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Utilities Commission

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May 3, 2018

Sent via email/eFile

BCUC REGULATION OF ELECTRIC VEHICLE CHARGING SERVICE INQUIRY EXHIBIT A-12

Mr. David Li
The City of Vancouver
david.li@vancouver.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. Li:

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

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

INFORMATION REQUEST NO. 1 TO CITY OF VANCOUVER

A. BASIS FOR EV CHARGING SERVICE REGULATION EXEMPTION

1.0 Reference: Exhibit C5-2, pp. 12-13
Regulatory oversight of EV charging service

On page 12 of Exhibit C5-2, City of Vancouver (Cov) also states:

> In general, the Commission should forbear from regulating the service providers to the extent the market conditions allow, but remain available to resolve disputes on a complaint basis.

1.1 Please discuss how the BCUC can remain active to resolve complaints when it forebears from regulation?

1.1.1 Who should pay for the BCUC costs to resolve complaints?

On page 12 of Exhibit C5-2, CoV states:

> The safety of EV charging stations must be regulated. This regulatory oversight is critical from the perspective of avoiding personal injuries or death and/or property damage. Similarly, a safety incident at an EV charging station will rightly raise concerns about the technology and hinder the adoption of EVs.

Further on page 13, CoV states:

> The City also believes that the Commission or Province should offer guidance, and potentially regulation, on the reliability of EV charging stations so users of the infrastructure, and potential future users, have confidence in its ability to provide the level of service people have come to expect with gasoline and diesel fueling.

In accordance with the *Utilities Commission Act* (UCA), the BCUC does not regulate municipality or regional district in respect of services provided by the municipality or regional district within its own boundaries.

1.2 Please discuss the safety oversight for EV charging stations that are owned or operated by the CoV.

1.3 Please discuss the installation, operations, and maintenance requirements of public EV charging stations. For instance, are there any requirements established for which installations, operations, and maintenance of public EV charging stations must be handled by trained and certified electricians? Are there any permit/inspection process?

1.4 Please discuss whether there are any existing minimum requirements of the owner and/or operator of public EV charging stations to purchase liability insurance, or other insurance, to cover against potential losses.

1.5 Please briefly discuss the regulatory oversight of safety for home EV charging stations that are downstream of the utility's electricity meter.

1.6 Please clarify how/why property damage should be regulated by the BCUC. Why shouldn't property damage be the responsibility of the site host? Please discuss.

1.7 In CoV's view, what are the indicators for "reliability" of an EV charging station?

1.8 If EV charging service is regulated, please discuss CoV's views on what would be BCUC's role as a regulator in relation to (i) safety and (ii) reliability?

B. INVESTMENT DECISION

2.0 Reference: Exhibit C20-1, p. 6; Exhibit C15-2, p. 2
Direct current fast charging - third-party investment

On page 6 of Exhibit C20-2, AddÉnergie Technologies Inc. (AddÉnergie) states:

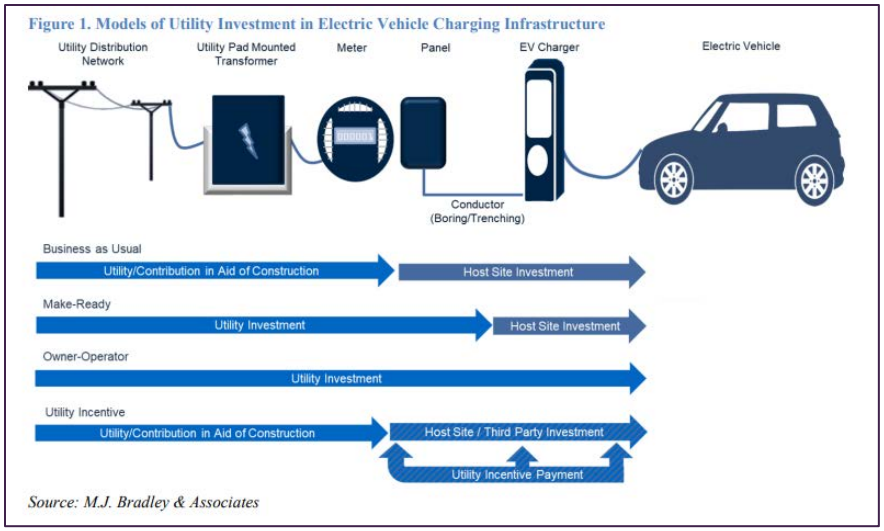
> That the major barrier to EV charging station competitiveness is that British Columbia lacks a comprehensive network of charging stations and that one is unlikely to be developed by [third-party] investment alone.

On page 2 of Exhibit C15-2, Greenlots states:

> [Unfortunately] a sustainable, competitive market is aspirational, and is unlikely to arise prior to the adoption of a critical mass of electric vehicles. This is primarily on account of a lack of a business model for the ownership and operation of public charging stations based on sustainable revenues from charging activities, and this has thus far resulted in a fundamentally inadequate amount of [third-party] investment in such charging infrastructure.

In a report authored Georgetown Climate Center and by M.J. Bradley & Associates, titled "Utility Investment in the Electric Vehicle Charging Grid: Key Regulatory Considerations" dated November 2017 (GCC-MJBA Report) [1], on page 9, Figure 1 provides the models of utility investment in EV charging infrastructure: (i) business as usual, (ii) make-ready, (iii) owner-operator and (iv) utility incentive.

[1] http://www.georgetownclimate.org/files/report/GCC-MJBA_Utility-Investment-in-EV-Charging-Infrastructure.pdf



2.1 Please discuss the pros and cons of the four business models that are noted in the GCC-MJBA Report. Include considerations such as market growth, business sustainability, customer impacts, public interest, competition, and appropriate level of utility regulation.

On page 6 of Exhibit C5-2, CoV discusses its Residential Curbside Pilot Project and the Non-Residential Curbside Pilot Project.

2.1 Please further discuss these pilot projects including who pays for the installation and ongoing maintenance. How do the residents ensure its "exclusive use?" Are there fees to those residents that invested in the curbside EV charging stations in front of their homes? Are there fees to the general public?

2.2 How many EV charging stations and ports are on the City's public network?

C. TECHNOLOGY

3.0 Reference: Exhibit C5-2, pp. 8–9, Exhibit C3-2, p. 2
Open Charge Point Protocol

On pages 8 and 9 of Exhibit C5-2, City of Vancouver (CoV) states: "For the EV charging service owner and operator… the choice of EV charging infrastructure, equipment and technical support would be competitive at the time of purchase…."

On page 2 of Exhibit C3-2, Drive Energy states:

> …the EVSE [EV Supply Equipment] owner, who are also clients of vendors, are captive of a monopoly/oligopoly structure in which they are tied to the provider of the hardware (charging station) that they have purchased. As mentioned above, until the smart EVSEs operate on Open Charge Point Protocol [OCPP] like ABB, Easton or Tritium DCFCs, all level 2 hardware is tied to the same company to provide payment processing & service and are very vulnerable to uncompetitive monthly fees and payment processing fee hikes.

3.1 Do CoV EV charging stations currently use ChargePoint, AddÉnergie or Open Charge Point Protocol (OCPP)? Further, will CoV's next generation EV charging stations use the same software? Please discuss.

3.2 In CoV's view, based on Drive Energy's comments, please discuss the degree of captivity in the North American EV charging station market on a (i) manufacturer level and (ii) payment processing and service level.

3.2.1 What role would the British Columbia Utilities Commission (BCUC) play, if anything, in terms of captivity of a monopoly/oligopoly at the manufacturer level or payment processing and service level? Please discuss in light of the BCUC's jurisdiction as a public utility regulator. Are there other entities that would be more appropriate for such oversight?

3.3 Please discuss CoV's view on the benefits and drawbacks of using OCPP. Would there be additional costs association with OCPP?

D. RATES

4.0 Reference: Exhibit C5-2, pp. 15, 17; Exhibit C1-2, p. 7
Rate design – EV charging station to EV customers

On page 15 of Exhibit C5-2, CoV states:

> For example, the City has chosen to set time-based rates to keep them simple, and aligned with our parking rates. We have also decided to allow those rates to vary from station to station depending on how busy it is – if a station is under-utilized, we will reduce the rate and if it is over-utilized, we will increase the rate.

4.1 Please discuss the pros/cons of establishing a price based on customer utilization rates. What are the customers behaviours that CoV is intending to incent?

4.2 Please clarify which party determines when the pricing at EV charging station should change. What are the criteria which necessitates rate changes?

4.2.1 What has been the customer feedback regarding this type of pricing?

4.3 How does the CoV communicate the current pricing to potential customers? For instance, is there a CoV EV app?

On page 17of Exhibit C5-2, CoV indicates two concerns regarding BC Hydro's current residential rate structure:

- "The current tiered residential rate structure creates an unintended distinctive for switching to EVs because residents that are using electricity efficiently can still consistently be bumped into the Tier 2 rate."
- "The current residential rate structures don't provide any incentive to shift demands to off-peak time, which is a missed opportunity for BC Hydro to avoid the costs associated with increasing capacity."

4.4 Please provide the CoV's view on alternative rate structures, such as Time of Use (TOU) or a new EV-specific rate class.

On page 7 of Exhibit C1-2, BC Hydro states: "Under this pilot program, site hosts have the discretion to charge a rate for vehicle charging, and currently 16 of 30 station operators charge a rate of $0.35 per kWh."

4.5 Please explain how the rate of $0.35 per kWh is determined. Are there any other fees in addition to the $0.35 per kWh rate that customers pay (e.g. fixed fee, tax, network access fees, parking fee, etc.)?