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December 13, 2019

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: Project No. 1599032
British Columbia Utilities Commission (BCUC or Commission)
British Columbia Hydro and Power Authority (BC Hydro)
Fleet Electrification Rate Application

BC Hydro writes to provide its Final Argument in accordance with the regulatory timetable established by Commission Order No. G-314-19.

For further information, please contact Anthea Jubb at 604-623-3545 or by email at bchydroregulatorygroup@bchydro.com.

Yours sincerely,

Fred James
Chief Regulatory Officer

jc/tl

Enclosure

BC Hydro
Power smart

Fleet Electrification Rate Application

Final Argument of
British Columbia Hydro and Power Authority

December 13, 2019

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1 Introduction

This is BC Hydro's Final Argument for its Fleet Electrification Rate Application[1] filed with the British Columbia Utilities Commission (**BCUC**) pursuant to sections 59 to 61 of the *Utilities Commission Act* (**UCA**).[2] Capitalized terms in this Final Argument have the meanings given to them in the Application, unless otherwise defined.

BC Hydro has requested that the BCUC set the Overnight Rate and the Demand Transition Rate, which are together referred to as the Fleet Electrification Rates. The Fleet Electrification Rates are intended to encourage customers to convert their fleet vehicles and vessels from fossil fuels to electricity, thereby reducing greenhouse gas (**GHG**) emissions. Such load does not currently exist in BC Hydro's service territory.[3]

The Overnight Rate is intended for depot and overnight charging of fleet vehicles and vessels. It does not have a demand charge during the overnight period, and it has a flat energy charge. The Demand Transition Rate is intended for in route and daytime charging of fleet vehicles and vessels. It provides demand charge relief for a fixed number of years.[4]

For the reasons discussed below, BC Hydro submits that the BCUC should set the Overnight Rate and Demand Transition Rate, as proposed, because they both satisfy the legal test of being "fair, just and not unduly discriminatory".

This Final Argument is organized as follows:

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1 Application, Exhibit B-1. On October 30, 2019, BC Hydro filed Exhibit B-1-1, which: (1) corrected the draft order contained in the Application to include Direction 4 that BC Hydro file updated tariff sheets within 15 business days of the date of the order; and (2) corrected the definition of Billing Demand in the rate schedule for the Overnight Rate.

2 RSBC 1996, c 473.

3 Application, Exhibit B-1, page 2.

4 Application, Exhibit B-1, page 1.

- Section 2 provides background for the Application, specifically the need for the Fleet Electrification Rates, a summary of the jurisdictional review BC Hydro undertook for the Application, and a summary of customer and stakeholder engagement and support;
- Section 3 provides an overview of the Fleet Electrification Rates; and
- Section 4 explains why the Fleet Electrification Rates should be approved as applied for.

2 Background

2.1 Need for the Fleet Electrification Rates

As discussed in the Application,[5] the Fleet Electrification Rates will support the electrification of fleet vehicles and vessels in BC Hydro's service territory. "Electrification" refers to the conversion of fleet vehicles and vessels from fossil fuels to electricity.

The *Climate Change Accountability Act*[6] sets legislated targets for the purpose of reducing GHG emissions in B.C. relative to 2007 levels – specifically, a 40 per cent reduction by 2030, a 60 per cent reduction by 2040, and an 80 per cent reduction by 2050. On December 5, 2018, the B.C. Government released its CleanBC plan aimed at reducing greenhouse gas emissions in British Columbia. The plan identifies further efforts in cleaner public transportation as an action to reduce GHG emissions. Included in the B.C. Government's Mandate letter to BC Hydro, is a request that BC Hydro ensure that its operations align with the B.C. Government's plan.[7]

[5] Application, Exhibit B-1, section 1.2, page 2.
[6] SBC 2007, c 42.
[7] Application, Exhibit B-1, page 6.

In 2016, road transportation accounted for approximately 17 Mt CO_2e, which represents 27 per cent of the total GHG emissions in B.C.[8] The Fleet Electrification Rates are expected to support efforts to reduce those GHG emissions. For example, assuming bus fleet electrification proceeds, BC Transit estimates a 51 per cent reduction in GHG emissions by 2029 (relative to 2007) and TransLink estimates a 95 per cent reduction in GHG emissions by 2050 (relative to 2012).[9]

Electric fleet charging as described in the Application does not currently exist in BC Hydro's service territory. While there are BC Hydro customers who are using electric vehicles in their fleets, their charging needs have been below 150 kW.[10]

Customers with fleet vehicles or vessels have indicated that the Fleet Electrification Rates remove a significant barrier to them electrifying their fleets, because they would otherwise be charged under BC Hydro's Large General Service (**LGS**) Rate.[11]

The LGS Rate includes demand charges based on the customer's maximum demand during the billing period. In the early stages of fleet conversion from fossil fuels to electricity, the characteristics of the charging load could result in demand charges that make up a higher proportion of a customer's bill than is typical for LGS Rate customers. This is due to the fact that, in the early stages of fleet conversion, charger utilization may be low.[12] For example, TransLink has raised concerns that if they converted their fleet to electricity under the current LGS Rate, they would experience prohibitively high charging costs per bus in the early years of fleet conversion.[13] The pricing, terms and conditions of the Fleet Electrification Rates

[8] Application, Exhibit B-1, page 2.
[9] See BC Hydro's response to BCUC IR 1.4.1, Exhibit B-4, PDF 24.
[10] Application, Exhibit B-1, page 2.
[11] Application, Exhibit B-1, page 2 and Appendix C; see also BC Hydro's response to BC Old Age Pensioner's Organization (**BCOAPO**) IR 1.1.1, Exhibit B-5, PDF 22, and BC Hydro's response to BC Sustainable Energy Association (**BCSEA**) IR 1.11.1, Exhibit B-5, PDF 178.
[12] Application, Exhibit B-1, page 2
[13] Application, Exhibit B-1, page 23.

have been designed to remove this barrier to fleet electrification while also providing ratepayer benefits.[14]

2.2 Jurisdictional Review

As discussed in section 2.2.1 of the Application, BC Hydro reviewed several jurisdictions where electric vehicle rates for fleet charging are being offered or are being reviewed for approval. These rates seek to encourage electric vehicle adoption by reducing or removing economic barriers, and they may also have other objectives, such as encouraging electric vehicle charging loads to shift to periods that are less costly for the utility to serve.[15]

The following are common features of the rates in other jurisdictions:[16]

- Time of use (**TOU**) energy charges and in some cases TOU demand charges;
- Lower energy charges and no demand charges during the overnight period which provide opportunity for lower cost electric vehicle charging during the overnight period; and
- Examples of either no demand charge or demand charge relief on a temporary basis (e.g., for a five-year period). In the latter case, demand charges may be phased back in over a transition period (e.g., for the following five-year period).

BC Hydro submits that its proposed rate designs for Fleet Electrification Rates are consistent with the rate designs that have been approved by the applicable regulators in other jurisdictions. For example, as shown in Table 2 on page 20 of the Application, both the Hawaii Electric Company and Liberty Utilities offer large

[14] See BC Hydro's response to BCSEA IR 1.11.1, Exhibit B-5, PDF 178.
[15] Application, Exhibit B-1, page 17.
[16] Application, Exhibit B-1, page 17.

general service rates for electric fleet bus charging. Those rate designs are for overnight charging. They do not have an overnight demand charge and they offer lower TOU energy prices during the overnight off-peak periods.[17]

The last rate design shown at the bottom of Table 2 is for an approved demand transition rate offered by Southern California Edison (**SCE**). That rate is available for customers with demand between 21 kW and 500 kW solely for fleet and public charging. It has a five-year introductory period with no demand charges, a five year intermediate demand charge phase-in period, followed by stable demand charges that will be lower than those in SCE's non-EV existing commercial rates.[18]

There appears to be an increasing trend for utilities to provide rates designed for charging electric vehicle fleets, particularly in jurisdictions in the U.S. Given the increased number of rates designed for charging fleet electric vehicles in U.S. jurisdictions, and given the availability and declining cost of electric vehicle technology, there is an increasing trend in the quantity of electricity delivered under these rates.[19]

2.3 Customer and Stakeholder Engagement and Support

BC Hydro conducted significant customer and stakeholder engagement regarding the Fleet Electrification Rates.[20]

BC Hydro has had discussions over the past several years with customers who could potentially be eligible for the rate design options being explored. For example, BC Hydro has been actively engaged with both TransLink and BC Transit regarding

[17] Application, Exhibit B-1, pages 18 and 20.
[18] Application, Exhibit B-1, pages 19 and 21.
[19] See BC Hydro's response to BCSEA IR 1.16.1, Exhibit B-5, PDF 191.
[20] For a further discussion of customer and stakeholder engagement, see the Application, Exhibit B-1, section 2.3, page 23.

electrification of their fleets since 2017.[21] TransLink and BC Transit both provided data to BC Hydro to inform the rate designs for the Fleet Electrification Rates.[22]

BC Transit, Translink and the Port of Vancouver have all provided letters of support for the Overnight Rate and Demand Transition Rate, which are included in Appendix C of the Application.[23]

The Port of Vancouver is a potential customer for fleet electrification, and so are Port tenants and drayage providers, as long as they meet the availability criteria of the proposed rates. The Port of Vancouver has fleet vehicles that could be electrified, but BC Hydro expects that the majority of customers at the Port will be the tenants and drayage providers.[24] BC Hydro expects that the Port of Vancouver, its tenants or drayage service providers will apply for service under the Fleet Electrification Rates in the next few years.[25]

BC Hydro also engaged in discussions with Seaspan and other private fleet vessel operators that are interested in vessel fleet electrification.[26] Seaspan suggested that BC Hydro expand the definition of fleets to include marine fleets that may charge from shore side terminals and this suggestion was adopted by BC Hydro in the Application.[27]

BC Hydro has been engaged in discussions with BC Ferries regarding vessel fleet electrification since 2018. BC Ferries has plans to electrify their Island Class of vessels as well as to explore fleet charging at terminals and the potential to electrify

[21] See BC Hydro's response to BCSEA IR 1.6.1, Exhibit B-5, PDF 138.
[22] See BC Hydro's response to BCSEA IR 1.6.1, Exhibit B-5, PDF 138.
[23] Application, Exhibit B-1, Appendix C; see also a discussion of the letters of support in BC Hydro's response to BCOAPO IR 1.1.1, Exhibit B-5, PDF 22.
[24] See BC Hydro's response to BCSEA IR 1.6.6, Exhibit B-5, PDF 147.
[25] See BC Hydro's response to BCSEA IR 1.6.7, Exhibit B-5, PDF 149.
[26] See BC Hydro's response to BCSEA IR 1.7.1, Exhibit B-5, PDF 153; see also BC Hydro's response to BCSEA IR 1.7.3, Exhibit B-5, PDF 155.
[27] See BC Hydro's response to BCSEA IR 1.7.3, Exhibit B-5, PDF 155.

their entire fleet of vessels.[28] BC Hydro expects BC Ferries will apply for service under both the Overnight Rate and the Demand Transition Rate.[29]

BC Hydro also held a workshop with customers and stakeholder groups to review rate design options for fleet electrification in order to gather feedback to inform its proposals.[30] The workshop was well represented given the limited availability of the proposed rates.[31] There was a broad range of customers and customer groups that were invited to and that attended the workshop, not all of whom are expected to be fleet rate customers.[32]

As more electric fleet options become commercially available, BC Hydro expects that a wider variety of customers may take service under the Fleet Electrification Rates, such as fleet vehicles or vessels owned or leased, and operated, by municipalities, heavy duty truck operators, and courier delivery services.[33] Having these optional rates to meet charging needs should help customers have better certainty for charging costs, and the continued development of new electric fleet vehicle types should also support conversion to electric fleet vehicles and vessels.[34]

Potential fleet rate customers have indicated that due to the major capital investments required to electrify their fleets, they would not be supportive of the Fleet Electrification Rates being offered on a time limited, pilot basis. BC Hydro believes that if the Fleet Electrification Rates are offered on a time limited, pilot

[28] See BC Hydro's response to BCSEA IR 1.6.8, Exhibit B-5, PDF 151.
[29] See BC Hydro's response to BCSEA IR 1.6.9, Exhibit B-5, PDF 152.
[30] For a further discussion of customer and stakeholder engagement, see the Application, Exhibit B-1, section 2.3, page 23; see also BC Hydro's response to BCSEA IR 1.6.1, Exhibit B-5, PDF 138 and BC Hydro's responses to BCUC IRs 1.9.1 and 1.9.1.1, Exhibit B-4, PDFs 54 and 56, respectively.
[31] See BC Hydro's responses to BCUC IR 1.9.1.1, Exhibit B-4, PDF 56.
[32] See BC Hydro's response to Commercial Energery Consumers Association of BC (**CEC**) IR 1.7.2, Exhibit B-5, PDF 237 and BC Hydro's response to BCUC IR 1.9.1, Exhibit B-4, PDF 54.
[33] See BC Hydro's response to BCSEA IR 1.8.1, Exhibit B-5, PDF 157.
[34] See BC Hydro's response to BCSEA IR 1.9.7, Exhibit B-5, PDF 173.

basis, their success in contributing to the objective of fleet electrification may be impeded.[35]

3 Overview of Fleet Electrification Rates

An overview of the Overnight Rate and Demand Transition Rate is provided in section 1.3 and 1.4 of the Application, respectively. They are also discussed in more detail in sections 4 and 5 of the Application.

The Fleet Electrification Rates are available for customers who qualify for general service where the customer is a business, government agency or other organization. The rates are only for separately metered charging of electric fleet vehicles or vessels[36] owned or leased by, and operated by, the customer, at maximum charging demand equal to or greater than 150 kW.[37] Electric fleet vehicles include passenger vehicles that are owned or leased, and operated, by BC Hydro's customer.[38]

For the Overnight Rate, the rates and the definitions of the demand charge and billing demand[39] provide demand charge relief during the overnight period when BC Hydro's system has spare capacity while still recovering BC Hydro's cost of service. Therefore, the Overnight Rate has a time of use demand charge, which is shown in Figure 3 in section 1.3 of the Application.[40] The proposed demand charge level is the same as the level of the demand charge used in the LGS Rate. The

35 See BC Hydro's response to BCUC IR 1.19.4, Exhibit B-4, PDF 223.

36 In BC Hydro's response to BCUC IR 1.14.3, Exhibit B-4, PDF 147, it discussed the definition of fleet vehicles and vessels. In BC Hydro's view, "a group" is any number of two or more similar vehicles or vessels. However, in order for the Overnight Rate or Demand Transition Rate to be available, the maximum demand for each account must be equal to or greater than 150 kW, regardless of the size of the group of similar vehicles or vessels. Also, the phrase "use for similar purposes" means using the vehicles or vessels together in an organized way to meet the goals of the business, government agency or other organization that takes service under the Fleet Electrification Rates.

37 Application, Exhibit B-1, pages 31 and 40.

38 See BC Hydro's response to BCSEA IR 1.2.1.4, Exhibit B-5, PDF 124.

39 BC Hydro filed an Errata No. 2 on October 30, 2019 (Exhibit B-1-1), which corrected the definition of billing demand so that any discount under the Overnight Rate for customer supplied transformation and BC Hydro's contribution towards an Extension under section 8.3 of the Electric Tariff are not unduly limited. See Exhibit B-1-1 for further explanation.

40 Application, Exhibit B-1, page 9.

basic charge is 27.52 cents per day, which also aligns with the basic charge used in the LGS Rate. The proposed flat energy charge of 7.41 cents per kWh applies to energy usage at any time of day, which is higher than the energy charge used in the LGS Rate as it was calculated to recover BC Hydro's residual embedded cost of service.[41]

For the Demand Transition Rate, the proposed pricing is as follows:[42]

- No demand charge applies for the first six years that the rate is proposed to be offered (from fiscal 2021 to fiscal 2026);
- The demand charge transitions from $0 per kW to the LGS Rate demand charge over six years, starting in fiscal 2027 and ending in fiscal 2032;
- 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 Demand Transition Rate energy charge was calculated as the blended average unitized (per kWh) price of both energy and demand assuming the LGS Rate class average load factor. As a result the Demand Transition Rate energy charge is higher than the level of the energy charge that applies to the existing LGS Rate (6.10 cents per kWh in fiscal 2021);
- The energy charge transitions to the LGS Rate energy charge over six years, starting in fiscal 2027 and ending in fiscal 2032; and
- The basic charge is 26.92 cents per day in fiscal 2021 escalated in each following year by the general rate increase, which aligns with the basic charge used in the BC Hydro's LGS Rate.

[41] See a further discussion of the terms and conditions for the Overnight Rate in section 4.1 of the Application, Exhibit B-1, page 31.

[42] Application, Exhibit B-1, pages 10 and 43. See a further discussion of the terms and conditions for the Demand Transition Rate in section 5.1 of the Application, Exhibit B-1, page 39.

A design schematic for the Demand Transition Rate is provided in Figure 4 in section 1.4 of the Application.[43]

BC Hydro modelled the Fleet Electrification Rates based on illustrative transit bus fleets with load projections informed by discussions with TransLink and BC Transit. As this load does not currently exist in BC Hydro's service territory, there is some uncertainty regarding its timing and magnitude, which is why BC Hydro proposes to evaluate the rates when actual data on customers, load and economic performance is available.[44]

BC Hydro expects that, generally, the Overnight Rate will be attractive to customers with fleets that can charge overnight, and the Demand Transition Rate will be attractive to customers with fleets that have low load factor charging. Bill savings opportunities relative to the otherwise applicable rate (i.e., the LGS Rate) would only arise for such load characteristics, which is why both rates are proposed to be optional. BC Hydro expects that, generally, customers that take service under the Overnight Rate will have an overnight load profile, and customers that take service under the Demand Transition Rate will have lower load factors.[45]

BC Hydro will only be the electricity service provider to eligible fleet charging customers. The fleet charging customers are responsible for the construction costs of the charging infrastructure, they will be the owner of the charging infrastructure, and they are responsible for the operation and maintenance of the charging infrastructure.[46]

The chargers and all related infrastructure are owned by customers and are expected to be located on customer property. If a customer wants to locate a

[43] Application, Exhibit B-1, page 11.
[44] See BC Hydro's response to BCUC IR 1.11.2, Exhibit B-4, PDF 104; see also BC Hydro's response to BCUC IR 1.10.6.1, Exhibit B-4, PDF 80.
[45] See BC Hydro's response to BCUC IR 1.10.6, Exhibit B-4, PDF 78.
[46] See BC Hydro's response to BCUC IR 1.12.8, Exhibit B-4, PDF 124.

charger somewhere other than their property, it would be the customer's responsibility to obtain any arrangements required to do so. Again, BC Hydro is only providing electric service to the customer and will have no responsibility or ownership of infrastructure beyond the meter.[47]

With respect to interconnecting customers, BC Hydro does not believe the interconnection process or required information for service under the Fleet Electrification Rates to be any different than a request for service under the LGS Rate. New service or upgrading existing service from BC Hydro may require an extension to connect the customer or to address any upstream system upgrades. Section 8 of BC Hydro's Electric Tariff addresses the allocation of extension costs, which allocates the incremental costs of connecting new or increased loads to the customer.[48]

4 The Fleet Electrification Rates are Fair, Just, Reasonable and Not Unduly Discriminatory

4.1 Legal Test

The rate setting function of the BCUC is governed by sections 58 to 61 of the UCA, which are described in more detail in section 1.5.1 of the Application. Section 60 of the UCA gives the BCUC considerable discretion in setting rates. The legal test that the Fleet Electrification Rates must satisfy is summarized as "fair, just, reasonable and not unduly discriminatory".[49]

In the case of rates that are intended to advance a public policy purpose, such as the Fleet Electrification Rates, the BCUC has held that in order to meet the test of being "fair, just, reasonable and not unduly discriminatory", the rates must stand

[47] See BC Hydro's response to BCUC IR 1.12.9, Exhibit B-4, PDF 126.
[48] See BC Hydro's response to BCUC IR 1.12.3, Exhibit B-4, PDF 116.
[49] Application, Exhibit B-1, page 13.

independently on a cost-of-service or economic basis, regardless of the merits of the public policy purpose.[50]

A cost-of-service based justification refers to revenues being sufficient to recover embedded costs associated with the service. A rate that fully recovers its embedded costs is an indication that customers who take service under the rate are contributing towards BC Hydro's embedded costs in a manner consistent with how other ratepayers contribute to the recovery of such costs.[51]

An economic justification refers to incremental revenues being sufficient to recover incremental costs. Incremental revenues are the revenues received from new load served under the rate. Incremental costs are the costs directly required in order to serve the new load, and that would not be incurred but for the new load. Rates that are justified solely on an economic basis may not recover as much revenue as would rates that are justified on a cost-of-service basis. However, all ratepayers are still better off if the rates result in sufficient revenue to make some contribution to embedded costs that would otherwise be borne by existing ratepayers.[52]

Rate design proposals are also evaluated in accordance with the well-recognized rate design criteria derived from Bonbright's *Principles of Public Utility Rates* text (**Bonbright Criteria**).[53] The BCUC has held that the Bonbright Criteria are consistent with the test of being "fair, just and not unduly discriminatory" and that they form an appropriate foundation for rate structures.[54]

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50 See the BCUC's Reasons for Decision to Order G-87-17 regarding BCOAPO's Application for Reconsideration and Variance of Order G-5-17, dated June 2, 2017, page 12.

51 See BC Hydro's response to BCUC IR 1.16.1, Exhibit B-4, PDF 173.

52 See BC Hydro's response to BCUC IR 1.16.1, Exhibit B-4, PDF 173; see also BC Hydro's response to BCUC IR 1.16.2, Exhibit B-4, PDF 176.

53 James C. Bonbright, *Principles of Public Utility Rates* (1st Edition; Columbia University Press: New York, 1961), p 291.

54 See the BCUC's Reasons for Decision to Order G-124-08 regarding BC Hydro's Residential Inclining Block Rate Application, dated September 24, 2008, page 51.

Consistent with the approach taken in BC Hydro's 2015 Rate Design Application, BC Hydro assessed the Fleet Electrification Rates against all eight of the Bonbright Criteria, which were broadly grouped as follows[55]

1. Economic Efficiency – price signals that encourage efficient use and discourage inefficient use;
2. Fairness – fair apportionment of costs among customers, no undue discrimination;
3. Practicality – customer understanding and acceptance, practical and cost effective to implement; and
4. Stability – revenue and rate stability.

In evaluating the Fleet Electrification Rates against the Bonbright Criteria, BC Hydro considered the following broad inputs[56]

- The economic efficiency criteria were assessed based on how closely pricing aligns with costs;
- The fairness criteria were assessed based on the results of the economic and cost-of-service analysis, as well as availability terms and conditions;
- The practicality condition was assessed based on the simplicity of rate design and its cost and complexity to implement; and
- The stability criteria were assessed based on stability of revenue to BC Hydro and customer bills.

BC Hydro's evaluations of the Fleet Electrification Rates against the Bonbright Criteria are discussed in sections 1.5.2, 4.4 and 5.4 of the Application.

[55] Application, Exhibit B-1, page 14.
[56] See BC Hydro's response to BCUC IR 1.15.1, Exhibit B-4, PDF 169.

4.2 Fleet Electrification Rates Satisfy the Legal Test

As discussed below, both of the Fleet Electrification Rates, as proposed, have an economic basis and the Overnight Rate also has a cost-of-service basis. Therefore, both of the rates, as proposed, satisfy the minimum standard for rates that are designed to serve public policy objectives.[57] The Fleet Electrification Rates also satisfy the test of being "fair, just, reasonable and not unduly discriminatory" when evaluated against the Bonbright Criteria.

4.2.1 Overnight Rate

As discussed in sections 4.2 and 4.3 of the Application, the Overnight Rate is justified on a cost-of-service basis and on an economic basis.

BC Hydro calculated cost recovery for the Overnight Rate using the results of its F2017 Fully Allocated Cost of Service Study (**FACOS**), prospective depot charging load characteristics, and the proposed Overnight Rate pricing.[58] BC Hydro estimates that serving the new load under the Overnight Rate, as it is proposed, will result in a revenue-to-cost ratio of 101 per cent in fiscal 2029.[59] Because the Overnight Rate has stable pricing that strongly encourages a stable load shape comprised on primarily overnight load, the revenue-to-cost ratio is expected to be stable. For comparison purposes, BC Hydro's most recent FACOS based on fiscal 2017 actual data calculated the revenue-to-cost ratio for the LGS Rate class to be 103.9 per cent.[60]

BC Hydro calculated the economic impacts of the Overnight Rate on ratepayers using its estimated marginal costs of distribution capacity and energy, incremental implementation costs, depot charging prospective load characteristics, and the

[57] This was discussed in the Application at page 13. Also see BC Hydro's response to AMPC IR 1.2.1, Exhibit B-5, PDF 10. BC Hydro notes that its conservation rate structures (e.g., the Residential Inclining Block Rate and the Transmission Service Rate) were justified on a similar basis.

[58] Application, Exhibit B-1, page 34.

[59] See BC Hydro's response to BCUC Supplemental IR 1.21.4.1, Exhibit B-4, PDF 239.

[60] Application, Exhibit B-1, page 35.

proposed Overnight Rate pricing.[61] BC Hydro estimates that the incremental revenues received from new load served under the Overnight Rate will meet or exceed the incremental cost of serving new load. Therefore, ratepayers will not be harmed, and are expected to benefit from the new load.[62]

As discussed in section 4.4 of the Application, the Overnight Rate performed "good" for all of the Bonbright Criteria, with the exception of customer understanding and acceptance, in which it performed "good/fair".[63]

4.2.2 Demand Transition Rate

As discussed in section 5.3 of the Application, the Demand Transition Rate is justified on an economic basis.

BC Hydro estimates that the incremental revenues received from new load served under the Demand Transition Rate will exceed the incremental cost of serving new load in the ten and fifteen year time periods. Therefore, ratepayers benefit from the new load in the medium and longer term.[64]

BC Hydro expects these benefits for ratepayers if the new load that takes service under the Demand Transition Rate stays for at least ten years. If the Demand Transition Rate is successful in encouraging electrification of fleet vehicles and vessels in BC Hydro's service territory, BC Hydro expects this new load to last well beyond ten years. This is a reasonable expectation given the long lead times and intensive capital investment required to convert fleets to electricity.[65]

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61 Application, Exhibit B-1, page 36.
62 Application, Exhibit B-1, page 36.
63 Application, Exhibit B-1, page 37. As explained in BC Hydro's response to BCUC IR 1.15.1, Exhibit B-4, PDF 169, the performance rating level "poor" was also available, however BC Hydro identified no such ratings for the Overnight Rate.
64 Application, Exhibit B-1, page 46.
65 Application, Exhibit B-1, page 47 and BC Transit's comment letter in Appendix C.

As discussed in section 5.4 of the Application, the Demand Transition Rate performed either "good" or "fair" for all eight of the Bonbright Criteria.[66] In particular, the Demand Transition Rate performed "good" in avoiding undue discrimination, recovery of the revenue requirement, customer understanding and acceptance, and freedom from controversies. It performed "good/fair" for a fair apportionment of costs among customers, and it performed "fair" for providing price signals to encourage efficient use, and revenue stability.[67]

BC Hydro submits that this assessment represents a reasonable balance of all Bonbright criteria, given that rate design requires trade-offs and balancing of sometimes competing objectives.[68]

4.3 Availability of the Rates Should Not Be Expanded

As discussed above in section 4.1, the BCUC has held that, in order to be lawful, rates must stand independently on an economic or cost of service basis, regardless of the merits of any public policy purpose that they might address.

The Fleet Electrification Rates, as they are proposed in the Application, are both lawful and within the BCUC's jurisdiction to approve, because they both have an economic basis (i.e., they will provide benefits to ratepayers) and the Overnight Rate also has a cost-of-service basis, as discussed above in sections 4.2.1 and 4.2.2

However, if the availability for the proposed Fleet Electrification Rates is expanded to, for example, fast charging of consumer-owned electric vehicles, then their

[66] Application, Exhibit B-1, page47; see also BC Hydro's response to BCUC IR 1.15.2, Exhibit B-4, PDF 170 regarding rate stability. As explained in BC Hydro's response to BCUC IR 1.15.1, Exhibit B-4, PDF 169, the performance rating level "poor" was also available, however BC Hydro identified no such ratings for the Demand Transition Rate.

[67] Application, Exhibit B-1, page 48.

[68] See BC Hydro's response to BCUC IR 1.15.3, Exhibit B-4, PDF 171.

economic and cost of service basis may be weakened, which would undermine their lawfulness.[69]

The economic and cost of service basis for the Fleet Electrification Rates would be weakened, because ratepayer benefits for both rates rely on serving new load only and BC Hydro currently serves a material amount of electrical load to fast charging of consumer-owned electric vehicles.[70] If existing load that is currently taking service under the LGS Rate migrates to either the Overnight Rate or Demand Transition Rate and pays lower electricity bills as a result, then the loss of revenue to BC Hydro will result in ratepayers being worse off.[71]

The Fleet Electrification Rates were not designed for fast charging services to consumer-owned and operated electric vehicles, irrespective of whether the service is considered public or private, or offered by a third-party or by BC Hydro. Any rate application for charging services to consumer-owned and operated electric vehicles should be informed by the B.C. Government's response to the BCUC recommendations contained in its Phase Two Report of the Inquiry into the Regulation of Electric Vehicle Charging Service, which deals largely with the regulatory considerations arising in respect of charging services to consumer-owned and operated electric vehicles.[72]

The availability for the proposed Fleet Electrification Rates should also not be expanded to Medium General Service (**MGS**) Rate customers with new fleet charging load as there have been no customer requests for such a rate option and, practically speaking, it is unlikely a customer looking to charge their fleet would

[69] See BC Hydro's response to BCUC IR 1.2.3, Exhibit B-4, PDF 21.
[70] See BC Hydro's response to BCUC IR 1.2.3, Exhibit B-4, PDF 21.
[71] See BC Hydro's response to BCUC IR 1.2.3, Exhibit B-4, PDF 21.
[72] See BC Hydro's response to BCSEA IR 1.2.1.3, Exhibit B-5, PDF 122; see also BC Hydro's response to BCSEA IR 1.3.2.1, Exhibit B-5, PDF 128.

qualify for the MGS Rate.[73] There is nothing unfair, unjust, unreasonable or unduly discriminatory in not offering a service to a class of customers that would not take the service.[74]

5 Conclusion

For the reasons discussed above, the Fleet Electrification Rates should be set by the BCUC as applied for, because they have a cost-of-service and/or economic basis and they are supported by the Bonbright Criteria, so they therefore satisfy the legal test of being "fair, just and not unduly discriminatory".

As discussed in section 7 of the Application, BC Hydro proposes to monitor and evaluate the Fleet Electrification Rates to verify whether they are obtaining the expected benefits. BC Hydro intends to prepare a three year evaluation report for the Demand Transition Rate and Overnight Rate by December 30, 2023 and December 30, 2024, respectively. BC Hydro proposes to file these evaluation reports with the BCUC and may recommend changes to pricing, terms and conditions based on the outcomes of these evaluations.[75]

The specific relief requested by BC Hydro in this Application is set out in the draft Order attached as Appendix A to the Application[76] and BC Hydro respectfully requests that it be approved, as filed.

ALL OF WHICH IS RESPECTFULLY SUBMITTED DECEMBER 13, 2019

Per: 

Brandon Mewhort, Sr. Solicitor & Counsel, British Columbia Hydro and Power Authority

[73] For a further discussion of why it is unlikely a customer looking to charge their fleet would qualify for the MGS Rate, see page 9 of the Application and BC Hydro's response to BCUC IR 1.2.1, Exhibit B-4, PDF 17.

[74] See BC Hydro's response to BCUC IR 1.2.2, Exhibit B-4, PDF 19.

[75] Application, Exhibit B-1, pages 52 and 53; see also BC Hydro's response to AMPC IR 1.6.1, Exhibit B-5, PDF 21, BC Hydro's response to BCOAPO IR 1.21.2, Exhibit B-5, PDF 117, and BC Hydro's responses to BCSEA IRs 1.18.1 and 1.18.2, Exhibit B-5, PDF 194 and 195.

[76] Application, Exhibit B-1, Appendix A, as corrected by Exhibit B-1-1, Appendix A.