



BCPIAC
Public Interest Advocacy Centre

October 7, 2019

VIA E-FILING

Patrick Wruck
Commission Secretary
BC Utilities Commission
6th Floor 900 Howe Street
Vancouver, BC V6Z 2N3

Reply to: Leigha Worth
ED@bcpiac.org
Ph: 604-687-3034

Our File: 7500.621

Dear Mr. Wruck,

**Re: British Columbia Hydro and Power Authority Fleet Electrification Rate
Application ~ Project No. 1599032
BCOAPO Information Requests No. 1**

We represent the BC Old Age Pensioners' Organization, Active Support Against Poverty, Council of Senior Citizens' Organizations of BC, Disability Alliance BC, Tenant Resource and Advisory Centre, and Together Against Poverty Society, known collectively in BC Hydro's regulatory processes as "BCOAPO et al." ("BCOAPO").

Enclosed please find the BCOAPO's Information Request No. 1 with respect to the above-noted matter.

If you have any questions, please do not hesitate to contact the undersigned.

Sincerely,
BC PUBLIC INTEREST ADVOCACY CENTRE

Original on file signed by:

Leigha Worth
Executive Director | General Counsel

Encl.

REQUESTOR NAME: **BCOAPO**
INFORMATION REQUEST ROUND NO: **#1**
TO: **BRITISH COLUMBIA HYDRO & POWER
AUTHORITY**
DATE: **OCTOBER 7, 2019**
PROJECT NO: **1599032**
APPLICATION NAME: **FLEET ELECTRIFICATION RATE
APPLICATION**

**1.0 Reference: Exhibit B-1, page 2
Exhibit B-1, Appendix C**

Preamble: The Application (page 2) states: “Potential fleet charging customers, such as public transit providers, have indicated that the LGS Rate demand charge is a barrier to converting their fleets to electric operation”.

- 1.1 Is BC Hydro’s evidence that these public transit providers have stated that the LGS Rate demand charge is an absolute barrier to converting their fleets to electric operations?
- 1.2 Is it BC Hydro’s view that the LGS Rate demand charge truly is an absolute barrier to public transit providers converting their fleets to electric operations?
- 1.3 If the response to either question is yes, please reconcile with this with the customer letters of support wherein: i) BC Transit indicates that “In the January 29, 2019 Mandate Letter from the Ministry of Transportation and Infrastructure, the Minister directed BC Transit to meet or exceed the Province’s legislated targets for GHG emissions by aligning our organization’s operations with the government’s new climate plan” and ii) TransLink indicates that “we are now currently developing a Low Carbon Fleet Implementation Plan, which will identify specific investments in vehicles and charging infrastructure”.

**2.0 Reference: Exhibit B-1, page 3 and page 4 (Figure 1)
Exhibit B-1, Appendix F, Attachment 1**

Preamble: The Application (page 3) states: “BC Hydro has modelled both the proposed Overnight Rate and Demand Transition Rate based on illustrative transit bus fleets with load projections informed by discussions with Translink and BC Transit”.

- 2.1 Is the Depot Charging Load profile shown in Figure 1 meant to represent the anticipated load for depot charging by TransLink and BC Transit?
 - 2.1.1 If yes, what assumptions is it based on?

- 2.2 Is Figure 1 meant to be consistent with the Depot Charging Demand used in Appendix F for the period 2029 and after?
- 2.2.1 If not, what are the differences in assumptions?
- 3.0 Reference: Exhibit B-1, page 4 and page 5 (Figure 2)**
- Preamble:** The Application (page 4) states: “The second charging scenario is referred to as in route charging whereby vehicles will charge for approximately 10 minutes at stops on a route equipped with chargers with rated capacity of up to 450 kW”.
- 3.1 The text indicates that chargers used on route will have a rated capacity of up to 450 kW. However, in Figure 2 the maximum demand is between 200 and 250 kW in the early deployment stage and just over 250 kW in the full deployment stage. Please reconcile.
- 4.0 Reference: Exhibit B-1, page 5**
- 4.1 Please explain how the 27% and 54% load factors referenced in Figure 2 were determined.
- 4.2 In the most recent fiscal year for which BC Hydro has data, what was the average load factor for an LGS customer using the same basis for calculation?
- 4.3 In the most recent fiscal year for which BC Hydro has data, what percentage of the LGS customers had monthly load factors of: i) 54% or less and ii) 27% or less? (Note: For each customer please use its average monthly load factor as the basis for comparison)
- 5.0 Reference: Exhibit B-1, pages 8 and 35 (lines 15-16)
Exhibit B-1, Appendix E, Attachment 1
Exhibit B-1, Appendix F, Attachments 1 & 2**
- Preamble:** The Application states (page 8): “A demand charge of \$12.70 /kW applies to monthly maximum demand set between 6:00 a.m. and 9:59 p.m., daily. The level of the demand charge is the same as the level of the demand charge used in BC Hydro’s LGS Rate, and is escalated each year by the general rate increase”.
- The Application also states: “The basic charge is 27.52 cents per day in fiscal 2022 escalated in each following year by the general rate increase, which is the same as the Basic Charge used in the BC Hydro’s LGS Rate”.
- The Application further states: “The flat energy charge of 7.41 c/kWh applies to energy usage at any time of day. As explained in section 4.2, the level of energy charge is higher than the level energy charge used in BC Hydro’s LGS Rate”.
- 5.1 Please confirm that the F2020, F2021 and F2022 rate escalations used to derive the \$12.70/kW were based on BC Hydro’s F2020-F2021 RRA – Exhibit B-1 (Figure 1-2).

- 5.2 How would the estimated F2022 demand charge for the Overnight Rate change if updated to reflect the revised F2020-F2022 rate escalation per Exhibit B-11 from BC Hydro's F2020-F2021 RRA (Figure 1)?
- 5.3 Please confirm that the F2020, F2021 and F2022 rate escalations used to derive the 27.52 cents/day basic charge for F2022 were based on BC Hydro's F2020-F2021 RRA – Exhibit B-1 (Figure 1-2).
- 5.4 How would the estimated F2022 basic charge for the Overnight Rate change if updated to reflect the revised F2020-F2022 rate escalation per Exhibit B-11 from BC Hydro's F2020-F2021 RRA (Figure 1)?
- 5.5 It appears that the F2022 energy rate (7.41 cents/kWh) was calculated by establishing as base F2019 energy rate of 6.738 cents/kWh (per Exhibit E, Attachment 1, Input Tab, Cell Z6) and escalating it base on BC Hydro's F2020-F2021 RRA – Exhibit B-1 (Figure 1-2).
 - 5.5.1 Please confirm that the above statement is correct and, if not, indicate how the F2022 energy rate was established.
 - 5.5.2 Please confirm that the F2019 energy rate of 6.738 cents/kWh was set such that continued escalation would yield an F2029 revenue to cost ratio of 104 percent – roughly equivalent to the revenue to cost ratio for the LGS class. If not confirmed, please explain the basis for the 6.738 cents/kWh value.
 - 5.5.3 How would the estimated F2022 energy rate for the Overnight Rate change if updated to reflect the revised F2020-F2022 rate escalation per Exhibit B-11 from BC Hydro's F2020-F2021 RRA (Figure 1)?
- 5.6 How would the portions of Appendix E, Attachment 1 and Appendix F, Attachments 1 & 2 related to the Overnight Rate change if updated to reflect the revised F2020-F2024 rate escalation per Exhibit B-11 from BC Hydro's F2020-F2021 RRA (Figure 1)?

6.0 Reference: Exhibit B-1, pages 8 and 31-33

Preamble: Please respond to the following question in the situation where a BC Hydro customer installs separately metered charging facilities at a location that is already a BC Hydro account.

- 6.1 Are the charging facilities considered a separate “account” and subject to a separate “basic charge”?
- 6.2 If there is more than one charging unit installed, will they be considered one account and have one meter?
- 6.3 If the installation of the charging facilities triggers the need for upgrades to the customer's connection facilities and/or BC Hydro's upstream facilities, who is responsible for the cost of the upgrades?

- 6.3.1 How does this cost responsibility differ from that applicable to any LGS customer where increased load triggers the need for upgrades?

**7.0 Reference: Exhibit B-1, page 10
Exhibit B-1, Appendix E, Attachment 1
Exhibit B-1, Appendix F, Attachments 1 & 2**

Preamble: The Application (page 10) states: “No demand charge applies for the first six years that the rate is proposed to be offered (from fiscal 2021 to fiscal 2026)” and “The demand charge transitions from \$0/kW to the LGS Rate Demand Charge over six years, starting in fiscal 2027 and ending in fiscal 2032”.

The Application also states: “A flat energy charge of 9.24 cents per kWh in fiscal 2021, escalated each year by the general rate increase, applies for the first six years that the rate is proposed to be offered. The level of this energy charge is higher than the level of the energy charge that applies to the existing LGS rate (6.10 c/kWh in fiscal 2021)”

- 7.1 Please explain the basis for: i) choosing six years as the period of time for which the demand charge will be zero and ii) six years as the period over which the demand charge will transition to the LGS demand rate.
- 7.2 Please explain how for F2021 the energy rate of 9.24 cents/kWh was established.
- 7.3 Does the F2021 energy rate of 9.24 cents/kWh change as a result of BC Hydro’s update to its F2020-F2021 RRA (Exhibit B-11, Figure 1)?
- 7.3.1 If yes, please provide the revised value and how it was derived.
- 7.4 How would the portions of Appendix E, Attachment 1 and Appendix F, Attachments 1 & 2 related to the Demand Transition Rate change if updated to reflect the revised F2020-F2024 rate escalation per Exhibit B-11 (Figure 1) from BC Hydro’s F2020-F2021 RRA?

8.0 Reference: Exhibit B-1, pages 39-43

- 8.1 With respect to the use of in-route charging stations, is it BC Hydro’s expectation that these will be installed at locations that currently are not a BC Hydro account?
- 8.2 Will each separate “location” with an in-route charging station be considered a separate account for purposes of applying the basic charge and calculating billing demand?
- 8.3 If the installation of the charging facilities triggers the need for upgrades to (or new) customer connection facilities and/or BC Hydro's upstream facilities, who will be responsible for the cost of the upgrades and how will that responsibility be distributed?

- 8.3.1 How does this cost responsibility differ from that applicable to any LGS customer requesting a new connection or where increased load triggers the need for upgrades?

9.0 Reference: Exhibit B-1, page 13 (lines 9-14)

- 9.1 Please explain why “expanding the availability of the proposed services to that customer segment (i.e., third party charging service providers) would materially reduce the likelihood that ratepayers would benefit from them” relative to BC Hydro’s proposal.

10.0 Reference: Exhibit B-1, page 24

Preamble: The Application states: “In respect to depot charging, both Translink and BC Transit asked if there were benefit to BC Hydro if customers could shift their depot charging load outside of BC Hydro’s peak period. They indicated that if there were an incentive to shift their charging load outside of BC Hydro’s peak periods, they could potentially adjust their operations to shift load out of BC Hydro’s peak period while still ensuring their fleet would be ready for the next day’s routes”.

- 10.1 Given that transit vehicles are likely to be required to be operating during BC Hydro’s peak period, aren’t transit operators likely to be using charging stations during the off-peak period even in the absence of an Overnight Rate?
- 10.2 How much “cost reduction” does BC Hydro expect to see as a result of transit operators “shifting load” in response to the Overnight Rate?

11.0 Reference: Exhibit B-1, page 28

- 11.1 Does the bill comparison in Figure 6 include the basic charge in the determination of the total bill and the \$/kWh for both the LGS Rate and the Overnight Rate?
- 11.1.1 If yes, why is this appropriate if the overnight charging is being done at a location that is already an LGS customer and separate metering and an additional basic charge is only applicable in the case of the Overnight Rate?
- 11.2 In the case of the LGS Rate based bill why is the entire demand associated with the charging facility assumed to be incremental demand?
- 11.2.1 If the charging is being done at a location that is already a BC Hydro account, wouldn’t this only be the case if charging (under the LGS rate) occurred at same time as the peak other operations at the facility?
- 11.2.2 Wouldn’t this fact, encourage transit operators being billed under the LGS Rate to shift their charging load away from the same time as the peak demand for the operations at the facility?

**12.0 Reference: Exhibit B-1, pages 34-35
Exhibit B-1, Appendix F, pages 1-3
Exhibit B-3, Appendix F, Attachment 1**

Preamble: It is noted (per Attachment 1, the Calculation Tab and the Table 2 in Appendix F Tab) that the F2029 Total BCH Costs (for each Classified Cost Item) are determined by escalating the F2017 values to F2029 using the CPI and then adding an amount attributable to the Overnight Rate load/accounts based on the average cost in F2029.

12.1 Why were the F2017 values escalated using the CPI?

12.1.1 Isn't the overall year to year change in revenue requirement related to the level of rate escalation and the year to year change in loads/customer accounts?

12.2 Between F2017 and F2029 what is the total compound increase in: i) the CPI (per Attachment 1, Calculation Tab, Column I); ii) the annual Rate Escalation (per Attachment 1, Calculation Tab, Column N); iii) Total number of customer accounts subject to the basic charge; and iv) the total energy use for all customer classes?

12.3 Does BC Hydro expect the relative portions of the total revenue requirement classified as Energy Related, Generation Demand-Related, Transmission Demand-Related, Distribution Demand-Related and Customer Care to remain constant (per the F2017 values) through to F2029?

12.3.1 If not, which components are likely to increase in relative size over the period?

12.4 Please confirm that for purposes of the Cost of Service Analysis the Depot Charging load was assumed to be incremental to the load used in the 2017 FACOS.

12.4.1 Why was this assumption made?

12.5 Why was the energy allocator for Depot Charging (Attachment 1, Calculation Tab, Cells B19-B21) based on energy use at the customers' meters as oppose to at the Generation Interface?

12.6 Is the total NCP used in the 2017 FACOS (8392510 kW per Attachment 1, Calculation Tab, Cell A34) based on demand at the customer meter similar to the point of measurement for the Depot Charging NCP?

12.6.1 If yes, why is this the appropriate point of measurement for use in the FACOS?

12.7 If the Depot Charging Load is considered to be "incremental" to the loads used in the 2017 FACOS, why are the cost adjustments to account for this load calculated using the average costs (i.e., in each case the "costs" were increased by the percentage increase in the allocator due to the Depot Charging load) as opposed to incremental costs?

12.8 Is the total 4CP used in the 2017 FACOS (9156239 kW per Attachment 1, Calculation Tab, Cell A28) based on demand at the customer meter similar to the point of measurement for the Depot Charging 4CP?

12.8.1 If yes, why is this the appropriate point of measurement for use in the FACOS?

12.9 What is the basis for the 26 depot charging accounts assumed for F2029?

12.10 What would be the illustrative revenue to cost ratio for the Overnight Rate based on F2024 charges and costs? Please provide the supporting calculations.

**13.0 Reference: Exhibit B-1, pages 34-35
Exhibit B-1, Appendix F, page 3 and Attachment 1**

13.1 Given that the escalation rates used to calculate the F2029 Overnight Rate are not related to the rates used to escalate the F2017 FACOS result to F2029, how can the resulting revenue to cost ratio calculations be considered representative?

14.0 Reference: Exhibit B-1, pages 24 & 36-39 and Appendix E

14.1 Is the Overnight Rate economic justification based on the premise that: i) the associated load is incremental to the system and arises due to the offering of the Overnight Rate (per page 36, lines 7-8 and Appendix E, page 5) or ii) the Overnight Rate leads to load shifting from the peak to the off period (per page 24, lines 9-11)?

14.1.1 If based on the premise that the load is incremental and arises only due to the offering of the Overnight Rate, please reconcile this view with the fact that both BC Transit and TransLink have committed to the increased use of electric vehicles (per Appendix C).

14.1.2 With respect to Table 4 (page 37), for each of the three time periods what percentage of the load must be viewed as incremental in order for the Ratepayer Benefit Cost Ratio to be 1.0 or greater? (Note: In preparing the response please assume that the non-incremental load would have been billed at the standard LGS Rate)

14.2 What Mid-C market price forecast was used (i.e., was it the 2017 or 2018 forecast)?

14.2.1 Does the choice of Mid-C forecast impact the overall conclusions that: i) for the Base Case Scenario there is a positive ratepayer impact for all three time periods considered and ii) for Scenarios 1 and 2 there is positive rate payer impact for the 10 year and 15 year time periods.

14.3 The rate payer economic assessment of the Overnight Rate includes a one-time cost of \$350,000 for utilizing the transmission metering and billing solution (page 39). However, no allowance appears to have been

made for the incremental cost of the additional meter, the ongoing incremental cost of reading the additional meters associated with the Overnight Rate and billing the additional accounts. Is it assumed that these costs will all be covered by revenues from the basic charge which have also been excluded from the analysis?

14.3.1 If yes, please demonstrate that the basic charge revenues will cover these incremental costs.

14.3.2 If not, how are these incremental costs accounted for?

15.0 Reference: Exhibit B-1, page 36 (lines 19-22) and Appendix E

Preamble: The Application (page 36) states: “The base case reported below assumes that the marginal distribution capacity cost is the contribution provided by BC Hydro under the distribution extension policy (section 8.3 of the Electric Tariff)”.

15.1 It is noted that Section 8.3 of the Electric Tariff applies to distribution extensions at voltages of 35 kV or less while the Overnight Rate is meant to be applicable to LGS customers. What is the distribution extension policy for LGS customers and how would using it impact the Base Case economic analysis results for the Overnight Rate (per page 37, Table 4)?

16.0 Reference: Exhibit B-1, page 45 and Appendix F, pages 4-7 and Attachment 2

16.1 With respect to page 45 (Table 6), does the Demand Transition Rate recover embedded costs in F2024 and F2029 when the load factor reaches 50%?

16.2 What assumptions are required (e.g., frequency of use of the in-route charging stations) for the load factor to reach 50%?

16.2.1 Has BC Hydro consulted with BC Transit and/or TransLink regarding the likelihood that the load factor will reach 50%?

16.3 What are the load factors implicit in the 2020, 2024 and 2029 hourly load profiles set out in Appendix F, Attachment 2, Input1 Tab?

17.0 Reference: Exhibit B-1, page 45 and Appendix F, pages 4-7 and Attachment 2

17.1 Please confirm that for purposes of the Cost of Service Analysis the Demand Transition Rate load was assumed to be incremental to the load used in the 2017 FACOS.

17.1.1 Why was this assumption made?

17.2 What is the basis for the 100 Demand Transition Rate accounts assumed for F2029?

18.0 Reference: Exhibit B-1, pages 46-47 and Appendix E

18.1 Is the Demand Transition Rate's economic justification based on the premise that the associated load is incremental to the system and arises due to the offering of the Demand Transition Rate?

18.1.1 If yes, please reconcile this view with the fact that both BC Transit and TransLink have committed to the increased use of electric vehicles (per Appendix C).

18.2 What Mid-C market price forecast was used (i.e., was it the 2017 or 2018 forecast)?

18.2.1 Does the choice of Mid-C forecast impact the overall conclusions that there is a rate payer benefit if either a 10 year or 15 year time period is used for the analysis (per Table 7)?

19.0 Reference: Exhibit B-1, Appendix E, pages 2 and 4-5 and Attachment 1

19.1 Appendix E, page 2 states that: "The generation capacity marginal cost also includes the marginal cost of bulk transmission, if a need of bulk transmission is necessary". Do the Generation Capacity values used in the analysis (per Attachment 1, Input Tab) include any allowance for transmission costs?

19.1.1 If yes, please breakdown the values as between generation and transmission marginal capacity cost.

19.1.2 If no, why not?

19.2 Please provide the source and basis for the Generation Capacity values used in the analysis (per Appendix E, Table 2)?

19.3 Are Generation Capacity values consistent with BC Hydro's most recent estimates regarding its LRB, the cost of DSM and the cost of new IPPs (as provided in BC Hydro's Electricity Purchase Agreement Renewals (Sechelt Creek Hydro, Brown Lake Hydro, and Walden North Hydro) Application proceeding?

19.3.1 If yes, please demonstrate that this is the case.

19.3.2 If not, how would the use of these Generation Capacity values impact the results of the economic analysis?

20.0 Reference: Exhibit B-1, page 46 and Appendix E

Preamble: The Application (page 46) states: “The base case reported below assumes that the marginal distribution capacity cost is the contribution provided by BC Hydro under the distribution extension policy (section 8.3 of the Electric Tariff)”.

20.1 It is noted that Section 8.3 of the Electric Tariff applies to distribution extensions at voltages of 35 kV or less while the Demand Transition Rate is meant to be applicable to LGS customers. What is the distribution extension policy for LGS customers and how would using it impact the Base Case economic analysis results for the Demand Transition Rate (per page 47, Table 7)?

21.0 Reference: Exhibit B-1, pages 52-53

21.1 The Application states that BC Hydro intends to monitor the “new load” associated with each of the Overnight Rate and the Demand Transition Rate. Is there a difference between the new load associated with these two Rates and the total load associated with these two rates?

21.1.1 If yes, what is it?

21.2 The Application states that BC Hydro intends to monitor the incremental costs associated with the Overnight Rate and the Demand Transition Rate and cites metering and billing as examples. What other types of incremental costs does BC Hydro plan on monitoring and, in particular, will it be monitoring incremental distribution and non-bulk transmission facility costs paid for by BC Hydro?