



May 3, 2018

Sent via email/eFile

BCUC REGULATION OF ELECTRIC VEHICLE CHARGING SERVICE INQUIRY EXHIBIT A-30
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Dale Littlejohn
Community Energy Association
Vancouver, BC
dlittlejohn@communityenergy.bc.ca

Re: British Columbia Utilities Commission – An Inquiry into the Regulation of Electric Vehicle Charging Service – Project Number 1598941 – Information Request No. 1

Dear Mr. Littlejohn:

Further to your March 16, 2018 filing of written evidence with respect to the above-noted Inquiry, enclosed please find British Columbia Utilities Commission (BCUC) Information Request No. 1. In accordance with the regulatory timetable, please file your responses on or before Wednesday, June 6, 2018.

The BCUC's Rules of Practice and Procedure (Rules) set out in Order G-1-16 provide guidance and establish requirements for participants in BCUC proceedings. Subject to section 14 of the Rules, all parties that receive an information request must provide full and adequate response to each question.

The BCUC's Rules of Practice and Procedure can be viewed here:
<https://www.ordersdecisions.bcuc.com/bcuc/orders/en/127520/1/document.do>

If you have any questions regarding the information request process, please contact Commission Secretary.

Sincerely,

Original signed by:

Patrick Wruck
Commission Secretary

/dg
Enclosure



**British Columbia Utilities Commission
An Inquiry into the Regulation of Electric Vehicle Charging Service**

INFORMATION REQUEST NO. 1 TO COMMUNITY ENERGY ASSOCIATION

A. BASIS FOR EV CHARGING SERVICE REGULATION EXEMPTION

**1.0 Reference: Exhibit C34-2, pp. 2, 6, 7–8
Basis for regulation**

On page 2 of Exhibit C34-2, Community Energy Association (CEA) states:

Not having a blanket exemption for charging for electricity for these [Level 2] stations is currently hindering adoption of EV charging in some sectors such as strata corporations.

- 1.1 Please comment on whether, in the view of CEA, there are other factors (besides the lack of a blanket exemption) that are hindering adoption of Level 2 EV charging. Please explain whether the CEA considers that a utility regulation exemption alone will promote increased EV uptake.
- 1.2 Please comment on adoption issues specific to strata corporations.

On page 6 of Exhibit C34-2, CEA states:

in small communities, DCFC [Direct Current Fast Charger] is currently operating as a regional monopoly for utilities given their unique cost and capability advantages.

...

Currently, EV owners who have a practical or operational need for a fast charge ARE captive to the BC Hydro and FortisBC networks regionally as there are currently few other owner/operators. As more large local governments deploy their own DCFC, this captivity will diminish in larger urban centers.

...

In small communities, the captivity is greater and will continue for the foreseeable future in the absence of revised pricing direction from the commission.

- 1.3 Please discuss whether CEA believes that this “regional monopoly” is justification for utility regulation of DCFC in small communities, or explain otherwise.
- 1.4 Please elaborate or provide examples of what “pricing direction” CEA believes would alleviate captivity of DCFC customers in small communities.
 - 1.4.1 Please clarify whether CEA is of the view that BC Hydro or FortisBC Inc. be required to provide a different rate schedule for the EV infrastructure class of service.

On pages 7 to 8 of Exhibit C34-2, CEA states:

As the providers of capital and requiring service levels, small local governments hosting DCFC on their property and contracting with utilities to own and operate the DCFC can be viewed as customers of the utility. Currently these customers ARE captive given no other practical choices except the electric distribution provider locally. These customers, once the contracts are in place continue to be captive for the life of the infrastructure.

...
BCUC could provide valuable assistance to small local governments by providing an oversight or dispute resolution mechanism to ensure utilities who own and operate municipally-funded DCFC meet their expectations.

...
There may be a valuable role for BCUC to play in regulating (perhaps in a light-touch, complaint-based manner similar to small district energy systems) support services, particularly tier-2 and onsite support to ensure small local governments with limited capacity.

1.5 Please discuss whether CEA believes that the BCUC should also have a similar light-touch role for any site host/third-party providers who may own or operate municipally funded charging stations in future.

1.5.1 Please comment on whether CEA considers this potential role for the BCUC would still be appropriate in a fully competitive environment that could develop in the future.

**2.0 Reference: Exhibit C34-2, p. 2
Exhibit C6-2, p. 5
BCUC Thermal Energy System Guidelines (TES Guidelines) p. 7
Class of cases exemption**

On page 2 of Exhibit C34-2, CEA states:

Not having a blanket exemption for charging for electricity for these stations is currently hindering adoption of EV charging in some sectors such as strata corporations.

On May 19, 2016 by Order G-71-16, BCUC granted Bakerview EcoDairy an exemption from Part 3 of the UCA, except sections 25, 38, 42, 43, 44 and 49.¹

2.1 In CEA's view, if BCUC were to recommend a class of cases exemption to government in relation to EV charging service, what factors should be considered in developing the classes? Further, what sections of the UCA, in CEA's view, should EV charging service be exempt from?

2.2 Does CEA have a view on what the classes could be (e.g. based on different levels of EV charging equipment, charging station geographic locations, type of dwelling, owner/operator structure, some combination of the above, or others)? If yes, please describe.

On page 7 of the BCUC's Thermal Energy System Guidelines (TES Guidelines), it states:

Strata Corporation TES²: A TES owned or operated by a Strata Corporation, or the Strata Corporation's lessee, trustee, receiver or liquidator, that supplies the Strata Corporation's owners, is exempt from Part 3 of the UCA other than sections 42, 43 and 44.

2.3 In CEA's view, should an exemption similar to the Strata Corporation exemption in the TES Guidelines be considered for Strata Corporations if EV charging service were to be regulated by the BCUC? Please discuss.

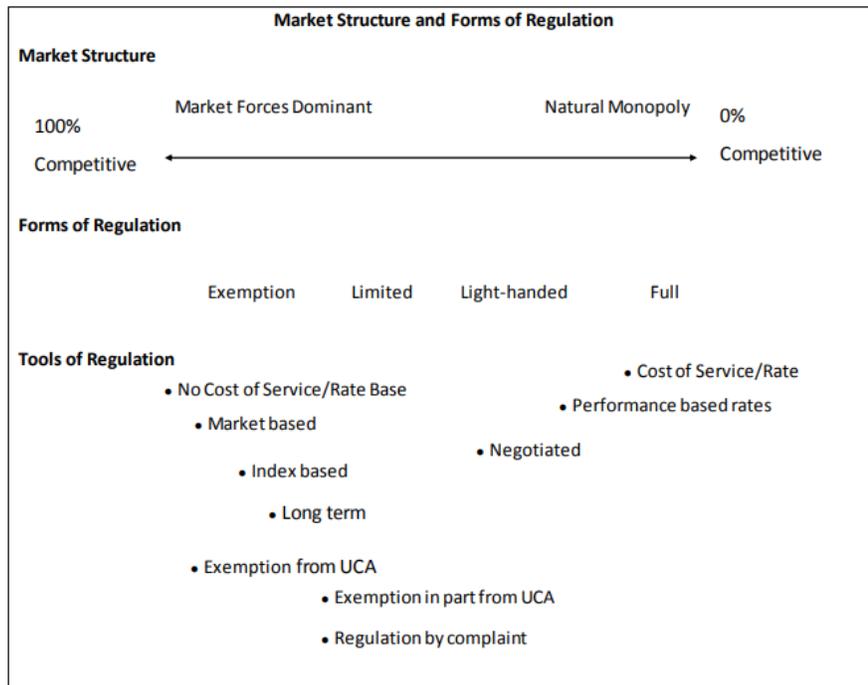
¹ http://www.bcuc.com/Documents/Proceedings/2016/DOC_46352_05-19-2016_Bakerview-Exemption-Approved_G-71-16.pdf

² As defined by the *Strata Property Act* [SBC 1998].

**3.0 Reference: BCUC Inquiry into FortisBC Energy Inc.’s Offering of Products and Services in Alternative Energy Solutions (AES) and Other New Initiatives proceeding, Order G-231-13A with reasons for decision, pp. 23–24
Proposed regulatory framework and guide for thermal energy service utilities**

On pages 23 and 24 of the Reasons for Decision attached to Order G-231-13A, the BCUC states:

The [AES]³ Inquiry found that the form of regulation should be determined by the market structure. The Panel agrees with this assessment. The figure below illustrates the Panel’s view of the relationship between market structure and the various tools of regulation.



The Panel in Order G-231-13A also agreed with the basic regulatory concepts outlined in the AES Inquiry Report whereby regulation should be the option of last resort and competition should always be preferred over regulation.

- 3.1 Please discuss whether the BCUC in this EV Inquiry should consider the relationship between market structure and forms of regulation, as shown above in the diagram. If not, why not?
- 3.2 Suppose the BCUC uses the above diagram as a guide to determine the appropriate form of regulation. Given the market structure noted in CEA’s submission, what would be the corresponding form of regulation and tool of regulation? If any different, please explain in terms of the CEA’s view of the current market structure and the expected market structure in the next 3-5 years.

³ Inquiry into FortisBC Energy Inc.’s Offering of Products and Services in Alternative Energy Solutions and Other New Initiatives

B. INVESTMENT DECISION

**4.0 Reference: Exhibit C34-2, pp. 5, 7
Business model – DCFC**

On page 5 of Exhibit C34-2, CEA provides an illustrative example of a Level 3 Charging Station Business Model. Further, CEA states that the example “is known to be incomplete regarding differences in utility vs non-utility ownership and operation.”

Level 3 Charging Station Business Model			
		1 station	10 stations
Annual Non-Electricity Operating Costs			
Network & Monitoring fee	\$ 150		
Maintenance (air filters, confirm toque)	\$ 1,000		
Subtotal		\$ 1,150	\$ 11,500
Asset renewal fund (10 year life)	\$ 3,500		
Total		\$ 4,650	\$ 46,500
Repairs (non-warranty and vandalism)	tbd		
Staff time for tier-2 support	tbd		
Monthly Electricity costs (BCH MGS)			
Basic charge/day	\$ 0.243		
Monthly avg		\$ 7.29	\$ 72.87
Demand charge per kW over 35	\$ 4.92		
Demand for 50kW service		\$ 73.80	
Subtotal		\$ 81.09	
Rate rider	5%		
Subtotal	\$ 4.05	\$ 85.14	\$ 851.41
Energy charge per kWh	\$ 0.088		
Per 6kWh charge event	\$ 0.528		
Average resale price per kWh	\$ 0.350		
Net electricity	\$ 0.262		
Net electricity / charge event		\$ 1.57	
Monthly 6kWh (\$1.57 net) charge events required to break even on:			
Electricity Costs			
Utility - no demand charge	\$ 4.87	\$ 48.67	
Non-Utility - incl demand charge	\$ 54.16	\$ 541.61	
Annual non-electricity operating costs			
Total	\$ 246.50	\$ 2,465.01	
sub-total (no asset renewal)	\$ 60.96	\$ 609.63	
Both electricy & non-electricity costs			
Utility without asset renewal	\$ 65.83	\$ 658.30	
Non-utility with asset renewal	\$ 300.66	\$ 3,006.62	
Daily charge events for break even			
Both electricy & non-electricity costs			
Utility without asset renewal		2	22
Non-utility with asset renewal		10	100

- 4.1 Please submit a live working model or excel spreadsheet of CEA’s sample business model.
- 4.2 Please clarify CEA’s statement in that “[the illustrative example] is known to be incomplete regarding differences in utility vs non-utility ownership and operation.” Please identify the incomplete factors and explain how they may impact CEA’s analysis and conclusion.
- 4.3 Please elaborate on the assumption that utilities do not charge themselves demand charges and indicate how or where a utility would allocate the inherent cost of the peak load on generation capacity and infrastructure that is associated with a public EV charging station.
- 4.4 Based on CEA’s sample business model, it appears that there are no economies of scale for a site host/third-party provider to own or operate 10 DCFC stations. Please discuss whether there are any economies of scale to own or operate multiple DCFC stations.
- 4.5 Please clarify if ‘station’ means a charging port or a general charging facility that may or may not have multiple charging ports.

- 4.5.1 If the latter, is the model based on one station having one charging port?
- 4.5.2 Please clarify if there are any economies of scale to have multiple ports per station. What are the costs and benefits of multiple ports per station?
- 4.6 Please clarify if the 'Demand charge' in the model should be assessed for the peak demand over 35kW or the total peak demand of 50kW (i.e. Rate * 15kW or Rate * 50kW).

On page 7 of Exhibit C34-2, CEA states:

While exemptions to electricity resale are possible for DCFC and were explored by Accelerate Kootenays, the cost advantages and distribution asset management capacity that utilities have make them the only practical owner / operator for small local governments at this time.

- 4.7 Please elaborate on the cost advantages and disadvantages of public utility vs site host/third-party ownership models. Are there any other considerations beside costs?

**5.0 Reference: Exhibit C34-2, p. 5
Exhibit C12-2, Appendix 5
Business Model – City of Vancouver**

On page 5 of Exhibit C34-2, CEA provides an illustrative example of a Level 3 Charging Station Business Model.

In Exhibit C12-2, Appendix 5, FortisBC Inc. includes a City of Vancouver (CoV) report (CoV Report) titled "City of Vancouver User Fees for City Owned and Operated Public Electric Vehicle Charging Stations Report". On page 8 of the CoV Report, Table 3 shows the proposed initial profit-less calculations for a DCFC station as follows:

Appendix 5

APPENDIX A
PAGE 8 OF 11

Table 3 - Proposed Initial Profit-Loss Calculations for a DC Fast Charging Station

Item	Unit Qty.	Per Session	Monthly
Typical Session Energy (kWh)		25	
Installed Capacity (kW)	50		
# Sessions	-	1	125
Usage Length (regardless of energy consumption) (hours)	0.5	0.5	62.5
Fixed Costs			
Capital cost	\$40,000		
Labour & Installation	\$50,000		
Annual Network Fee	\$225		\$18.75
Basic Daily Utility Charge	\$0.2429		\$7.39
Annual Maintenance	\$200.00		\$16.67
Variable			
Electricity Cost (\$/kWh)	0.0880	\$2.20	\$275.00
Demand Charge (\$/kW)	4.92		\$246.00
Rate Rider	5%		\$26.42
Swipe Transaction Fee (\$/txn)	0.91	0.91	\$113.75
Total Variable Costs		\$3.11	\$661.17
Total Operating Costs			\$703.97
User Fees Revenue	\$16.00	\$8.00	\$1,000.00
Net Revenue over operating			\$296.03
Annual Revenue over operating			\$3,552.31
Simple Payback (yrs)			25.336

- 5.1 To the extent possible, please restate CEA's illustrative example Level 3 Charging Station Business Model in a similar format as provided by the CoV.