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July 14, 2021

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VIA ELECTRONIC DDS

British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC V6Z 2N3

83862/709

Attention: Patrick Wruck, Commission Secretary

**Re: British Columbia Hydro and Power Authority – Public Electric Vehicle Fast Charging Rate Application – Project No. 1599190 (“Proceeding”)
Suncor Energy Inc. Response to BC Old Age Pensioners’ Organization, Disability Alliance BC, Council of Senior Citizens’ Organizations of BC, and the Tenant Resource and Advisory Centre (“BCOAPO”) Information Request No. 1**

Dear Mr. Wruck:

We act on behalf of Suncor Energy Inc. (“Suncor”) in connection with the above noted Proceeding. On July 5, 2021, BCOAPO issued Information Request (“IR”) No. 1 to Suncor on Intervener Evidence. Enclosed please find IR responses filed on behalf of Suncor.

Should you have any questions or require any additional information, please do not hesitate to contact the undersigned.

Sincerely,



Terri-Lee Oleniuk

cc. Chris Hustwick, GM Legal Affairs Downstream Canada, Suncor Energy

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BRITISH COLUMBIA UTILITIES COMMISSION
British Columbia Hydro and Power Authority (BC Hydro) Public Electric Vehicle Fast
Charging Rate Application
Suncor Energy Inc. (“Suncor”) Response BCOAPO
Information Request No. 1
Date: July 14, 2021

1.0 Reference: Exhibit C20-4, paragraph 2

Preamble: The Evidence states:

“As owner of the Petro-Canada brand, Suncor has completed installation of twenty-two (22) EV fast charging stations at twelve (12) different locations in British Columbia (“BC”).”

1.1 How many of Suncor’s twelve locations are served by BC Hydro?

Response – 11 of Suncor’s twelve locations are served by BC Hydro.

1.1.1 If all twelve are not served by BC Hydro what other utilities do Suncor’s EV charging sites received electricity service from?

Response – FortisBC.

1.2 Please provide breakdown of the 22 EV fast charging stations by kW rating.

Response –

1 location – 50kW CCS and CHAdeMO

4 locations – 200kW CCS, 100kW CHAdeMO

7 locations – 350kW CCS, 100kW CHAdeMO

Address	City	Province	Number of DCFC Chargers	CCS	CHAdeMO
2054 Whatcom Road	Abbotsford	BC	2	350 kW	100 kW
1417 N. Trans Canada Hwy.	Golden	BC	2	200 kW	100 kW
626 Old Hope Princeton Way	Hope	BC	2	200 kW	100 kW
1885 W Trans Canada Highway	Kamloops	BC	2	350 kW	100 kW
2693 Highway 97 N	Kelowna	BC	2	350 kW	100 kW
19971 72 Avenue	Langley	BC	2	350 kW	100 kW
3591 Voght Street	Merritt	BC	2	200 kW	100 kW
1100 North Terminal Avenue	Nanaimo	BC	2	350 kW	100 kW
1270 Lynn Valley Road	North Vancouver	BC	2	350 kW	100 kW
915 Lakeshore Drive SW	Salmon Arm	BC	1	50 kW	50 kW
1743 Burrard Street	Vancouver	BC	1	200 kW	100 kW
5498 Patricia Bay Highway	Victoria	BC	2	350 kW	100 kW

2.0 Reference: Exhibit C20-4, paragraph 4

Preamble: The Evidence states:

“Suncor respectfully submits that the BCUC can only approve a proposed rate that accounts for recovery of all BC Hydro’s forecasted EV-charging expenses from those EV users.”

- 2.1 Is it Suncor’s view that the proposed rate for any year must account for recovery of all of BC Hydro’s forecasted EV-charging expenses for that year, or can the rates be designed with the intent that over a set number of years the overall revenues collected will account for the recovery of all of BC Hydro’s forecast EV-charging expense for those years? Please explain the basis for the response.

Response – See responses to BCUC information requests in sections 6 and 7 regarding the proposed rate structure for BC Hydro.

It is Suncor’s view that the rates can be designed with the intention that over a set number of years the overall revenue collected will recover annual expenses related to operating an EV charging system (including electricity costs, maintenance, and software), and begin to recover costs associated with the initial capital expenditure (connection fee, and equipment). BC Hydro has not presented a forecasted business plan that would accomplish this suggested viewpoint.

3.0 Reference: Exhibit C20-4, paragraph 9

- 3.1 Please explain how the BC Hydro Rate Proposal “could result in the stranding of existing investments already made by private investors”.

Response – The Rate Proposal would eliminate the possibility of a “level playing field” as discussed in the Phase Two Report and create a strong disincentive for the private sector to further invest in critical climate action infrastructure needed to meet carbon reduction targets. The BC Hydro Rate Proposal could result in stranding existing assets because it would reinforce the current unsustainable market price for EV charger operators. Without a reasonable return on investment, private investors may be inclined to decommission EV chargers to prevent further losses.

4.0 Reference: Exhibit C20-4, paragraph 11

Preamble: The Evidence states:

“According to Fleet Carma’s nation-wide EV charging study, 72% of all EV charging takes place either at home or the workplace, of which BC Hydro is already the sole supplier due to its natural monopoly.”

- 4.1 Please confirm that BC Hydro is the sole supplier of electricity to all EV charging stations (whether at a home, at the workplace or elsewhere) located in its service territory. If not confirmed, please explain why.

Response – To the best of its knowledge, Suncor confirms that BC Hydro is the sole supplier of electricity to all EV charging stations (whether at a home, at the workplace or elsewhere) located in its service territory.

- 4.2 The Evidence states that 72% of all EV charging takes place either at home or the workplace. However, the cited Report states that “residential charging accounted for 72% of charging energy” (page 7). Please reconcile and revised the percentage charging that occurs at either home or the workplace as required.

Response – Suncor acknowledges that this is an error in its representation of the GeoTab report referenced in Exhibit C20-4, paragraph. In the report it states that EV drivers would charge their vehicle at workplaces with free charging 22% of the time, and for workplaces that charged a fee, 10-12% of the time – per the below.

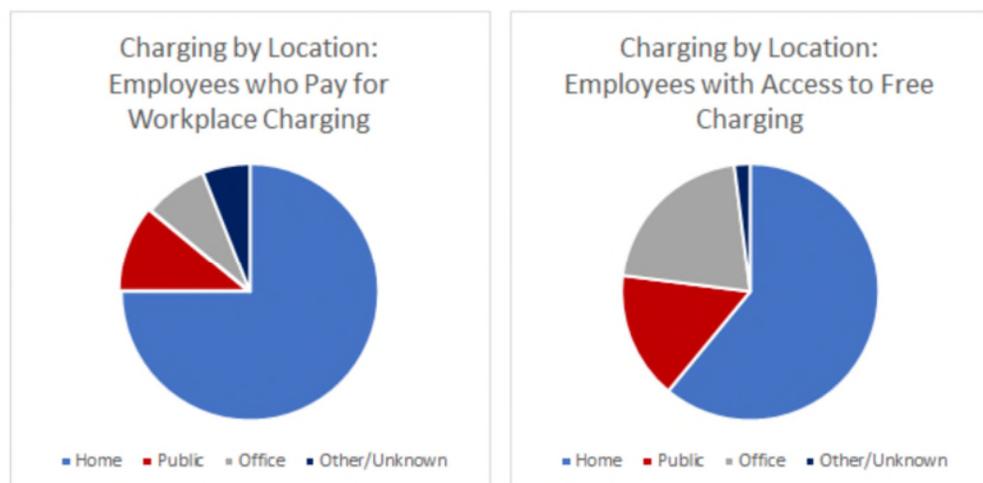
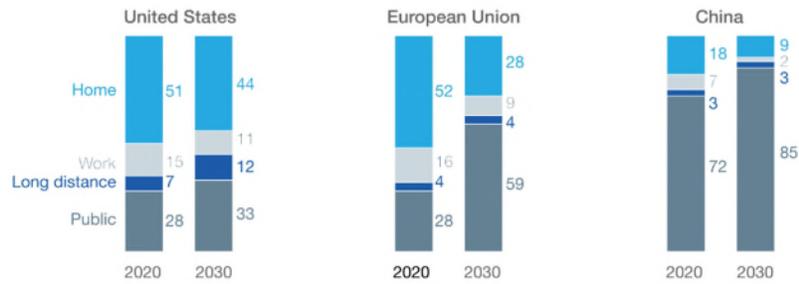
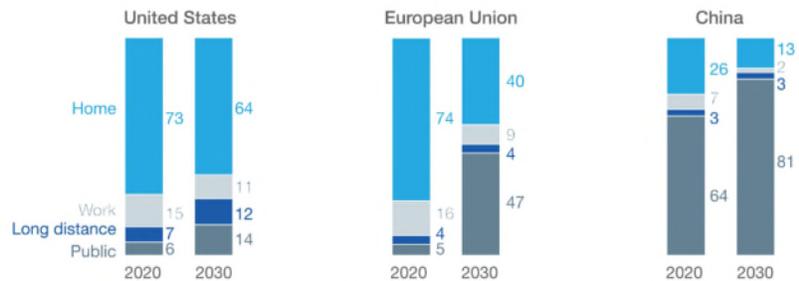


Figure ii: Charging energy by location and paid or free workplace charging

Energy demand, public-centered scenario, % of kilowatt-hours¹



Energy demand, home-centered scenario, % of kilowatt-hours¹



¹Figures may not sum to 100%, because of rounding.

“Charging ahead: Electric-vehicle infrastructure demand August 8, 2018, Article by McKinsey *Insights*” is an additional source to assist with determining where charging takes place (<https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/charging-ahead-electric-vehicle-infrastructure-demand>)

5.0 Reference: Exhibit C20-4, paragraph 17

Preamble: The Evidence states:

“Based on current demand charges that fall into BC Hydro’s “Large General Service” category, the Rate Proposal would be crippling to the profitability of private EV charging stations that, if forced to adopt a competitive charging rate to that proposed by BC Hydro, would not even be able to recoup their BC Hydro utility charges, before considering maintenance, software, support, and capital recovery.”

5.1 Does Suncor consider itself to be in competition with BC Hydro with respect to the EV fast charging market and, if so, why? For example, are Suncor’s current or planned future EV fast charging stations sufficiently close to BC Hydro’s that EV users can choose between the two?

Response – Yes, Suncor considers itself to be in competition with BC Hydro with respect to the EV fast charging market. Suncor and other exempt public charging operators are within a reasonable proximity to BC Hydro installations to provide choice to consumers.

6.0 Reference: Exhibit C20-4, paragraphs 22 and 24 (Figure 1)

Preamble: The Evidence states:

“not all energy consumed at an EV charging site is billed to an EV driver – the power draw related to power towers and charging equipment can be up to 2-4x the electricity actually sold to a consumer – this is not specifically identified or adequately considered in BC Hydro’s utility cost recovery calculations.”

- 6.1 Please explain more fully the other sources of electricity use at an EV fast charging site over and above that sold/delivered to EV users.

Response – See the responses to BCUC information requests in section 12 regarding power lost through operations.

- 6.2 Please explain more fully what Suncor means when it states that “the power draw related to power towers and charging equipment can be up to 2-4x the electricity actually sold to a consumer”. For example, does this mean that the power draw not sold to a consumer can be two to four times the amount actually sold to consumers?

Response – Correct. The multiplier for power lost during operations varies by equipment type and set up (e.g., fan vs. no fans); this may not be the case when considering BC Hydro’s specific equipment (see responses to BCUC information request 12.5). In our calculations from Figure 1, we have provided a conservative estimate of 50.4kWh/month for BC Hydro’s 50kW chargers instead of a 2-4 times multiplier.

- 6.3 With respect to Figure 1 and the 50 kW column, please explain how the 50.4 kWh of no load power from operations vs. 746.7 kWh sold to customers was determined and how this relates to the no load power being 2-4x energy sold comment.

Response – Figure 1 incorrectly labels “2x sold energy” (this has been corrected in the response to BCUC information request 12.12); however, the kWh’s lost per month is not representative of the mis-labelled instead using a conservative 50.4kWh/month figure. See responses to BCUC information requests in section 12.

- 6.4 With respect to Figure 1, please explain why there is no incremental demand (i.e., kW) attributed to the no load power from operations (i.e., the load not sold to EV users).

Response – The no load power loss does not occur when customers are connected to the charger. Rather, the loss occurs when the charging equipment is sitting idle.

7.0 Reference: Exhibit C20-4, paragraph 24 (Figure 1) and paragraph 33 Exhibit B-4, BCUC 1.7.2 (Attached Excel Spreadsheet)

Preamble: Figure 1 from the Suncor Evidence appears to use the assumptions made by BC Hydro in support of its Proposed Rates per BCUC 1.7.2 as set out below:

50 kW		
Fiscal 2022 Medium General Service Rate	Value	Units
Demand Charge	5.39	\$ per kW
Energy Charge	9.63	cents per kWh
Fiscal 2020 BC Hydro EV Fast Charging Station Data	Value	Units
Peak Demand	50	kW
Average Electricity Consumption per Charging Session	13.10	kWh
Average Charging Session Length	28.60	minutes
100 kW		
Fiscal 2022 Medium General Service Rate	Value	Units
Demand Charge	5.39	\$ per kW
Energy Charge	9.63	cents per kWh
Fiscal 2020 BC Hydro EV Fast Charging Station Data	Value	Units
Peak Demand	100	kW
Average Electricity Consumption per Charging Session	13.10	kWh
Average Charging Session Length	28.60	minutes

At paragraph 33 the Evidence states: “At BC Hydro’s proposed 50kW charging rate, it takes over 72 minutes to get full charge, with a 100kW charger helping to reduce charging time to 36 minutes.”

7.1 It is noted that for the 50 kW and 100 kW stations both the time per charge (28.6 minutes) and the energy per session (13.1 kWh) are the same. Does Suncor consider this to be reasonable when its comments in paragraph 33 suggest the rate of charging will be much higher for the 100 kW station than for the 50 kW station and the time per session shorter?

Response – See the responses to BCUC information requests in section 13.

7.1.1 If yes, please explain why.

Response – See the responses to BCUC information requests in section 13.

- 7.1.2 If not, please re-do Figure 1 based on Suncor's view as to a reasonable set of assumptions for the 100 kW station – given the assumed values for the 50 kW station.

Response – See the responses to BCUC information requests in section 13.

- 7.2 If Suncor has any 50 kW stations, please provide the following for the 50 kW stations based on the most recent 12 month of data available:

- a) The average energy per charging session
- b) The average duration of a charging session, and
- c) The average number of charging sessions per month.

Response – Suncor operates only one 50 kW station, which is located in Salmon Arm, BC. This location has only been in operation since April 2021, and we are therefore unable to provide the requested data.

- 7.3 If Suncor has any 100 kW stations, please provide the following for the 100 kW stations based on the most recent 12 month of data available:

- a) The average energy per charging session
- b) The average duration of a charging session, and
- c) The average number of charging sessions per month.

Response – Suncor does not operate any 100kW stations.

- 7.4 Has Suncor noticed a material change in the use of its charging stations since the start of the pandemic?

Response – While Suncor completed its network as of December 2019, we initiated pricing in February 2020 and the pandemic began in March 2020. It is our view that there are too many factors to accurately comment on the materiality of the change as a result of only the pandemic.

- 7.4.1 If yes, please provide responses to questions 7.2 and 7.3 based on 2019 data.

Response – Suncor does not operate any 100kW stations and has insufficient data for its single 50kW stations. While Suncor completed its network as of December 2019, we initiated pricing in February 2020 and the pandemic began in March 2020. As such, we are unable to provide complete, accurate and meaningful data for 2019.

8.0 Reference: Exhibit C20-4, paragraphs 4 and 27

8.1 In paragraph 4 Suncor asserts that “BCUC can only approve a proposed rate that accounts for recovery of all BC Hydro’s forecasted EV-charging expenses from those EV users.” Should this same principle be applied to the rates BC Hydro charges 3rd party EV station owners (such as Suncor) for the electricity the EV stations use?

Response – The question is unclear. BC Hydro currently charges 3rd party EV station owners for utility upgrade, and for all costs as commercial customers (including peak demand pricing based on general service rates (in Suncor’s case, Large General Service)).

8.1.1 If not, why not?

Response – N/A

8.1.2 If yes, what is Suncor’s understanding as to whether or not BC Hydro’s “Demand Transition Rate” satisfies this principle?

Response – Suncor is unable to determine if the ‘Demand Transition Rate’ satisfies the referenced principle. The rate is intended to account for short-duration, high-load charging and acknowledges that Large General Service is inappropriate within those conditions – these conditions are similar to those of EV Fast Charging Stations.

9.0 Reference: Exhibit C20-4, paragraph 32

9.1 Please explain how Figures 2 through 8 support Suncor’s claim that “the existing on-the-road fleet of EV’s are capable of a rate of charge well beyond what is proposed by BC Hydro’s EV Charging network.”

Response – See the response to BCUC information request 16.1.

The evidence was meant to demonstrate the new and recent models are all capable of greater than 50kW charging. Using Tesla as a single data point, their share of the EV market is higher than other OEMs, and all Tesla vehicles are capable of >50kW charging. Therefore, the claim that “the existing on-the-road fleet of EV’s are capable of a rate of charge well beyond what is proposed by BC Hydro’s EV Charging network” is accurate.

10.0 Reference: Exhibit C20-4, paragraph 33

10.1 Please explain what the abbreviations PHEV and BEV mean.

Response – Plug-in Hybrid Electric Vehicle and Battery Electric Vehicle.

11.0 Reference: Exhibit C20-4, paragraph 36

Preamble: The Evidence states:

“In this regard, Suncor submits that the BCUC can only approve a proposed rate that accounts for recovery of all BC Hydro’s forecasted EV-charging expenses from those EV users in order to ensure an even playing field with private sector investors and an appropriate level of risk for ratepayers.”

- 11.1 What, in Suncor’s view, would be the appropriate rates for the BCUC to approve for BC Hydro’s 50 kW and 100 kW EV fast charging stations, based on the cost data BC Hydro has provided in its Application? Please provide the supporting calculations.

Response – See the responses to BCUC information requests in section 7.

- 11.2 If, in Suncor’s view, there is insufficient information available from BC Hydro’s Application to calculate the appropriate rates, please indicate what additional information Suncor believes is required.

Response – See the responses to BCUC information requests in sections 6 and 7.

- 11.2.1 Based on Suncor’s own experience is it able to make reasonable assumptions regarding the missing information and, if so, please outline what they are and what the resulting rates would be.

Response – See the responses to BCUC information requests in section 7. Suncor provides information regarding assumptions and missing information throughout its responses to the BCUC.