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April 26, 2021

Mr. Patrick Wruck  
Commission Secretary and Manager  
Regulatory Support  
British Columbia Utilities Commission  
Suite 410, 900 Howe Street  
Vancouver, BC V6Z 2N3

Dear Mr. Wruck,

**Re: British Columbia Hydro and Power Authority – Public Electric Vehicle  
Fast Charging rate Application – Project No. 1599190 – Strata Plan VR 2673  
Information Request NO. 1**

Dear Mr. Wruck,

Please find enclosed Strata Plan VR 2673 Information Request No. 1.

Sincerely,

Douglas Smith

Douglas Smith, Barrister & Solicitor

REQUESTOR NAME: **Strata Plan VR 2673**  
INFORMATION REQUEST ROUND NO: **1**  
TO: BRITISH COLUMBIA HYDRO & POWER AUTHORITY  
DATE: **April 26, 2021**  
PROJECT NO: 1599190  
APPLICATION NAME: **BC Hydro Public EV Fast Charging Rate Application**

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**1.0 Reference: Introduction<sup>1</sup>**

- 1.1 Exhibit B-1, Section 3.3, Table 2, p. 24<sup>2</sup> shows that both Electrify Canada and Petro-Canada have 350kW stations. Does BC Hydro have plans to introduce charging stations with greater than 100kW?
- 1.2 Please discuss whether at this time, rates should also be proposed for stations with a power level over 100kW, including 350kW stations.

**2.0 Reference: 1.1 Need for Fast Charging Service Rates<sup>3</sup>**

- 2.1 Please specify for each charging site the charging stations at the site, including the following information:<sup>4</sup>
  - 2.1.1 The number of charging stations;
  - 2.1.2 The proximity of alternative public fast charging sites;
  - 2.1.3 The proximity to free or low cost public level 2 chargers;
  - 2.1.4 The highest Peak Demand that has occurred, and when it occurred;
  - 2.1.5 A description of the charging stations including if possible the make, model, single or double charging station, number and kind of each type of charging port connector, the maximum input power rate in kW, and the maximum output rate in kW;
  - 2.1.6 When a station is a double charging station (i.e. dual ports), does the kW output change to the charging EV when a second EV commences charging during the charging session of the first EV?, and
  - 2.1.7 Is there power sharing between separate stations<sup>5</sup>

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<sup>1</sup> Exhibit B-1, p. 1, line 1-13.

<sup>2</sup> See also A-3, BCUC IR1.6.0 p.10, 6.3 p. 10 to add to Table 2 other networks - FLO, ChargePoint and Greenlots/Shell, IR1.8.5.1 Petro-Canada and IR1.9.4 and 9.5 to add Tesla

<sup>3</sup> Exhibit B-1, p. 2, lines 13-14

<sup>4</sup> See also A-3, BCUC IR1.18.9 p. 29 and IR1.18.10 p. 29

<sup>5</sup> See also A-3, BCUC IR1.8.4 p.13

2.1.8 Please provide the same information for currently planned charging sites.<sup>6</sup>

**3.0 Reference: 1.3.3 Legal Framework<sup>7</sup>**

- 3.1 Is BC Hydro aware of any evidence that faster charging speeds of EV batteries causes more rapid deterioration of the battery? If so, can you please provide this evidence?
- 3.2 Do any EV vehicle manufacturers recommend that fast EV charging should not be done frequently unless necessary? If so can you please provide the details?
- 3.3 Should the environmental impact of fast charging on an EV battery be a factor that the BCUC considers, as being within “all matters that it considers proper and relevant affecting the rate”?
- 3.4 If the rate may impact the willingness of existing strata condominium building to install EV charging stations, and that impairs adoption of EVs by the occupants of those buildings, is this a factor that BCUC should consider as being within “all matters that it considers proper and relevant affecting the rate”?

**4.0 Reference: 2.2 Metering for Fast Charging Station Service<sup>8</sup>**

- 4.1 Is it possible to do electricity-based or a combination of an electricity and time based rate, where the sale contract specifies that the customer is purchasing the energy at an approved meter which measures the energy before it goes into the charging station?
  - 4.1.1 If this is possible, would this make sense where the charging station is a single station, or where it is a dual station, and the station has two AC inputs, and both would need meters?
  - 4.1.2 Would this be a way to test a kWh based rate, without waiting for establishment of anticipated standards?

**5.0 Reference: 3.1 Customer Research and Insights<sup>9</sup>**

- 5.1 Does the 49% of respondents that indicated they would stop using the service if a rate was introduced, include the 48% that indicated they were willing to pay less than \$5 for a 30 minute charging session?

**6.0 Reference: 3.2 Public Engagement Workshop<sup>10</sup>**

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<sup>6</sup> See also A-3, BCUC IR1.7.4 p. 11

<sup>7</sup> Exhibit B-1, p. 8, lines 18-19

<sup>8</sup> Exhibit B-1, p. 11, lines 14-26 and p. 12 lines 1-2.

<sup>9</sup> Exhibit B-1, p. 15 lines 2-3- and line 9

<sup>10</sup> Exhibit B-1, p. 21 lines 9-11

- 6.1 What is the purpose, result, or benefit of the special condition 2 to treat EV drivers as unique customer group?
- 6.2 Did respondents indicate any confusion on this question?

**7.0 Reference: 4.1 Rate Design Approach<sup>11</sup>**

- 7.1 Does the comparison between the cost of a session at a BC Hydro fast charging station, Tesla or Petro Canada charging station, charging at home, and a tank of gasoline each reflect the energy needed to travel the same distance?
  - 7.1.1 Can you please provide a ratio for each of the proposed rates for 25kW, 50kW and 100kW stations that currently reflects the cost of BC Hydro fast charging compared to cost of gasoline to travel the same distance?
- 7.2 Are there circumstances where the Large General Service applies to EV fast charging, and not the Medium General Service or the Small General Service? If so, please explain.
  - 7.2.1 In a situation where a site has 4 50kW stations, the metering is done at a charging site level, and all 4 are utilized at maximum capacity at the same time, will that cause the Large General Service to apply?
  - 7.2.2 In a situation where a 350 kW Station is fully utilized, will that cause the Large General Service to apply?
  - 7.2.3 Why are the exempt utilities in BC Hydro's service area charged under the applicable General Service Rate Schedule based on their electricity Demand, and not on both their Demand and Energy?<sup>12</sup>
  - 7.2.4 Should there be a rate that corresponds to the Large General Service?
  - 7.2.5 If BC Hydro is on the Medium General Service and a competitor is on the large General Service, will BC Hydro have a competitive advantage under conditions of very low utilization?

**8.0 Reference: 4.2 Cost Recovery Calculations<sup>13</sup>**

- 8.1 On page 29 line 7, it is stated that the Peak Demand that can be drawn by an EV being charged is 50kW, and footnote 16 indicates this based on data collected. Is the 50kW measured at the input AC side of the charging station, or on the DC output side? If is the output DC side, what is the input kW?
- 8.2 If the utilization rate is 1%, what result would occur for electricity costs in Table 3 on page 31?

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<sup>11</sup> Exhibit B-1, p. 25 lines 21-24 and p. 27

<sup>12</sup> Exhibit B-1, p. 27 lines 12-21

<sup>13</sup> Exhibit B-1, p. 28-32

- 8.2.1 What would be the result if Peak Demand is at 150kW for the month, and the charging station is on the large General Service?
- 8.3 Using the Average Electricity Consumption per Charging Session of 13.1kWh<sup>14</sup>, please calculate the cost of achieving this charge for each of the three proposed rates, and also determine the corresponding time to do the charge.
  - 8.3.1 Please assume that the charge is done with full power.
  - 8.3.2 As an alternative scenario, please adjust the power and time to what is expected based on experience, and state the assumptions.
  - 8.3.3 Please calculate the percentage increase in the rate from RS 1360 \$0.12 to RS 1560 \$0.21, from RS 1560 \$0.21 to RS 1561 \$0.27, and from RS 1360 \$0.12 to RS 1561 \$0.27.

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<sup>14</sup> Exhibit B-1, p. 29 line 9