption to public EV charging stations for (i) existing public utilities; and

This depends on whether the CEA and its amendment apply. If they apply and it is a prescribed

undertaking then Commission must not prevent a public utility from carrying out a prescribed undertaking.

(ii) private companies not otherwise a public utility.

This depends on whether the private companies are defined as a public utility under the UCA. If so, then Commission must not prevent a public utility from carrying out a prescribed undertaking.

It would be helpful if the Commission would provide a determination in advance of the Final Submissions for this Inquiry.

4. On a going forward basis, the guiding principles to determine whether a change in the regulatory regime is warranted.

If the CEA and its amendment apply, there is no need for implementing a change in the regulatory regime [UCA].

5. The type and level of information that the BCUC should monitor related to the EV market, if any, and the appropriate parties that would supply the information.

The Commission should not monitor information from the EV market. The Clean Energy Act section 18 (4) and 18 (5) states:

(4) A public utility referred to in subsection (2) must submit to the minister, on the minister's request, a report respecting the prescribed undertaking.

(5) A report to be submitted under subsection (4) must include the information the minister specifies and be submitted in the form and by the time the minister specifies.

The Commission can most likely obtain a copy of a report from the minister. Hence, there is no need to create a separate reporting requirement.

6. The most appropriate course of action if the BCUC finds that certain matters should not be regulated. For example, a recommendation to amend the UCA, a recommendation to establish a prescribed undertaking, an exemption under the UCA, or other.

Assuming the CEA and its amendment does not apply and if the BCUC finds that certain matters should not be regulated, an appropriate course of action is two-fold. First, apply for conditional exemptions from certain parts of the Utilities Commission Act and ask that the service provided be a prescribed undertaking. However, this assumes that those who meet the definition of a public utility require an exemption under the CEA and its amendment.

7. If any exemptions are to be granted, the specific sections of the *Utilities Commission Act* that should be exempted or preserved with respect to those exemptions.

Assuming the CEA and its amendment do not apply, Companies not otherwise public utilities supplying electricity to EV end users should be exempt from the following section of the UCA.

Conditional Exemption from sections in Part 3 of the UCA				
DCFC (Level 3 & up) Charging Stations				Level 1 & 2
UCA Section	Description	Exemption for Public Utilities	Exemption for Non-Regulated Businesses	Exemption for Others
25	Commission may order improved service	No	Yes	Yes
38	Public utility must provide service	No	Yes	Yes
42	Duty to obey orders	No	No	No
43	Duty to provide information	No	No	No
44	Duty to keep records	No	Yes	Yes
49	Accounts and reports	No	Yes	Yes

Yes – means exempt from the UCA section.

No – means not exempt from the UCA section.

8. Whether companies not otherwise public utilities supplying electricity to EV end users should be regulated or not. If there is some form of regulation, then consider:

- a. The ways in which site hosts should establish their customer rates (e.g. an energy-based rate, time-based rate, and/or time-of-use based rate, etc.)

Site hosts should use energy-based rates set by them for the present market conditions. If energy-based meters are not available then time-based rates could be used until energy-based meters become available.

- b. The reliability and accessibility of public stations.

The reliability of public stations operated by public utilities should emulate the reliability of the public utilities' grids (BCH and FBC).. However, under section 26 of the UCA, the Commission may be able to establish a reliability standard that applies to both public utilities and others equally.

By accessibility, I think the Commission means by all different types of EVs. As each manufacturer may have different connection patterns, I would see no need to regulate accessibility as this standard would be determined by the Canadian Standards Association.

c. The obligation of companies to supply service.

BCH states “There is no enactment that obliges BC Hydro (and I assume anyone else) to provide EV charging services. As a public utility, BC Hydro has an obligation to serve that is largely established by Commission orders, including for example the establishment of rates, terms and conditions that allow for or require particular services including, potentially, EV charging services.” [Ex.C1-4, p. 1] In this case the obligation to serve is from Commission orders not the legislation. BCH response to “Why should BC Hydro participate in providing non-traditional services such as DC fast charging when it may incur a financial risk to the ratepayer, not the taxpayer?” was “BC Hydro participation is not a question of necessity, but of desirability.”[Ex. C1-4] BCH may have been mandated by the government to proceed with this non-traditional service but it is definitely not obligated to undertake it by legislation.

d. The safety of public EV charging stations in terms of installation, operations, and maintenance.

The safety of public EV charging stations depends on the regulatory status of the site host.

- ***If the site host is a public utility then the Safety Standards Act Electrical Safety Regulation does not apply to a public utility as defined in the Utilities Commission Act in the exercise of its function as a utility with respect to the generation, transmission and distribution of electrical energy. Therefore, it is the Commission’s responsibility to ensure safety under sections 23, 25, 26, 27, 37, 38, and 49 of the Utilities Commission Act.***
- ***If the site host is not a public utility then the Safety Standards Act Electrical Safety Regulation does apply and safety considerations will be dealt with by Technical Safety BC (downstream of the meter), not the Commission.***

e. The appropriate allocation of regulatory costs.

All regulatory costs for this Inquiry and future proceedings should be recovered by the Commission. However, if it is determined that the CEA and its amendment apply and the general service rate is acceptable then the cost to set the resale rate would not be prohibitive.

9. Electric utilities provide electricity supply to site hosts under certain commercial rate classes. For example, for customers who install a stand-alone fast charging station, BC Hydro charges them under general service rates. Should public utilities apply their current rate schedules, develop a new rate schedule, or use some other basis for rate design to serve site hosts for the resale of electricity to end users.

Yes, the general service rates adequately address the EV charging requirements and protect the ratepayer at the same time. See BCH IR Response “Flintoff” 1.4.3 [Ex. C1-4, p.1]

10. In the case of (i) home EV charging and/or (ii) when the public utility is the owner/operator of the public charging stations, whether public utilities should apply their current rate schedules, develop a new rate schedule, or use some other basis of rate design to serve EV end users directly.

Public utilities should apply their current rate schedules. See BCH Ex. C1-4, IR Response “Flintoff” 1.4.3

When setting the resale rate to EV owners, the question of the lost fuel tax revenue needs to be addressed.

11. Participants filed submissions that establishing a profitable business model for EV charging infrastructure is challenging because of high upfront investment costs, low and uncertain near-term demand, and competition from home charging. 80% of charging activity typically happens at home. Should a public utility's rate design for home EV charging consider the potential cannibalization of its own public charging station investments?

At home charging should not impact public charging investments or rate design. The general service rates for supply by BCH and FBC appear to be adequate and fair. The marketplace should determine the rates for energy supply to EVs not the Commission.

12. The degree to which the EV load would affect electricity grid stability, load shaping, and/or generation, transmission and distribution capacity.

The site host should bear the cost of an EV charging station's impact on electricity grid stability, load shaping, and/or generation, transmission and distribution capacity.

13. The degree of stranded asset risks in EV charging station investments due technology changes, competition, or other factors.

As rural locations are more prone to insufficient revenue, and urban location may be affected by "at home" charging, the degree of stranded asset risks in EV charging station investments should be considered along with the shift in technology.

14. The degree to which the *Clean Energy Act*³, Greenhouse Gas Reduction (Clean Energy) Regulation⁴, or other government policies would guide public utilities investments in EV charging infrastructure.

Exhibit C1-2, BC Hydro evidence, p. 14.

http://www.bclaws.ca/civix/document/id/consol24/consol24/00_10022_01

http://www.bclaws.ca/civix/document/id/loo88/loo88/102_2012

As the Clean Energy Act, and Greenhouse Gas Reduction (Clean Energy) Regulation are legislation, they should apply first before government policy is considered.

15. Whether a level playing field should be considered between public utilities and third-party private investments, and if so, how accomplished. For example, some interveners submit that public utility involvement in the EV market may potentially stifle competition.

There is no level playing field between public utilities and third-party private investments as the public utilities have access to the rate base funding which undermines competition. Private investments will not have access to rate base funding and may request government subsidies to have a level playing field.

16. The BCUC must set rates that are not unjust, unreasonable, and unduly discriminatory. Undue discrimination may occur when one group of customers subsidizes another group of customers. If public

utilities provide EV charging services within their regulated business, is there a risk of cross subsidization from other rate classes to support this new service and if so, is the rate design potentially unduly discriminatory? The BCUC recently found that there is no economic or cost of service justification to justify all utility customers subsidizing low-income rates. Is there a cost of service justification for all utility ratepayers subsidizing EV charging infrastructure and service delivery?

If public utilities provide EV charging services within their regulated business, there is a risk of cross-subsidization. If the CEA and its amendment apply then there is no risk of cross-subsidization as the that may lead to the Commission must set rates that allow the public utility to collect sufficient revenue in each fiscal year to enable it to recover its costs incurred with respect to the prescribed undertaking.

In this instance (all utility customers subsidizing low-income rates), would the Commission not be subsidizing higher income earners and the EV industry by providing preferential rates? There is no need to subsidize the EV charging infrastructure and service delivery, as the general services rates provide an adequate means of recovery the supply cost and the marketplace will regulate the service delivery cost accordingly. See BCH Ex. C1-4, IR Response "Flintoff" 1.4.3

17. Whether public utilities should include EV charging stations in their regulated rate base or through a separate non-regulated entity. On a related note, section 6 of Special Direction No. 7 to the BCUC provides that in setting rates for BC Hydro, the BCUC must include the net income of the BC Hydro's subsidiaries, assuming that the net income of Powerex Corp. equals trade income. Section 6 of Special Direction No. 7 may be interpreted to mean that the net income of BC Hydro's other non-regulated subsidiaries including PowerTech Labs Inc. would impact BC Hydro. Should the BCUC consider the issue of regulated rate base vs. separate non-regulated entity differently for BC Hydro relative to other regulated electric utilities?

No. If the Clean Energy Act and its amendment interpreted in (1) applies then BCH, and any other entity defined as a public utility, can proceed with a prescribed undertaking. If the Clean Energy Act and its amendment interpreted in (1) does not apply then is BCH allowed to proceed? If so, then the Commission should not consider the issue of regulated rate base vs. separate non-regulated entity differently for BC Hydro relative to other regulated electric utilities as the non-regulated entity does not impact the public interest for rate setting for this non-traditional service.

18. If EV charging infrastructure and delivery require subsidization, who should provide the subsidy?

The EV Industry first, then second, the taxpayers should provide the subsidy, not the ratepayers. The indirect tax is not determined by income but by energy usage. Therefore higher incomes escape paying their fair share of the tax. That being said, if the Clean Energy Act and its amendment interpreted in (1) apply then the discussion is moot.

19. Matters related to reliability, accessibility, obligation to serve, safety, and regulatory cost allocation, similar to items 8b through 8e above.

From the same page in the rate design Decision, “The Panel also agrees with the court in Prince George, that “a rate which is set, without regard to what is a fair and reasonable charge for the services rendered by a public utility, for the express purpose of compelling some consumers to subsidize others, is, in my opinion, inconsistent with the statutory provisions governing rates.”

Might the possible outcome of this Inquiry not compel some ratepayers to subsidize others? Those that cannot afford the more expensive EVs may end up subsidizing the higher income brackets at the expense of the lower income brackets.

BC Hydro 2015 Rate Design Application Decision dated January 20, 2017, p. 59.
http://www.bclaws.ca/civix/document/id/lc/statreg/28_2014

Submission on Other

20. Participants filed submissions regarding the need to standardize the hardware (e.g. plug or adaptors) and software (e.g. network management and payment systems) of the EV charging stations. Are hardware and software standards within the purview of the BCUC’s regulation? And if so, the extent of the regulation that ought to be applied to these standards.

- the appropriate parties that would supply the information.

I don’t believe that the hardware/software standards are within the purview of the Commission. Rather these would come under the Canadian Standards Association jurisdiction. See <https://www.csagroup.org/documents/codes-and-standards/CSA-Public-Report-EN.pdf>