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British Columbia Hydro and Power Authority

Public Electric Vehicle Fast Charging Service Rates Application

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Decision
and Order G-18-22

January 26, 2022

Before:
D. M. Morton, Panel Chair
A. K. Fung, QC, Commissioner
E. B. Lockhart, Commissioner

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Executive Summary

On March 5, 2021, British Columbia Hydro and Power Authority (BC Hydro) applied to the British Columbia Utilities Commission (BCUC) for approval of its Public Electric Vehicle (EV) Fast Charging Service with the following Proposed Rates pursuant to sections 59 to 61 and 90 of the *Utilities Commission Act* (UCA):

i. Rate Schedule 1360 for fast charging service at 25 kW stations at $0.12 per minute;

ii. Rate Schedule 1560 for fast charging service at 50 kW stations at $0.21 per minute; and

iii. Rate Schedule 1561 for fast charging service at 100 kW stations at $0.27 per minute;

The BCUC approved BC Hydro's Proposed Rates on an interim basis, effective May 1, 2021, as requested and commenced a full public review of the application.

The Panel rejects BC Hydro's Proposed Rates on the basis that they are not just and reasonable under the UCA partly because they do not recover the full cost of providing the service.

BC Hydro's Proposed Rates are designed to only recover electricity costs and ignore other incremental costs, including operating costs, maintenance costs, and capital costs that make up about 83 percent of BC Hydro's total costs of offering its Direct Current Fast Charging service using a low utilization rate assumption of 3.7 percent at 50 kW stations.

The Panel finds that the subsidized rates proposed by BC Hydro directly contribute to an uneven playing field for exempt-utilities which may have a detrimental impact on achieving the objectives of increasing EV adoption in BC, and therefore would be contrary to the public interest of all British Columbians. We would, however, consider approving a rate based on levelized recovery of all costs. Such a rate would be just and reasonable if it reflects all of the costs required to provide the service, including associated capital, operating and maintenance costs, previous years' under-recoveries and electricity costs that are comparable to the electricity costs paid by exempt EV charging service providers. Alternatively, we would also consider approving wholesale rates for exempt EV charging service providers that mirror the costs used to calculate BC Hydro's own levelized EV charging rate.

BC Hydro is directed to file a new application for a permanent EV fast charging rate by no later than December 31, 2022. In the meantime, the current interim rates remain in place until permanent rates are set by the BCUC.

In making this determination, the Panel finds that:

- No one provider, by virtue of its regulated utility status, should negatively impact the competitive market. Allowing this to happen is not in the public interest of British Columbians.
- Neither section 18(2) nor 18(3) of the *Clean Energy Act* require the BCUC to use any specific rate design mechanism nor do they require the BCUC to set any particular rate.
- The *Greenhouse Gas Reduction Regulation* (GGRR) does not require the BCUC to approve a rate that is below the rate charged by other exempt EV charging service providers or that only partially recovers the

cost of providing the service. The GGRR also does not specify from which groups of customers the costs of providing EV charging services should be recovered.

- The BCUC is the sole judge in determining whether a rate is unjust or unreasonable.
- The objective for a substantial and readily available EV charging network is clearly laid out in the Government's CleanBC Plan. Therefore, it is in the public interest to foster the development of a robust, competitive market for the provision of EV charging services throughout BC.
- The Panel does not believe that Bonbright principles relating to such issues as price signals, rate stability and revenue stability can be adequately addressed; therefore, we question whether certain Bonbright principles should be considered at all when determining the rate for a competitive service provided by a regulated public utility.
- The equilibrium price for supply and demand in the competitive marketplace will be distorted with BC Hydro's EV charging rate *with* subsidization, potentially to the point where other suppliers are unable to continue providing service or preventing new suppliers from entering the market.

With respect to other matters raised in this proceeding the Panel makes the following observations and findings:

- Technology: Although newer vehicles can take advantage of newer, higher charging stations, the Panel is not persuaded that BC Hydro's EV fast chargers are already outdated.
- Future Stations: Given that BC Hydro is investing in a market in which exempt utilities are also making investments, we expect that its five-year plan for the rollout of EV charging stations will include an evaluation and understanding of the potential impact of that plan on exempt utility participants. The BCUC requests that BC Hydro file a copy of the five-year deployment plan for its public EV charging sites and stations with the BCUC when it becomes available in early 2022.
- Accessibility: To the extent that provincial laws may require EV fast charging service providers to make their stations accessible to British Columbians, regardless of ability, these laws apply equally to BC Hydro.
- Idling Fees: Congestion could be a problem at EV charging stations, and idling fees could be a deterrent to such congestion. The Panel encourages BC Hydro to monitor congestion and consider whether idling fees are warranted in the future.
- Time based rates: Time-based EV charging rates are discriminatory. While a time-based rate structure may be the standard practice for metering purposes for a regulated public utility at this time, the Panel recognizes that BC Hydro does have the option to seek a dispensation from existing Measurement Canada regulations to enable energy-based billing and directs BC Hydro to do so.
- Evaluation and Monitoring: As part of the new application for permanent rates, BC Hydro is directed to include:
    - Station utilization at different power level stations and factors that impact it;
    - Financial models with actual and forecast revenue and costs to provide EV fast charging service and updated assumptions;
    - An overview and comparison of the current EV fast charging service market and rates across Canada and United States; and

- A proposal for a depreciation rate for its EV DCFC charging stations and information to support its proposal.

- Separate class of service: BC Hydro is directed to establish a separate class of service for its EV fast charging service, in a permanent rate application to filed by December 31, 2022. A separate class of service will provide greater transparency and segregation of the revenues and costs for providing this service which outweigh the additional administrative costs.

This Decision considers the developments in the regulation of EV fast charging service, findings in the BCUC's EV Inquiry conducted in 2018, amendments to the Province's GGRR, as well as the BCUC's decision on the FortisBC Inc. EV public fast charging service rates issued November 24, 2021. This Decision then addresses the issues arising from the approvals sought by BC Hydro regarding its Proposed Rates and related matters.

1.0 BC Hydro Application

On March 5, 2021, British Columbia Hydro and Power Authority (BC Hydro) applied to the British Columbia Utilities Commission (BCUC) for approval of the BC Hydro Public Electric Vehicle (EV) Fast Charging Service Rates Application (Application) pursuant to sections 59 to 61 and 90 of *the Utilities Commission Act* (UCA).

In the Application, BC Hydro seeks BCUC approvals, on both an interim and a permanent basis, of time-based rates (collectively, Proposed Rates) as set out in[1]:

i. Rate Schedule 1360 for fast charging service at 25 kW stations at $0.12 per minute;

ii. Rate Schedule 1560 for fast charging service at 50 kW stations at $0.21 per minute; and

iii. Rate Schedule 1561 for fast charging service at 100 kW stations at $0.27 per minute;

By Order G-89-21 dated March 23, 2021, the BCUC approved BC Hydro's Proposed Rates on an interim basis as requested, effective May 1, 2021.

In this Decision, the Panel reviews the developments regarding the regulation of EV fast charging service including the BCUC's inquiry into the regulation of EV charging services in BC (EV Inquiry), amendments to the Greenhouse Gas Reduction (Clean Energy) Regulation (GGRR), as well as the BCUC's decision on the FortisBC Inc. (FBC) EV public fast charging service rates issued November 24, 2021 (FBC EV Decision). The Panel then addresses the issues around the approvals sought by BC Hydro regarding its proposed EV fast charging service rates and related matters.

BC Hydro's Proposed Rates are for providing EV Direct Current Fast Charging (DCFC) service at BC Hydro owned fast charging stations to drivers of EVs (i.e. retail rates) rather than rates to provide electricity to EV DCFC service providers in BC Hydro's service area (i.e. wholesale rates).

1.1 Regulatory Process

The BCUC established a regulatory timetable for the review of the Application. The regulatory process included intervener registration, two rounds of BCUC and intervener information requests (IRs), intervener evidence, a Streamlined Review Process (SRP), followed by BC Hydro oral argument, intervener written argument and BC Hydro written reply. The BCUC conducted the SRP with BC Hydro and interveners from July 27 to 29, 2021. Suncor Energy Inc. (Suncor), ChargePoint, and Mr. Donald Flintoff (Flintoff) filed intervener evidence.

Twenty interveners and forty-two interested parties registered in this proceeding. The nine registered interveners who filed final arguments are:

- 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 regulatory processes as BCOAPO et al. (BCOAPO);

[1] Exhibit B-1, p.1.

- BC Sustainable Energy Association and Vancouver Electric Vehicle Association (BCSEA-VEVA);
- ChargePoint;
- Commercial Energy Consumers Association of British Columbia (the CEC);
- Donald Flintoff;
- Gary Guthrie (Guthrie);
- Residential Consumer Intervener Association (RCIA);
- Strata Plan VR 2673; and
- Suncor.

The BCUC received 186 letters of comment from members of the public, including BC Hydro's EV fast charging service customers and other EV fast charging service providers. Although the comments were wide-ranging, they focused to varying degrees on the following:

- The perceived unfairness of BC Hydro's proposal for rates based on time ($/minute) rather than the energy delivered ($/kWh);
- The lack of idling fees or progressive rates to prevent station congestion;
- The perception that BC Hydro's Proposed Rates are too high or that EV charging service should remain free;
- The perception that BC Hydro's Proposed Rates, if approved, would result in a decline in the use of BC Hydro's EV fast charging service, a decline in people switching to EVs, and an adverse effect on the transition from fossil fuels to low carbon fuels;
- The perception that the implementation of public EV fast charging fees may reduce charger congestion issues for those who do not have access to at home charging;
- The perception that there are not enough EV chargers and that the charging sites are too far apart;
- The payment options proposed by BC Hydro; and
- Queries regarding BC Hydro's Proposed Rates and policies to support EV adoption.

2.0 Regulatory Context

2.1 EV Inquiry

By Order G-10-18 dated January 12, 2018, the BCUC initiated the EV Inquiry. The BCUC conducted the EV Inquiry in two phases. Phase 1 examined the EV charging service market in general and provided recommendations for the appropriate degree of regulation of entities that are not otherwise public utilities. The BCUC in its EV Charging Service Inquiry Phase 1 Report dated November 26, 2018 (EV Inquiry Phase 1 Report) found the following:[2]

[2] BCUC EV Charging Service Inquiry Phase 1 Report dated November 26, 2018, p. 1.

- The definition of "public utility" in the *Utilities Commission Act* (UCA) broadly includes many forms of energy services, if provided for compensation. The broad definition of "compensation" in the UCA encompasses many forms of direct and indirect compensation rendering most EV charging stations to be public utilities.
- The BCUC should only regulate where necessary; and regulation should not impede competitive markets.
- The EV charging market, including landlords and strata corporations, does not exhibit monopoly characteristics. Economic regulation of any aspect of the EV charging market is not required to protect consumers from potential abuse of monopoly power. This means there is no need to regulate price and terms of service.

On March 22, 2019, after receiving Ministerial Order No. M104, the BCUC issued Order G-66-19 to exempt EV charging service providers that are not otherwise public utilities, as well as landlords and strata corporations, from regulation under Part 3 of the UCA other than sections 25 and 38 which pertain to safety.

Phase 2 of the EV Inquiry focused on the regulatory framework for existing public utilities (e.g. BC Hydro and FBC, which were referred to as "non-exempt public utilities.") In the EV Inquiry Phase 2 Report dated June 24, 2019 (EV Inquiry Phase 2 Report), the BCUC found that while there are opportunities for the participation of non-exempt utilities in the EV DCFC market, regulatory oversight can help to mitigate ratepayer risk and potential impact on exempt utilities.[3] Other findings in the EV Inquiry Phase 2 Report that are relevant for the review of this BC Hydro Application include:[4]

- There may be circumstances that justify non-exempt utility ratepayers bearing the risk of EV infrastructure investments. However, an important aspect of qualifying those investments as being in the public interest would require the non-exempt utility to demonstrate that the investment in question would not likely have been undertaken by the private sector.
- It is in the public interest to ensure that the playing field remains as level as possible. There is an opportunity for thoughtful regulation to ensure that non-exempt public utility investments do not crowd out exempt utility investment.
- Non-exempt public utilities may have a role in developing highway charging infrastructure and participation in activities downstream of the meter. However, careful consideration must be given to the extent of that role and the appropriate level of risk for the non-exempt public utility's ratepayers to bear.

2.2 *Clean Energy Act* and Greenhouse Gas Reduction Regulation

On June 22, 2020, the Provincial Legislature amended the GGRR to include EV charging stations as prescribed undertakings. Section 5(2) of the GGRR sets out the criteria that qualify an EV charging station as a prescribed undertaking for the purposes of section 18 of the *Clean Energy Act* (CEA) and section 5(1) of the GGRR defines the terms used in section 5(2). Section 18(2) of the CEA requires the BCUC to set rates that allow public utilities to collect sufficient revenue to recover the costs incurred for implementing prescribed undertakings. Section

[3] BCUC EV Charging Service Inquiry Phase 2 Report dated June 24, 2019, Section 8.0.

[4] Ibid., Executive Summary, p. 3.

18(3) of the CEA prohibits the BCUC from exercising a power under the UCA in a way that would directly or indirectly prevent a public utility from carrying out a prescribed undertaking.

FBC and BC Hydro are currently the only non-exempt utilities that have applied for approval for rate design and rates to provide EV charging service in BC, and together their EV DCFC stations make up an important part of BC's EV DCFC market.

2.3 BCUC Decision regarding FBC's EV Public Fast Charging Service Rates

The BCUC in the FBC EV Decision made the following key findings:[5]

- A time-based rate for EV DCFC service is currently the only option for FBC since there are currently no Measurement Canada approved meters for DCFCs. However, FBC is directed to apply for a dispensation from the *Electricity and Gas Inspection Act* to have the option to charge energy-based rates within 30 days of the issuance of the BCUC order;
- FBC's proposed time-based rates of $0.26/minute rate for 50 kW stations and $0.54/minute rate for 100 kW stations are approved on a permanent basis. Current evidence indicates that these rates are sufficient to fully cover costs on a cost of service basis over a 10-year levelized period;
- Applying certain Bonbright principles in this proceeding may not be appropriate because FBC's regulated rates will be competing with other service providers which are exempt from BCUC rate regulation; and
- FBC's proposed straight-line depreciation rate of 10 percent for EV DCFC stations is approved for the time being and FBC is directed to include a proposal for a depreciation rate as part of a future detailed assessment.

In the FBC EV Decision, the BCUC considered not only whether FBC's proposed rates are sufficient to recover costs, but also the competitiveness of FBC's rates compared to other exempt service providers in the market. The rates approved allow for recovery of FBC's costs to provide EV charging service on a forecast basis but with heavy reliance on current assumptions about demand elasticity and station utilization. FBC was therefore directed to file a detailed assessment of these rates by no later than December 31, 2022, or within six-months of Measurement Canada's approval of DCFC energy-based metering for FBC, whichever is earlier.

3.0 BC Hydro's Proposed EV Charging Rates

3.1 Overview of BC Hydro's EV Charging Service

BC Hydro states that it entered the EV charging market because of the provincial policy objective to encourage the adoption of electric vehicles in British Columbia. Its original demonstration project was in 2013, and it now operates 97 stations at 71 sites across the province. It plans to add an average of about 45 new stations at 15 new sites per year to reach 325 stations across 145 sites by the end of 2025. Further, it plans to deploy about two-thirds of new stations on or near highway corridors with the remaining one-third in urban/suburban areas.[6]

[5] FortisBC Inc. Application for Approval of Rate Design and Rates for Electric Vehicle Direct Current Fast Charging Service, Decision and Order G-341-21, dated November 24, 2021, Executive Summary, p. i.

[6] Exhibit B-1, Appendix E, pp. 8 of 44–40 of 44; Appendices F, G ; Exhibit B-13, Attachment 1, p. 16 of 17; BC Hydro Reply Argument pp. 13–35.

BC Hydro explains that most of the capital funding for its charging stations is provided by infrastructure grant programs from the federal and provincial governments. It offered the fast charging service for free prior to May 1, 2021, following which the BCUC approved the following interim rates upon application by BC Hydro:

- $0.12 per minute for a 25 kilowatt charger;
- $0.21 per minute for a 50 kilowatt charger, and
- $0.27 per minute for a 100 kilowatt charger.[7]

BC Hydro explains that following the provincial government's June 2020 amendment to the GGRR which added provisions that make certain EV fast charging stations "prescribed undertakings", it included the cost recovery for its fast charging stations as part of its Fiscal 2022 Revenue Requirements Application (F2022 RRA) filing, because these meet the requirements of section 5 of the GGRR and therefore qualify as prescribed undertakings for cost recovery in rates pursuant to section 18 of the CEA. The fast charging service under the Proposed Rates in the Application is provided through those fast charging stations that are "prescribed undertakings" as demonstrated in the F2022 RRA. BC Hydro submits that the Proposed Rates are intended to collect revenue from the users of the fast charging service to recover the cost of electricity. In addition, the Proposed Rates are intended to partially recover capital and maintenance costs of BC Hydro's fast charging stations, which BC Hydro submits will help minimize cost impact on all ratepayers.[8]

As a result of the amendment to the GGRR, BC Hydro states that "any deployment of additional stations after 2025 is likely subject to Provincial government direction."[9]

BC Hydro has conducted a review of the rates for EV fast charging service provided by other operators both inside and outside British Columbia. The rates are as of February 2, 2021, based on publicly available information on PlugShare.com. From this review, BC Hydro notes:

- All operators charge the service based on time-based units, i.e., cents per minute; This is because metering and billing limitations do not currently allow for a rate in power or energy-based units, such as cents per kilowatt-hour or dollars per kilowatt;
- The most common fast charging service is provided through 50 kW charging stations, although some operators also offer service through higher-powered stations, for instance stations up to 350 kW power level in the case of PetroCanada;
- Typical rates for a 50 kW fast charging station service are between 20 to 30 cents per minute; and
- There are differences in the power level, functionality and amenities between stations. For instance, PetroCanada stations have on-site amenities such as staff, restrooms and a retail store, ample lighting and high levels of maintenance due to staff on-site.

BC Hydro states that the Proposed Rates are designed to align with prices of other fast charging operators. The following table provides the rates and service of various EV fast charging operators in BC:

[7] Transcript Vol. 1, p. 73.

[8] Exhibit B-1, pp. 2–40, Appendices A-G.

[9] Exhibit B-13, Attachment 1, p. 16 of 17.

Table 1: Jurisdiction Review of Rates for Fast Charging Service as of July 2021[10]

Operator	Service	Rate (cents/min) @ Power Level (excluding sales tax)	Number of Sites and Fast Chargers in BC
City of North Vancouver	• Single 50 kW charger	19.05¢ 50 kW	• 1 site • 1 DCFC
City of Vancouver	• Single or 2x 50 kW chargers	21¢ 50 kW	• 5 sites • 9 DCFC
Electrify Canada	• 4x chargers up to 350 kW	27¢ <90kW* 57¢ >90kW* *20% member discount available for $4/month Idling fee: 40¢[11]	• 8 sites (2 additional sites under construction) • 24+ DCFC
FortisBC[12]	• Single or 2x 50 kW chargers	26¢ 50 kW 54¢ 100 kW	• 15+ sites • 20+ DCFC
Petro-Canada (operated by Suncor)	• 2x chargers up to 350 kW	24.11¢ up to 200 kW or 350 kW CCS, up to 100 kW CHAdeMO	• 12 sites • 23+ DCFC
Tesla	• Proprietary stations (Tesla vehicles only)	23.7¢ <60kW 47.6¢ >60kW	• 18+ sites • 180+ DCFC

Positions of the Parties

Strata Plan VR 2673 notes that some of the prices listed in Table 2 are misleading. For example, City of Vancouver has chargers on a pay lot where the EV driver must pay for parking at $2.35/hour, which raises the effective rate to $0.30/minute ($8.38/28=$0.30).[13]

BCSEA-VEVA submits that "free service was appropriate when BC Hydro's fast charging network was being developed. However, a fee for service approach is now appropriate as EV usage enters the mainstream in BC."[14]

ChargePoint submits that the Application makes clear that the proposed fast charging rates do not recover full costs from EV drivers using fast charger stations. Instead, any under-recovered amounts for capital costs and other non-electricity costs are recovered from BC Hydro's general rate base. The specifics around the scope or magnitude of the cross-subsidy are not transparent.[15]

3.2 Use of Time-based Rates vs. Energy-based Rates

BC Hydro states that each charging station has a built-in timing device, which measures the charging time by the second and the total time for each charging session will be displayed in minutes and seconds shown on the

[10] Based on information from: Exhibit B-12-1 dated July 23, 2021 and B-13 dated July 26, 2021.
[11] https://www.electrify-canada.ca/pricing/
[12] The BCUC approved these rates in Order G-341-21 dated November 24, 2021.
[13] Strata Plan VR 2673 Final Argument, pp. 5-10 (pdf).
[14] BCSEA-VEVA Final Argument para 16, p. 5 of 18.
[15] ChargePoint Final Argument para 33, p. 8.

customer's receipt. While the electricity provided to the fast-charging station, including the charging equipment, can be metered with current Measurement Canada approved revenue metering equipment, there is no Measurement Canada approved revenue metering equipment to measure direct current electricity at the DCFC station. For clarity, BC Hydro submits there is currently no Measurement Canada approved solution measuring the electricity dispensed from the station to the battery of the electric vehicle. Accordingly, BC Hydro argues that only a time-based rate is possible at this time.[16]

Certain provisions under the *Electricity and Gas Inspection Act* (EGIA) and the *Weights and Measures Act* apply to metering devices and measuring units. BC Hydro views that implementing an electricity-based rate for EV fast charging service without a Measurement Canada verified and sealed meter could be a violation of section 9(1) of the EGIA, unless a temporary or permanent dispensation is granted. BC Hydro does not have such dispensation.[17] BC Hydro indicates that time-based DCFC stations are exempt from Measurement Canada compliance. The EGIA and regulations do not apply to time-based transactions.[18] In a report dated April 2021, the federal parliamentary environment committee has recommended that "the Government of Canada consider revising *the Electricity and Gas Inspection Act*, *the Weights and Measures Act*, and their associated regulations to remove barriers to innovative vehicle charging technologies and to improve transparency for electricity providers and users."[19]

BC Hydro states that the American National Standards Institute metering working group is currently developing a DC metering standard, which will establish acceptable performance criteria for revenue grade energy and demand meters and it has been monitoring the development of the new DC metering standard. BC Hydro states that the new standard is currently under review by various North American utilities and equipment manufactures for formal approval. Further, BC Hydro also states it will participate in the Measurement Canada initiated public consultation process in 2021, which is expected to develop performance-based standards to allow existing and new electric vehicle charging stations that meet established technical standards to charge based on energy consumed. The expected timeline for this public consultation process is into 2022.[20] BC Hydro further expects there will a standard in place prior to March 31, 2024, the date of its planned Evaluation Report to the BCUC.[21]

To complicate this issue, BC Hydro's billing platform software developed by AddEnergie Technologies is currently not able to bill by kWh or a combination of kWh and time for fast charging stations. BC Hydro states that AddEnergie Technologies expects to have this capability available in the EV network billing platform by April 2022, subject to a Measurement Canada standard specification.[22]

Positions of the Parties

[16] Exhibit B-1, pp. 11–12.
[17] Exhibit B-4, BCUC IR 5.9.
[18] Transcript Vol 1, p. 87.
[19] Exhibit B-4, BCUC IR 10.7; The Road Ahead: Encourage the Production and Purchase of Zero-Emission Vehicles in Canada, Report of the Standing Committee on Environment and Sustainable Development, dated April 2021, p. 34.
[20] Exhibit B-1, pp. 11–12.
[21] Exhibit B-5, BCSEA-VEVA IR 1.10.7, p. 253; Exhibit B-1, p. 36.
[22] Exhibit B-4, BCUC IR 1.5.10.

Most interveners accept that while not ideal, time-based rates appear to be the only option available at this time.

BCSEA-VEVA notes there are numerous theoretical and practical advantages to energy-based rates ($/kWh) rather than time-based ($/minute) for DC EV charging service but accepts that DC metering is not available at this time.[23] The CEC is satisfied that BC Hydro is not able to provide a volume-based rate at this time, and that time-based rates are the appropriate solution.[24] Strata Plan VR 2673 says pricing must be time based until energy-based pricing is authorized by Measurement Canada[25]

BCOAPO has no issues with BC Hydro's current proposal to use a time-based rate.[26] While Flintoff supports the proposed time-based rates, he argues that the Panel should consider the next steps when DC kWh revenue metering becomes available in the spring of 2022 and whether or not to discontinue time-based revenue rates in favour of kWh rates.[27]

In reply, BC Hydro argues that until Measurement Canada approves a standard for direct-current meters to be used to bill customers for EV Charging Service, volumetric rates are not feasible and therefore time-based pricing remains the standard and preferred way to charge for service.[28] BC Hydro further argues that while volumetric rates are generally understood as ultimately being more appropriate than time-based rates, the transition from the latter to the former will need to be handled with care.[29]

Panel Determination

The Panel finds that a time-based rate for EV fast charging service is currently the only option for BC Hydro at this time as there are no Measurement Canada approved meters that would enable BC Hydro to sell electricity from a DC Fast Charger by kWh.

Numerous IRs and submissions have been made in this proceeding about the possibility of establishing volumetric pricing for BC Hydro's network of EV chargers. We note that BC Hydro recognizes that a kWh-based rate would be fairer as battery size, level of battery charge, air temperature and unique manufacturer equipment characteristics all affect the rate at which a battery will charge.[30] This position is supported by various interveners and the Panel also agrees.

In the FBC EV Decision, the BCUC states that[31]:

> Using time as the billing determinant of electricity sales may lead to varying amounts of energy being delivered to the customer depending on the circumstances. In the case of EV charging, the

[23] BCSEA-VEVA Final Argument, p. 10.
[24] CEC Final Argument, p. 41.
[25] Strata Plan VR 2673, Final Argument, p. 3 (pdf).
[26] BCOAPO Final Argument, pp. 18–19.
[27] Flintoff Final Argument, p. 4.
[28] BC Hydro Reply Argument, p. 4.
[29] Ibid., p. 11.
[30] Exhibit B-4, BCUC IRs 1.5.1, 1.5.2, 1.5.3, 1.5.4 and 1.5.7.
[31] FBC EV DCFC Rates and Rate Design Decision, pp. 9-10.

amount of electricity delivered in a charging session depends on several factors including the vehicle's charging capabilities, state-of-charge of the battery and temperature.

Different EV models can consume significantly different amounts of electricity in a charging session of equal time. The Panel calculates, based on the evidence in the proceeding, that a 30-minute charge for an older Nissan Leaf at 50 kW maximum DC charging would deliver approximately 25 kWh of electricity. The same 30-minute charge for a 2016 Hyundai IONIQ at 100 kW maximum DC charging rate would deliver approximately 50 kWh of electricity. This comparison assumes that the two EVs are at a similar battery state-of-charge using a 100 kW charging station.

Suncor also provides the approximate charging speeds for various EV models:[32]

- Tesla Model S, X, Y, 3 Up to > 150kW
- 2021 Chevy Bolt ~50 kW
- Porsche Taycan ~270 kW
- Audi e-tron ~155 kW
- 2021 Nissan Leaf ~100 kW
- Ford Mach-e ~150 kW
- Hyundai Ioniq 5 >200 kW
- Hyundai Kona 77 kW

In our view, time-based EV charging rates clearly amount to a discriminatory rate. However, the test the Panel must apply is not whether the rate is discriminatory but whether it is unduly discriminatory. Pursuant to section 59(1) of the UCA, a public utility "must not make, demand or receive… an unjust, unreasonable, unduly discriminatory or unduly preferential rate for a service provided by it in British Columbia."

However, as the BCUC states in the FBC EV Decision:

> [T]here is, at this time, no alternative to time-based rates, other than to provide the electricity for free. We consider this latter option would result in even greater discrimination as it would result in considerably more subsidization of this service by other ratepayers. Further, free EV charging service (EVCS) could be detrimental to the development of an EV charging market, thereby hindering the development of EV charging infrastructure.[33]

We concur and find that the same circumstances apply here.

While a time-based rate structure may be the standard practice for metering purposes for a regulated public utility at this time, the Panel recognizes that BC Hydro does have the option to seek a dispensation from the EGIA to enable energy-based billing. Accordingly, the Panel considers that an application for dispensation would be of little to no harm to BC Hydro and its ratepayers while Measurement Canada continues its processes to approve DC metering devices that will meet its standards.

Accordingly, **BC Hydro is directed to apply, within 30 days of the issuance of this Decision, for a dispensation from the EGIA to have the option to charge energy-based rates. BC Hydro is directed to provide a status update to the BCUC on that application by April 30, 2022**.

[32] Exhibit C20-6, Suncor response to Strata Plan VR 2673 IR 14.

[33] FBC EV DCFC Rates and Rate Design Decision, p. 10 of 32.

We note that FBC filed a similar application with Measurement Canada on December 21, 2021, pursuant to Order G-341-21. We encourage BC Hydro, if it wishes to do so, to consult with FBC for any required assistance with this process.

In making this determination, we understand that BC Hydro's billing platform software developed by AddEnergie Technologies is expected to have the capability of billing by kWh or a combination of kWh and time for fast charging stations by April 2022, subject to a Measurement Canada standard specification. We strongly encourage BC Hydro to continue its pursuit of these efforts.

3.3 BC Hydro's Rate Design Objectives and Justification for the Proposed Rates

In the Application, BC Hydro presents its full cost of service-based rate under various utilization scenarios. However, it does not believe that the station utilization is high enough to make such a rate feasible. As a result, BC Hydro's Proposed Rates recover the cost of electricity (Energy and Demand) but are not expected to recover all of the station capital and maintenance costs at this time. BC Hydro states that costs not recovered by the Proposed Rates will be recovered from all ratepayers.[34]

BC Hydro submits that the existence of the GGRR and CEA allow public utilities (i.e. non-exempt utilities) to enter into the EV charging market, whereas the application of the regulatory regime would make it very difficult for public utilities to enter into the market.[35] In the absence of the GGRR and CEA, BC Hydro would not have entered into the market.[36]

BC Hydro provides its assessment of the Proposed Rates using the traditional utility Bonbright rate design criteria and concludes that its results are of mixed performance and "good" or "fair":

[34] Exhibit B-1, p. 26

[35] Transcript Vol 4, p. 660.

[36] Transcript Vol 4, p. 666.

Table 2: BC Hydro's Assessment of the Bonbright Criteria[37]

	Bonbright Criteria	Grouping	Performance
1	Price signals to encourage efficient use and discourage inefficient use	Economic efficiency	Fair
2	Fair apportionment of costs among customers	Fairness	Fair
3	Avoid undue discrimination	Fairness	Fair
4	Customer understanding and acceptance; practical and cost-effective to implement	Practicality	Good
5	Freedom from controversy as to proper interpretation	Practicality	Good
6	Recovery of the revenue requirement	Stability	Good / Fair
7	Revenue stability	Stability	Good / Fair
8	Rate stability	Stability	Good / Fair

BC Hydro states that full cost recovery from those who use the service cannot be achieved with its short-term station utilization levels. This limits the fairness criterion. Current metering limitations, as discussed in Section 3.2 above, constrain its Proposed Rates to being time-based, which then limit their economic efficiency criterion.

In the stakeholder consultation stages before the filing of this Application, BC Hydro at its December 7, 2020 fast charging rate design virtual workshop webinar indicated that its rate design objectives are economic efficiency, low carbon electrification, and flexibility, as follows:[38]

Rate design objectives	How they apply to a public fast charging rate
Economic Efficiency	• Set pricing to achieve full cost recovery over the longer term, starting with recovery of electricity supply costs in the near term
Low Carbon Electrification	• Support low carbon electrification through transportation electrification
Flexibility	• Build in flexibility through repricing in three years and future redesigns such as kWh-based and time-varying-based pricing

In its oral argument, BC Hydro identified three additional considerations that should be considered in the establishment of pricing for its EV charging service:[39]

- revenue maximization,
- avoiding an un-level playing field, and
- advancing the Provincial policy objective of encouraging the adoption of electric vehicles in British Columbia.

[37] Exhibit B-1, p. 35

[38] Exhibit B-1, p. 19; Appendix E, p. 30 of 44.

[39] Transcript Volume 4, pp. 625–633.

BC Hydro argues that no intervener argued that any of these three considerations were inappropriate, or advanced any other pricing considerations in the alternative to the three considerations[40] and considers that revenue maximization is consistent with the level-playing field consideration and that arises primarily from the rate-setting jurisdiction of the BCUC under sections 58 to 61 of the UCA.[41] Further, BC Hydro submits that assessing the level playing field in the EV charging market is challenging because service providers have different business models. For example, BC Hydro entered the market to achieve the public policy objectives to promote EV adoption. In contrast, Suncor has a long-term view of profitability but currently is not recovering its costs for the fast charging service which are being subsidized by its shareholders or other customers.[42]

BC Hydro states that it does not propose levelized rates because to do so requires a forecast of revenue and utilization over a number of years. It goes on to say that it does "not currently have sufficient information to develop a reliable long-term forecast of utilization and revenue and therefore is not considering levelized rate as a practical option at this time." It submits that its proposed approach has the benefit of providing flexibility to revisit pricing in 2024 including the assessment of the impact of potential technological advancements in metering and billing for fast charging services.[43]

Positions of the Parties

BCSEA-VEVA submits that BC Hydro's Proposed Rates reflect the best evidence of rates that would maximize net revenue rates, thereby minimize cross-subsidization from other BC Hydro ratepayers (based on BC Hydro's judgement) and are within the range of rates offered by other providers of public fast charging service, and while innovative rate structures could potentially increase utilization and net revenue, there is insufficient evidence on the record.[44]

BCSEA-VEVA also considers that the concept of a "level playing field" between BC Hydro and other providers of public EV fast charging service is desirable in theory but too elusive in practice to serve as the test for whether BC Hydro's Proposed Rates are just and reasonable because what constitutes a "level playing field" lies in the eye of the beholder.[45]

BCOAPO agrees that the three considerations set out by BC Hydro are appropriate for assessing the Proposed Rates and that priority should be given to revenue maximization. Given that the underlying objective behind maximizing revenues is to minimize cross subsidies between customers.[46] BCOAPO believes the need to maintain a level playing field would be best met if BC Hydro's EV charging rate were set towards the middle range, or slightly above the middle range, of prices offered by other operators, with a focus on those operating in BC.[47]

[40] BC Hydro Reply Argument, pp. 3–4.
[41] BC Hydro Reply Argument, p. 4.
[42] Transcript Vol 4, pp. 661–662.
[43] Exhibit B-4, BCUC IR i.7.3, i.7.3.1.
[44] BCSEA-VESA, Final Argument, pp. 4-5, 7-8.
[45] BCSEA-VESA, Final Argument, pp. 8–9.
[46] BCOAPO Final Argument, p. 24.
[47] BCOAPO Final Argument, p. 26.

The CEC does not agree that BC Hydro's understanding of rates will maximize revenues, which are short-term and based on inadequate and therefore inappropriate data. The CEC views rates above those proposed by BC Hydro can both maximize revenues for ratepayers over the mid-term and contribute to the development of the EV charging infrastructure through the participation of exempt utility service providers. The CEC recommends the BCUC undertake to set rates which are most likely to advance EV adoption, and maximize revenues over the long term, rather than relying on BC Hydro's interpretation of charging elasticity and revenue maximization. The CEC also argues that an appropriate "revenue maximization" calculation needs to consider many factors, and most importantly include a clear understanding of how a change in rates can be expected to influence station utilization, plus have a reasonable expectation of what the market will bear over some period of time.[48]

Further, the CEC does not agree with BC Hydro that revenue maximization should take precedence over creating a level playing field. The CEC views that equally important considerations should be to reflect the overall purpose of BC Hydro's involvement in the market to support Government's intention of advancing widespread EV adoption.[49] The CEC argues that a price that is "comparable with that offered by other fast charging station operators" under the current circumstances will not necessarily ensure the playing field remains "as level as possible," nor make room for competitive entrants.[50] Consequently, the CEC considers that BC Hydro's Proposed Rates do not support the Government objectives but could instead serve to inhibit participation of exempt service providers.[51] The CEC submits that BC Hydro's role in public policy should be to advance the opportunities for exempt utilities to enter the market with EV charging stations as quickly as possible, rather than discourage it through artificially low, or ultra-low rates.[52]

Flintoff argues that BC Hydro has not provided the upper "revenue-maximizing rate" boundary condition to the Panel that would directly or indirectly prevent it from carrying out the prescribed undertaking.

Guthrie argues that competing with BC Hydro's discounted ratepayer-supported rates will make staying in business more challenging and discourage other potential exempt parties from starting. This will negatively affect BC Hydro's fast charging goal of developing a level playing field and encouraging greater EV adoption in general.[53]

ChargePoint argues that rather than taking steps to ensure a level playing field, BC Hydro has instead chosen to develop rates that prioritize its revenue over minimizing a cross-subsidy and over the viability of the competitive market. As exempt utilities do not have a rate base from which to cross-subsidize, ChargePoint argues that BC Hydro's Proposed Rates are at levels that are below those generally offered by private operators in the market or that private operators could sustain.[54]

ChargePoint further argues that BC Hydro has failed to establish that its Application contains revenue maximizing rates that will minimize cross-subsidy, as its Proposed Rates are only its best guess of appropriate

[48] CEC Final Argument, pp. 7, 12, 15–16.
[49] Ibid., p. 7.
[50] Ibid., p. 19.
[51] Ibid., p. 4.
[52] Ibid., p. 9.
[53] Guthrie Final Argument, p. 8.
[54] ChargePoint Final Argument, p. 5.

rates and were developed without stakeholder consultation, and without fulsome information on price elasticity and utilization. Further, if the ultimate policy goal is to accelerate the uptake of EV infrastructure across the province, then ensuring that all EV charging infrastructure investors who are exempt and non-exempt utilities operate on a level playing field and in a competitive market is critical.[55]

ChargePoint further argues that BC Hydro's Application makes no effort to consider the impact of its Proposed Rates on the development of the competitive market. Maximizing revenue and minimizing cross-subsidy cannot be assessed in isolation, and competitiveness impacts and a level playing field must also be considered to understand the full scope of the Application's impacts.[56]

ChargePoint submits that how BC Hydro's Proposed Rates may impair the competitive market is relevant to the BCUC's rate setting jurisdiction. It refers to the BCUC's scope in this proceeding stating that the level of cross-subsidy, maintaining a level playing field, assessing whether or not non-exempt utility investments will "crowd out" or adversely impact exempt utility investment, and issues related to just and reasonable rates and demand and connection fees are all relevant considerations. Without information from exempt utilities competing with BC Hydro, ChargePoint argues that it is not possible for BC Hydro (or the BCUC) to conclude that the Proposed Rates maintain a competitive marketplace or a level playing field.[57]

Suncor submits that concerns about revenue maximization and leveling the playing field both relate to issues arising from cross-subsidization, which are generally addressed by establishing rates closer to, and ideally representative of, the cost of service. Consequently, revenue maximization and levelling the playing field relate to similar economic principles and can be resolved by utilizing a common solution—minimizing cross subsidization.[58] Suncor argues that the BC Hydro's Proposed Rates will undoubtedly have a negative impact for private operators in the playing field who cannot recover such losses through ratepayer cross-subsidization.[59]

Suncor disagrees with BC Hydro's definition of a "level playing field" in the context of what the BCUC was referring to in its EV Inquiry's Phase Two Report and states that the BCUC clearly recognizes the challenges of a hybrid public/regulated and private/competitive market for fast EV charging in BC.

Suncor argues there are three main ways the playing field can be leveled: (1) removing demand charges; (2) reducing the capital associated with connection fees; and (3) reforming rate structures to include kWh, time, dynamic pricing and tiers per kW drawn. Ignoring these items would let BC Hydro ensure market dominance by ignoring a potential solution that would certainly support all three rate design considerations they outline—revenue maximization, level playing field and encouraging EV adoption.[60]

In reply, BC Hydro argues that some interveners have proposed pricing that is close to or within the range of its revenue maximizing prices, for example, the CEC, BCOAPO and RCIA. Yet none of these interveners have proposed full cost of service pricing until some time in the future. BC Hydro interprets that a judgement is

[55] Ibid., p. 6.
[56] Ibid., p. 7.
[57] ChargePoint Final Argument, pp. 4–8.
[58] Suncor Final Argument, p. 11.
[59] Ibid., p. 20.
[60] Ibid., pp. 10–14.

necessary on what the market will currently bear and where the revenue maximizing price lies in relation to the range of revenue maximizing prices identified by BC Hydro.

BC Hydro further argues that if the BCUC is inclined to move to higher prices for EV charging services sooner rather than later (i.e. more in accordance with the views of the CEC, BCOAPO and RCIA), then BC Hydro suggests that RCIA's proposal merits a closer look as it maintains the current pricing for a full year from May 1, 2021, and so provides price certainty for longer than the proposals of BCOAPO or the CEC. Relative to their proposals, BC Hydro argues the RCIA proposal would be easy to implement, and easy to explain to customers.[61]

BC Hydro argues that Suncor's proposal would almost certainly not yield a revenue maximizing price, because the pricing would be so much higher than the pricing of other electric vehicle service providers.[62]

In the future, it may be possible that revenue-maximizing prices for EV charging services could be greater than full cost of service prices. However, nothing on the record of this proceeding suggests that at the present time, or even in the near-term, revenue maximizing prices exceed full cost of service pricing.[63]

Panel Discussion

In the following sections, we review the BCUC's legislative mandate as it pertains to rate setting for EV charging services. Then we review the following rate design principles put forward by BC Hydro:

- Bonbright principles; and
- Revenue maximization, avoiding an unlevel playing field and advancing Government policy objectives for EV adoption

BCUC's Legislative Mandate in Rate Setting

In our review of these rate design principles, the Panel is mindful of the findings of the EV Inquiry that the development of an EV charging network is best achieved by a competitive market. This will ensure the attraction of sufficient capital and the provision of choice regarding service and locations of sufficient supply. As a result, this contributes to the achievement of Government policy objectives for EV adoption.

Participation by a monopolistic utility with subsidized EV charging rates can inhibit or impede that market development. As Electrify Canada commented:[64]

> If the Commission approves a rate for BC Hydro fast chargers that is less than the rate that BC Hydro charges private operators of fast charging stations, there is no incentive for private operators of fast charging stations to invest in BC Hydro's service territory.

No one provider, by virtue of its regulated utility status, should negatively impact the competitive market. Allowing this to happen is not in the public interest of British Columbians. Further, for the reasons laid out below, it could impede the advancement of Government policy objectives.

[61] BC Hydro Reply Argument, p. 13.
[62] BC Hydro Reply Argument, p. 16.
[63] BC Hydro Reply Argument, p. 24.
[64] Exhibit E-140, Electrify Canada Letter of Comment.

Insofar as BC Hydro states that the GGRR enables it to enter the EV charging market, we review the portions of the GGRR regulation applicable to the design of EV charging rates, and we find that neither:

I. Section 18(2) of the CEA, which requires the BCUC to set rates that allow public utilities to collect sufficient revenue to recover the costs incurred for implementing prescribed undertakings, nor

II. Section 18(3) of the CEA, which prohibits the BCUC from exercising a power under the UCA in a way that would directly or indirectly prevent a public utility from carrying out a prescribed undertaking

require the BCUC to use any specific rate design mechanism nor do they require the BCUC to set any particular rate. Additionally, we find that the GGRR does not require the BCUC to approve a rate that is below the rate charged by other exempt EV charging service providers or that only partially recovers the cost of providing the service. The GGRR also does not specify from which groups of customers the costs should be recovered.

Further, we note the BCUC's broad legislative authority under sections 59 to 60 of the UCA in establishing rates for a public utility. In particular, section 60(b.1) states:

> the commission may use any mechanism, formula or other method of setting the rate that it considers advisable, and may order that the rate derived from such a mechanism, formula or other method is to remain in effect for a specified period,

and section 59 (4) states that the BCUC is the sole judge [on],

> (a)whether a rate is unjust or unreasonable,
>
> (b)whether, in any case, there is undue discrimination, preference, prejudice or disadvantage in respect of a rate or service, or
>
> (c)whether a service is offered or provided under substantially similar circumstances and conditions.

In making these findings we understand that there are some that feel that it is in the public interest for all of BC Hydro's customers to subsidize EV charging, thereby enabling BC Hydro to provide EV charging services at a price lower than that of exempt EV charging service providers. We don't agree with this as a rate design objective. The objective for a substantial and readily available EV charging network is clearly laid out in the Government's CleanBC Plan:[65]

> We will also ensure it's easy to charge your ZEV, wherever you are in the province. We will work with the private sector, utilities, Indigenous communities, the federal and local governments and others to achieve an overall target of B.C. having 10,000 public EV charging stations by 2030. This will include completing B.C.'s Electric Highway by ensuring broad geographic coverage across the Province for fast charger EV sites by Summer 2024. BC Transit, TransLink and BC Ferries are also moving increasingly to zero-emission vehicles.

Therefore, it is in the public interest to foster the development of a robust, competitive market for the provision of EV charging services throughout BC.

[65] Clean BC Roadmap to 2030, PDF p. 36.

BC Hydro states in this proceeding that its participation is limited to opening only 325 stations by the end of 2025.[66] Therefore, to achieve the Province's goals will require a robust network of EV charging with the participation of various exempt EV charging service providers.

Under normal circumstances, we would not likely approve the participation of a monopolistic utility in a competitive market. In this circumstance, the GGRR requires the BCUC to enable BC Hydro to both participate and to recover all the costs of doing so. This may necessitate the subsidization of BC Hydro's EV charging services in what is otherwise a competitive market.

However, care must be taken to ensure that as a result of this subsidization, BC Hydro does not undermine the existing market price. Providing subsidization in this manner does not meet the requirements of the UCA for the BCUC to establish a rate that is just and reasonable and not unduly discriminatory. If it is Government policy to subsidize public EV charging, that subsidization should be made available to all providers of EV charging services, regardless of the source of subsidization—the ratepayers of monopolistic utilities or taxpayers. As an example, a fairer way to apply such a subsidy would be to establish a tax credit for consumers of EV charging services that is based on the amount of charging service they purchased, regardless of the identity of the service provider.

Bonbright Principles

BC Hydro states that it relied on Bonbright principles to design the Proposed Rates. The Panel acknowledges that Bonbright principles have been the accepted standard to evaluate a regulated utility's rate design. However, applying Bonbright principles in this proceeding may not be appropriate because BC Hydro's regulated rates will be competing with other service providers which are exempt from BCUC rate regulation. Economic regulation of monopoly utilities serves as a proxy for the free market, but public EV charging operates in a competitive market. This was the finding in the EV Inquiry Phase 1 Report and that still remains true today. Other service providers operate in the geographical area served by BC Hydro's EV charging stations and EV customers are highly mobile and can travel with relative ease to another service provider.

The BCUC discussed this at some length in the FBC EV Decision, where it stated:[67]

> [A]s Bonbright stated in his seminal work, he was concerned with "the most monopolized types of utility enterprise and especially with the electric utilities". In a monopoly market there are, by definition, no competitors, no other providers of service. Demand is relatively inelastic and there is no comparable, or reference, price that a regulator could use as they review and approve a price. A price, or rate, that the regulator establishes should be sufficient to recover the cost of service and no more, and only in that instance would it be therefore considered just and reasonable for both the utility and the customer.
>
> By contrast, in a competitive market there are other providers charging different prices for a comparable good or service. In a competitive market, demand elasticity is much higher than in a monopolistic market. Competitive markets are very sensitive to price and, generally speaking, customers will purchase those goods and services from providers who offer a lower price.

[66] Transcript Vol. 4, p. 644.

[67] FBC EV DCFC Rates and Rate Design Decision Order G-341-21, p. 15 of 32.

> Therefore, the question the Panel must answer is: how should the rate be set for the services provided by a public utility operating in a competitive market? If the cost of service-based price, or rate, is too high, the service may attract less usage. If it is too low, there is a risk that competitors will be driven out of the market.
>
> Generally speaking, a company's shareholders bear the risk of not recovering the costs incurred to provide a good or a service to that market. Shareholders bear this risk because there is also the chance of a reward, the magnitude of which is commensurate with the risk incurred. Presumably they would not do so if not for that potential reward. However, section 18(2) of the CEA requires cross-subsidization of EV customers by all other FBC ratepayers. In this case, the shareholder takes no risk and FBC's ratepayers get no reward for bearing that risk.

In setting rates that consider competitive factors, the Panel does not believe that Bonbright principles relating to such issues as price signals, rate stability and revenue stability can be adequately addressed and therefore we question whether they should be considered at all when determining the rate for a competitive service provided by a regulated public utility. The BCUC has made this finding in the FBC EV Decision, and we continue to support that finding as it applies to BC Hydro's Application.

In its FBC EV Decision,[68] the BCUC stated that a fundamental Bonbright principle of rate design is to recover the forecast cost of service. In the case of BC Hydro's Proposed Rates, the costs associated with the provision of its EV charging service are not all recovered from EV charging customers, even on a levelized basis. Therefore, this basic rate design principle of cost recovery is not met. BC Hydro instead relies on Government regulation (namely, section 18(2) of the CEA) to recover its costs from other customer groups in order to subsidize the EV charging service. This is a stark contrast to FBC's approved rates which recover its levelized cost of providing its EV charging services. As noted in its FBC EV Decision, "recovering the cost of service over a levelized period does satisfy the Bonbright principle of recovering the cost of service."[69]

However, BC Hydro's Proposed Rates in this Application are based on assumptions of price elasticity and equipment utilization for which little evidence of actual available information has been provided. BC Hydro conceded that it is not able to confidently develop a 10-year forecast of station utilization, while acknowledging that this measure is necessary to determine its revenue maximizing rate.[70]

We review below other considerations cited by BC Hydro in the determination of appropriate pricing mechanisms.

BC Hydro's Additional Considerations

The Panel finds that BC Hydro's stated additional considerations of revenue maximization, avoiding an unlevel playing field and advancing Government policy objectives for EV adoption in further of its rate design objectives can result in just and reasonable rates. Therefore, they should be considered when designing an EV charging rate—in much the same way that Bonbright principles are considered when designing rates for utilities in monopoly markets. However, it may not be possible to satisfy all of these considerations at the same time.

[68] FBC EV DCFC Rates and Rate Design Decision, p. 14.
[69] FBC EV DCFC Rates and Rate Design Decision, p. 14.
[70] Transcript Vol. 2, p. 293, ll. 22–24.

The Panel notes that BC Hydro does not discuss how these three considerations interact with or compete with one another, although BC Hydro seems to have prioritized revenue maximization over the other two stated considerations. BC Hydro confirmed that it did not conduct stakeholder consultation to better understand the nature of its competitors, but instead the primary focus in developing its Proposed Rates was the interest of its ratepayers. BC Hydro stated that:

> …the application is focused on BC Hydro ratepayers and the interests of our ratepayers, and that was our primary focus in developing these proposed rates. Far more a focus for us than matters related to competitive market, wanting to protect our ratepayers, propose rates that could maximize revenue in order to reduce cross-subsidization and minimize cost to all ratepayers.[71]

BC Hydro further argues that revenue maximization should take precedence over creating a level playing field.[72] The Panel disagrees and finds that the development of a robust public EV charging market is in the broader public interest and should therefore be prioritized.

We do not find it appropriate to approve EV charging rates for regulated utilities that may cause existing market participants to exit the market as a result of such rates being set at a level that is lower than rates charged by other market participants. Rather, we consider a rate that supports the development of a robust competitive market to be just and reasonable. As previously stated by the BCUC,

> It is in the public interest to ensure that the playing field remains as level as possible. There is an opportunity for thoughtful regulation to ensure that non-exempt public utility investments don't have the end effect of crowding out exempt utility investment;[73]

While BC Hydro submits that no intervener argued that any of its three considerations are inappropriate, or advanced any other pricing considerations in the alternative, the Panel finds this oversimplifies the interveners' arguments. Many interveners are of the view that these three considerations impact one another and cannot be viewed in isolation. Many interveners also advocate for a more level playing field. This means less cross-subsidization for the competitive service, and implies a higher price so that exempt service providers can participate in a fairer manner. As we state above, providing for this participation advances Government policy targets for increasing EV adoption in BC.

All of these considerations are highly linked and the objective for the BCUC, as the economic regulator of the non-exempt utilities, should be to set BC Hydro's EV charging rates as close to the equilibrium price as possible. The equilibrium price is the price at which supply is balanced with demand and is generally recognized by economists as the price where demand and supply for a good or service are equal. In a normal competitive market, the market price is the equilibrium price. If BC Hydro's EV charging rate *with* subsidization is less than the equilibrium price, then this would put downward pressure on the market price, potentially to the point where other suppliers are unable to continue providing service or preventing new suppliers from entering the market. This creates an unlevel playing field, which can reduce market participation and competition. This, in turn, may ultimately hinder the adoption of EVs which is counter to the Government's stated policy objective.

[71] Transcript Vol. 1, p. 181, ll. 19–26.

[72] Transcript Vol. 1, p. 627.

[73] EV Inquiry Report Phase 2, p. 29.

That said, we find that it is not the role of the BCUC to determine the equilibrium price in a competitive market. Further, the determination of the equilibrium price is impractical. However, this does not mean that we should set BC Hydro's rates without due consideration of rates charged by exempt EV charging service providers or the impact of BC Hydro's EV fast charging rates on those providers. We therefore find that a rate that would be just and reasonable and not unduly discriminatory would be one that does not require subsidy, recovers the full cost of service and not unfairly undermine the competitive EV charging services market.

The Panel recognize that three interveners (the CEC, BCOAPO and RCIA), are advocating to move towards higher prices sooner towards full cost recovery, whereas BC Hydro proposes a more conservative approach to increasing its prices. Prices should be increased if this results in higher revenue to BC Hydro and must be increased if the existing price is less than the equilibrium price or if BC Hydro's price is subsidized and/or calculated based on assumed inputs that are not consistent with the actual inputs. In the next section we review the assumptions and components of BC Hydro's Proposed Rates in further detail.

3.4 Assumptions and Components of BC Hydro's Proposed Rates

BC Hydro states that it developed its Proposed Rates to recover the energy charges of its own Small General Service (SGS) Rate and the energy and demand charges of the Medium General Service (MGS) Rate in the Electric Tariff, depending on EV station power level. In order to derive proposed per-minute rates, BC Hydro made certain assumptions around the average time spent at a station, the average amount of electricity dispensed to the EV customer at each session, and the utilization rate which is the average number of charging sessions per month. These assumptions and calculations are reviewed further in this section. Depending on the EV station power level, BC Hydro also considers that its EV DCFC service should be classified under the respective SGS and MGS rate classes. The following provides a summary table for that classification:[74]

Table 3: Proposed EV Fast Charging Rates

EV Station Power Level	BC Hydro Rate Schedule	Proposed Rate
25 kW stations	RS 1360 – Small General Service (SGS) Rate Schedule (under 35 kW)	$0.12 per minute
50 kW stations	RS 1560 – Medium General Service (MGS) Rate Schedule (35 kW or Greater and Less Than 150 kW)	$0.21 per minute
100 kW stations	RS 1561 – MGS Rate Schedule (35 kW or Greater and Less Than 150 kW)	$0.27 per minute

The Proposed Rates will apply in all of BC Hydro's integrated area or Rate Zone I and will be subject to any BCUC approved general revenue requirement increases or decreases.[75]

BC Hydro explains that it has developed EV fast charging service rates based on the station's power tier level because the 25 kW, 50 kW and 100 kW stations have different peak demand. The electricity cost is a function of

[74] Exhibit B-1, pp. 1, 25.

[75] Exhibit B-1, p. 25.

peak demand multiplied by the demand charge. A 100 kW station could have a peak demand of 100 kW and therefore the demand charge component of electricity costs under MGS could be more expensive than a 50 kW station with a peak demand of 50 kW, holding all else equal.[76] The rates proposed for the 25 kW stations under the SGS do not include any associated demand charge.[77]

BC Hydro Assumptions

To calculate BC Hydro's Proposed Rates, BC Hydro relies on its 50 kW stations as a proxy because they make up the majority of BC Hydro's fast charging stations. BC Hydro's analysis is based on data collected at its fast charging stations from April 1, 2019 to March 31, 2020. While 50 kW station data may not reflect the current actual usage of 25 kW and 100 kW station users and charging characteristics, BC Hydro indicates that 50 kW station data is "clean and reliable and verified."[78] As per Exhibit B-16-1, BC Hydro provides the following information and cost assumptions for its 50 kW, 100 kW and 25 kW stations, respectively:

Table 4: BC Hydro's Assumptions on Electricity Related Items in its Proposed Rates

	50 kW Station – MGS	**100 kW Station – MGS**	**25 kW Station – SGS**
Number of stations in F2022	126	1	4
Electricity Related Items			
Demand Charge (F2022 rates)	$5.39 per kW	$5.39 per kW	N/A
Energy Charge (F2022 rates)	$0.0963 per kWh	$0.0963 per kWh	$0.1247 per kWh
Peak Demand (F2020 data)	50 kW	100 kW	25 kW
Average Electricity Consumption per Charging Session	13.10 kWh	13.10 kWh	13.10 kWh
Average Charging Session Length	28.60 minutes	28.60 minutes	28.60 minutes
Average number of session per month (utilization rate)	57 sessions per month (3.7%)	84 sessions per month (5.5%)	57 sessions per month (3.7%)

Based on the energy charges and the applicable demand charges above, as well as BC Hydro's assumptions regarding average consumption and utilization rate, BC Hydro estimates that the Proposed Rates of $0.21/minute for 50 kW stations, $0.27/minute for 100 kW stations, and $0.12/minute for 25 kW stations would be sufficient to cover the electricity costs including any applicable demand charges associated with providing DCFC service.

BC Hydro's Proposed Rates recover only the electricity related items as shown in the table above. However, in order to recover the full cost of service, costs associated with maintenance and capital items would have to be added to the Proposed Rates. BC Hydro provides the following assumptions in respect of these incremental costs:[79]

[76] Exhibit B-1, p. 28; Transcript Vol 1, pp. 147–148; Transcript Vol 2, p. 408.
[77] Exhibit B-4, BCUC IR 7.2.
[78] Transcript Vol 2, p. 408.
[79] Exhibit B-16-1, BCUC IR 1.10.1, Attachment 1.

Table 5: Assumptions on Maintenance and Capital Cost Items

Maintenance and Capital Costs	50 kW Station – MGS	100 kW Station – MGS	25 kW Station – SGS
Annual Maintenance Costs	$8,000 per year	$8,000 per year	$8,000 per year
Capital Costs[80]	$235,000	$315,000	$165,000
Third Party Funding	$150,000	$200,000	$40,000
Net Capital Costs	$85,000	$115,000	$125,000
Capital Overhead Costs (proportion of capital costs)	10%	10%	10%
Operating Costs	$10,714 per year	$10,714 per year	$10,714 per year
Amortization Period	10 years	10 years	10 years

Station Utilization Rates

Station utilization is a critical input variable in the calculation of revenue and cost recovery.[81] BC Hydro submits that it does not have sufficient information to estimate the average number of charging sessions per station to estimate utilization because its fast-charging service was offered at no charge prior to May 1, 2021. BC Hydro has no actual data on how customers may respond to the newly introduced rates.[82] The utilization rate assumed in BC Hydro's Proposed Rates is 3.7 percent for 25 kW and 50 kW stations based on a market study conducted by the Rocky Mountain Institute (RMI) in 2019, and revised in February 2020. The Colorado Energy Office commissioned the RMI study as part of its analysis of Xcel Energy's new proposed rate for DCFCs.[83]

In response to IRs, BC Hydro provided the following data regarding its 50 kW stations:

[80] Capital costs are calculated based on the site with two charging stations (Exhibit B-17, BCOAPO IR 47.1).

[81] Exhibit B-4, BCUC IR 15.4.

[82] Exhibit B-4, BCUC IR 15.4 and 16.1

[83] https://rmi.org/wp-content/uploads/2019/09/DCFC_Rate_Design_Study.pdf

Table 6: BC Hydro 50 kW Stations Information

	Apr-20 to Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21
Number of Stations (50 kW) in operation	80 to 94*	93	93	93	93	92
Utilization Rate (%)	17.9	20.3	8.1	9.6	11.8	12.4
Total Charging Sessions	277,500	25,500	12,000	13,700	18,200	19,000
Average Time Per Session	29.2	32.0	28.1	28.2	27.1	27.4
Average kW Per Session	31.5	30.8	34.7	35.5	35.9	35.3

* There were eighty 50 kW stations in operation in April 2020 and ninety-four in operation in March 2021. In August 2021, one 50 kW station was out of service for an extended period during the month.

The station utilization rate was 15 percent in F2020 and 20.3 percent in April 2021.[84] BC Hydro's station utilization rates after the BCUC's approval of interim rates were approximately 9 percent in May and June 2021.[85] The updated utilization rates reported by BC Hydro in September 2021 increased to 12.4 percent in August 2021 but BC Hydro cautions that the timeframe after the May 1, 2021 interim rate implementation was relatively short and seasonality may be a factor to consider.[86]

For 100 kW stations, BC Hydro expects that the utilization rate will be higher at 5.5 percent. 100 kW stations are expected to be used primarily at locations near primary travel corridors or where high demand charging has been demonstrated.[87] Further, BC Hydro explains that the utilization of 100 kW fast charging stations is expected to be nearly double that of 50 kW stations as 100 kW stations will be targeted to specific locations where the deployment will be supported by utilization data collected after its interim rate implementation on May 1, 2021.[88]

Participants in the proceeding explored the merits of BC Hydro's utilization rate assumptions and the factors that will impact utilization rates in the near and long term.[89] BC Hydro expects that station utilization will vary depending on the approved rates of its EV fast charging stations and several other factors such as the number of EVs on the road, number of stations offered by other operators in the vicinity and their respective pricing structures.[90] At very low utilization levels, the proposed $0.21 per minute rate for 50 kW stations may not even

[84] Transcript Vol 1, p. 183 ; Vol 2, p. 346.
[85] Transcript Vol 1, p. 209.
[86] Exhibit B-17, Guthrie IR 1.1.
[87] Exhibit B-1, p. 32.
[88] Exhibit B-4, BCUC IR 7.1; Exhibit B-5, CEC IR 25.4.
[89] For example, Exhibit B-4, BCUC IR 16.5; Exhibit B-5, BCOAPO IR 8.1; Transcript Vol 1, pp. 183–184, 209–211, Vol 2, pp. 209–211, 293–295, 315–317, 330.
[90] Exhibit B-4, BCUC IR 16.5.

fully recover the cost of electricity.[91] In the long term, BC Hydro expects that utilization rates will increase and will recover more of the cost of fast charging service.[92]

As part of its testimony and evidence, ChargePoint reports that the City of Vancouver's utilization to date had been on average 153 sessions per month, or a 5 percent utilization rate.[93] Suncor does not currently report on utilization of its EV charging stations as a metric. However, for the purpose of participating in this proceeding, Suncor provided utilization rates at its Langley location Petro Canada EV charging station in confidence and notes that the Langley location presents a reasonably optimistic perspective for utilization.[94] Based on its experience, Suncor submits that utilization rates have been low and that utilization rate of "a range of 3 to 5 percent is aspirational for a future with greater EV adoption."[95]

Components of BC Hydro's Proposed Rates

As part of the undertakings subsequent to the SRP, BC Hydro provided analysis that shows its estimated rate for EV fast charging service in order to cover the cost of service at different utilization rates. The pricing tables shown below provide the cost breakdown for each component (i.e. electricity costs, maintenance costs, capital costs, etc.)[96] The bolded row is BC Hydro's proposal at the respective utilization rates. The full cost recovery is the sum of all cost columns.

Table 7: Rates Scenarios for 50 kW Stations

Utilization Rate (%)	Avg # of session / month	Electricity Costs with Demand Charge Recovery at assumed utilization rate	Maintenance Costs	Capital Costs	Energy Not Dispensed Cost[97]	Basic Charge	Overhead Capital Costs	Operational Cost	**Full Cost Recovery ($/min)**
3.0%	46	$0.25	$0.51	$0.27	$0.005	$0.006	$0.03	$0.68	$1.74
3.7%	**57**	**$0.21**	**$0.41**	**$0.22**	**$0.005**	**$0.005**	**$0.02**	**$0.55**	**$1.42**
5.5%	84	$0.16	$0.28	$0.15	$0.005	$0.003	$0.01	$0.37	$0.97
10.0%	153	$0.11	$0.15	$0.08	$0.005	$0.002	$0.01	$0.20	$0.56
15.0%	230	$0.09	$0.10	$0.05	$0.005	$0.001	$0.01	$0.14	$0.39
20.0%	307	$0.07	$0.08	$0.04	$0.005	$0.001	$0.00	$0.10	$0.30

[91] Exhibit B-4, BCUC IR 14.6.1.
[92] Exhibit B-4, BCUC IR 15.4.
[93] Transcript Vol 3, p. 565.
[94] Exhibit C20-10, Suncor response to BCUC IR 1.3.
[95] Transcript Vol. 3A, pp. 7–8.
[96] Exhibit B-16-1, Excel attachment.
[97] Energy not dispensed cost means the electricity required to operate ancillary equipment such as heaters, fans, lighting, etc. (Exhibit B-10-1, pp. 1–2)

Table 8: Rates Scenarios for 100 kW Stations

Utilization Rate (%)	Avg # of session / month	Electricity Costs with Demand Charge Recovery at assumed utilization rate	Maintenance Costs	Capital Costs	Energy Not Dispensed Cost	Basic Charge	Overhead Capital Costs	Operational Cost	**Full Cost Recovery ($/min)**
3.0%	46	$0.45	$0.51	$0.36	$0.005	$0.006	$0.04	$0.68	$2.05
3.7%	57	$0.38	$0.41	$0.30	$0.005	$0.005	$0.03	$0.55	$1.67
5.5%	**84**	**$0.27**	**$0.28**	**$0.20**	**$0.005**	**$0.003**	**$0.02**	**$0.37**	**$1.14**
10.0%	153	$0.17	$0.15	$0.11	$0.005	$0.002	$0.01	$0.20	$0.65
15.0%	230	$0.13	$0.10	$0.07	$0.005	$0.001	$0.01	$0.14	$0.45
20.0%	307	$0.11	$0.08	$0.05	$0.005	$0.001	$0.01	$0.10	$0.35

Table 9: Rates Scenarios for 25 kW Stations

Utilization Rate (%)	Avg # of session / month	Electricity Costs with Demand Charge Recovery at assumed utilization rate	Maintenance Costs	Capital Costs	Energy Not Dispensed Cost	Basic Charge	Overhead Capital Costs	Operational Cost	**Full Cost Recovery ($/min)**
3.0%	46	$0.14	$0.51	$0.40	$0.007	$0.008	$0.04	$0.68	$1.78
3.7%	**57**	**$0.12**	**$0.41**	**$0.32**	**$0.007**	**$0.007**	**$0.03**	**$0.55**	**$1.45**
5.5%	84	$0.09	$0.28	$0.22	$0.007	$0.005	$0.02	$0.37	$0.99
10.0%	153	$0.06	$0.15	$0.12	$0.007	$0.003	$0.01	$0.20	$0.56
15.0%	230	$0.06	$0.10	$0.08	$0.007	$0.002	$0.01	$0.14	$0.39
20.0%	307	$0.06	$0.08	$0.06	$0.007	$0.001	$0.01	$0.10	$0.31

BC Hydro submits that while the longer-term rate design objective for fast charging service is to recover the full cost of service, this objective requires station utilization levels to be higher than what, in BC Hydro's view, can be expected in the near term. The Proposed Rates are designed to recover at least the cost of electricity but are not expected to recover all station and maintenance costs. BC Hydro states that costs not recovered by the Proposed Rates will be recovered from all ratepayers.[98]

Due to the uncertainty of utilization rates, Suncor proposes that a minimum rate structure could support dynamic adjustments based on a rolling monthly report for utilization.[99] The intent is to ensure that non-exempt

[98] Exhibit B-1, pp. 25–26.

[99] Exhibit C20-10, BCUC IR 7.2; Transcript Vol. 2, p. 399.

utilities maximize direct revenue from their EV fast charging service and minimize the subsidization of applying losses to all ratepayers.[100] Suncor provides a hypothetical scenario in its final argument as to how utilization rates can inform EV fast charging service pricing as follows:[101]

Table 10: Suncor Hypothetical Scenario

Network Utilization Rate from the Previous Month (%)	Proposed Price, 50 kW charger $/minute
0 - 5	1.07
5.01 - 10	0.56
10.01 - 15	0.39
15.01+	0.30

Positions of the Parties

Most interveners, except Suncor, support BC Hydro's Proposed Rates to a certain degree considering the current state of the EV charging market.[102] Interveners express their desire to ensure that BC Hydro's EV fast charging rates will mitigate cross-subsidization from other ratepayers over time and maintain a level playing field.[103] The CEC and BCOAPO also do not oppose BC Hydro using the MGS rates to calculate the cost of electricity based on BC Hydro's current plans to operate 50 kW and 100 kW charging stations.[104]

The CEC, BCOAPO and RCIA provide alternative rates that are similar to BC Hydro's proposal and the rates of other service providers in BC:

- BCOAPO proposes $0.25 per minute for 50 kW stations and supports moving to full cost of service over time.[105]
- The CEC proposes EV charging rates at $0.13, $0.26, and $0.55 per minute for 25 kW, 50 kW and 100 kW, respectively. The CEC opposes the approval of BC Hydro's Proposed Rates because they are "unnecessarily low" and not supported by the evidence in the proceeding.[106] The CEC submits that the Proposed Rates barely recover the cost of electricity and do not account for the Basic Charge and energy not dispensed cost.[107]

[100] Exhibit C20-10, BCUC IR 5.2, IR 6.1.
[101] Suncor Final Argument, pp. 17–18.
[102] Strata Plan VR 2673 Final Argument, pp. 3, 5; Flintoff Final Argument, p. 4; ChargePoint Final Argument, p. 2; Guthrie Final Argument, p. 10.
[103] Guthrie Final Argument, pp. 9-10.
[104] CEC Final Argument, p. 27; BCOAPO Final Argument, p. 9.
[105] BCOAPO Final Argument, pp. 27, 33.
[106] CEC Final Argument, pp. 1, 45.
[107] CEC Final Argument, p. 36.

- RCIA proposes an escalating rate to start at $0.21 per minute on May 1, 2021, $0.26 per minute on May 1, 2022, and $0.31 per minute on May 1, 2023. Escalating rates will also help with deriving price elasticity of demand information.[108]

Mr. Guthrie calculates that a $0.45–$0.66 per minute rate would help competitors and mitigate cross-subsidization from other ratepayers. He does not believe that discounted energy rates are motivators in purchasing an EV, but rather the access to chargers and EV range capabilities are more important factors.[109]

Suncor agrees with BC Hydro and acknowledges that a full cost recovery plus profit is unlikely to encourage EV adoption in BC at this early stage in the development of the market. However, it is "arbitrary and unreasonable" to "posit that the range should be between 17 cents and 25 cents, while at the same time acknowledging a lack of quantitative data to support that range."[110]

Suncor opposes the approval of BC Hydro's Proposed Rates because they are "not high enough to yield fair and reasonable compensation for the service provided by BC Hydro and therefore does not meet the standard set by section 59 of the UCA." The rates must be higher to "ensure revenue maximization is achieved and a level playing field is established by reducing the reliance on cross-subsidization by ratepayers." Initial pricing for 50 kW EV charging service could start at $1.07 per minute.[111]

In reply to the alternatives that the CEC, BCOAPO and RCIA suggested, BC Hydro submits that its Proposed Rates rely on judgement on what the market will currently bear, and its judgement should be given more weight because of its relative institutional expertise. However, if the BCUC were inclined to consider one of these alternative rates, then BC Hydro suggests that RCIA's proposal merits a closer look because it would be easier to implement, easier to explain to customers and would allow for the ready development of quantitative price elasticity data.[112]

However, BC Hydro cautions that the 5 cents per minute increases proposed by RCIA could be considered "rate shock" and risk making it less desirable for people to transition to EVs and suggests that 10 percent price increases could be considered instead.[113]

In reply to Suncor, BC Hydro submits that Suncor's proposed rate would almost certainly not yield a revenue maximizing price because the price is significantly higher than other EV service providers. Also, the high price would result in frustrated customers and undermine Government policy objective.[114]

Price Elasticity

[108] RCIA Final Argument, p. 7.
[109] Guthrie Final Argument, pp. 9–10.
[110] Suncor Final Argument, p. 20.
[111] Suncor Final Argument, p. 4.
[112] BC Hydro Reply Argument, pp. 13–14
[113] BC Hydro Reply Argument, pp. 13–14.
[114] BC Hydro Reply Argument, p. 16.

With respect to the assumptions and components that form BC Hydro's Proposed Rates, interveners argue that BC Hydro lacked evidence on how pricing will affect utilization rates and instead relied on its customer research and judgement.[115] Some interveners also suggest that BC Hydro has provided conservative estimates. Mr. Guthrie suggests that a utilization rate closer to 10 percent is realistic, given BC Hydro's utilization rate increased from 8.1 percent in May 2021 to 12.4 percent in August 2021.[116] Strata Plan VR2673 and the CEC view that it is unlikely that the changes in EV charging prices will have a significant impact on an EV adoption.[117] The CEC argues that the price that can be reasonably tolerated by the market is much higher than identified by BC Hydro because BC Hydro used biased information from EV users who are accustomed to artificially and ultra-low rates and does not adequately consider the comparative costs of gasoline fueled vehicles.[118]

In reply, BC Hydro acknowledges that the evidence on the record regarding price elasticity of demand is qualitative and not quantitative.[119]

Dynamic Pricing

As indicated above, Suncor proposes that the BCUC should consider approving a range of EV fast charging rates for BC Hydro with a monthly reporting requirement of utilization rates. No other intervener supports this proposal.

BCSEA-VEVA, Strata Plan VR2673, and the CEC view that approving a range of rates will not be effective. Strata Plan VR2673 submits that having a range of rates may be a barrier to attracting exempt participants to invest in EV fast charging infrastructure because the market needs certainty and stability.[120] BCSEA-VEVA notes that BC Hydro lacks utilization and price elasticity data. A better approach would be to review the outcome of the evaluation report after three years.[121] The CEC supports BC Hydro reporting annually with evidence demonstrating its diligence in ensuring maximum cost recovery from EV customers.[122]

BC Hydro argues that the proposal of approving a range of rates is equivalent to the BCUC delegating its authority to a third party to set rates, which in BC Hydro's view does not conform with sections 58 and 60 of the UCA. Suncor's pricing proposal would require the BCUC to issue orders it has not been authorized by the Legislature to issue. Further, Suncor's pricing proposal would cause significant administrative burden and cost, not yield a revenue maximizing price and would result in unhappy and frustrated EV charging customers, which may discourage the adoption of EVs in BC and run afoul of section 18(3) of the CEA.[123]

However, while RCIA is not suggesting that the BCUC should approve a range of rates, RCIA views that the BCUC's statutory power for rate setting is very broad. BCOAPO also submits that the BCUC may approve a range

[115] ChargePoint Final Argument, pp. 2, 6; Strata Plan VR 2673, Final Argument, p. 4.; CEC Final Argument, p. 17.
[116] Guthrie Final Argument, pp. 8–9.
[117] Strata Plan VR 2673, Final Argument, p. 4; CEC Final Argument, p. 11.
[118] CEC Final Argument, p. 44.
[119] BC Hydro Reply Argument, p. 4.
[120] Strata Plan VR 2673Final Argument, p. 8.
[121] BCSEA-VEVA Final Argument, p. 17.
[122] CEC Final Argument, pp. 43–44.
[123] BC Hydro Reply Argument, pp. 15–6, 35.

of rates that BC Hydro may charge.[124] RCIA disagrees with BC Hydro that setting a range of rates for BC Hydro's service would be a sub-delegation of powers and cites that the Ontario Energy Board has a history of approving range rates.[125]

Panel Discussion

In Section 3.3 above, the Panel found that a rate that recovers the full cost of service and not unfairly undermines the competitive EV charging services market will be just and reasonable. In considering BC Hydro's Proposed Rates, the Panel is concerned that they do not fully recover the cost of service because the Proposed Rates are designed to only recover electricity costs. There are incremental costs, including operating costs, maintenance costs, and capital costs that make up about 83 percent[126] of BC Hydro's total costs of offering its DCFC service using BC Hydro's utilization rate assumption of 3.7 percent at 50 kW stations. Further, while these have small rate impacts, BC Hydro has excluded the Basic Charge and other energy costs which are part of the electricity consumed at the stations. BC Hydro may not even be able to recover the electricity costs to serve EV customers as intended if the utilization rate falls below 3.7 percent.

Even at the highest level of utilization at 20 percent as presented in BC Hydro's estimates, the Proposed Rates still cannot recover the full cost of service in all scenarios. For example, the Proposed Rate of $0.21/min for 50 kW stations is lower than the full cost recovery of $0.30/min at the highest utilization rate of 20%. The same holds true for 100 kW and 25 kW stations. However, the Panel notes that a higher utilization rate will reduce the level of potential cross subsidization because the fixed component of the total costs can be spread amongst a larger number of EV customers.

The Panel is concerned that BC Hydro's Proposed Rates, if approved, would increase the potential for cross-subsidization from all ratepayers to EV customers and may stifle EV adoption by driving away other EV fast charging service providers' investments in the BC market.

The Panel agrees that station utilization is a critical input variable in the calculation of revenue and cost recovery and finds that the evidence shows a high level of uncertainty surrounding utilization rates at this time. BC Hydro relied on a third-party study that was published in February 2020 that persuaded BC Hydro to assume a 3.7 percent utilization rate for its 25 kW and 50 kW stations and an upward adjustment to 5.5 percent for 100 kW stations. Utilization rates of 3 to 5 percent are consistent with City of Vancouver's and Suncor's experience. However, BC Hydro's own data shows that prior to May 1, 2021 when EV fast charging was free, the utilization rate was around 18 to 20 percent. This dropped to 8.1 percent in May 2021 when BC Hydro introduced the new fees and the utilization rate gradually increased to 12.4 percent in August 2021. BC Hydro noted seasonality may affect utilization rates but the Panel notes that 12.4 percent is more than triple BC Hydro's assumption of 3.7 percent.

Based on the evidence above, the Panel is not convinced that BC Hydro's utilization rates assumptions used to derive the Proposed Rates reasonably reflect how customers are reacting to the new fees BC Hydro has introduced effective May 1, 2021. Further, the evidence shows that utilization rates are not static. The Panel

[124] BCOAPO Final Argument, p. 28.
[125] RCIA Final Argument, p. 12.
[126] $0.41 + $0.22 + $0.55 / $1.42 = 83.1%

notes that FBC modeled EV charging usage by establishing a baseline using historical data and then applying growth rates based on the sales target in the *Zero Emissions Vehicle Act* Regulations Intentions Paper.[127] We expect BC Hydro to provide a longer-term forecast of utilization rates when it reapplies for permanent rates as directed in Section 3.8 below.

3.5 Demand Charges and Connection Fees for Exempt EV Charging Service Providers

An issue arose during the preparation for the SRP that required a ruling on scope from the Panel. BC Hydro noted that some interveners had expressed an interest in BC Hydro rates other than the Proposed Rates, for example the demand charges under its general service rate schedules and BC Hydro's connection fees. It submitted that any issues raised in regard to demand charges and connection fees were out of scope for the SRP, except to the extent that the connection fees and demand charges might relate to the Proposed Rates in the Application.[128]

The Panel heard submissions from interveners and concluded that demand charges and connection fees are relevant considerations. The Panel acknowledged that demand charges and connection fees are irrelevant if BC Hydro is not setting its EV charging rate based on a cost of service. The Panel went on to note, however, that "everyone else in the competitive market faces demand charges and connection fees" and therefore, concluded that issues such as demand charges and connection fees, that go to the cost of service, are relevant and in scope for the proceeding. The Panel was clear, however, that "it's not within the scope of this proceeding to make any orders concerning demand charges and connection fees or any other aspects of rate schedules that companies like Suncor, for example, are faced with when they take service. But it's certainly relevant to consider the costs of these things."[129]

During the SRP, BC Hydro conceded that it is possible that the Proposed Rates do not recover demand related costs in some cases.[130] In addition, BC Hydro acknowledged that providers of public charging in other jurisdictions such as Nevada and California have identified demand charges as a barrier to investing.[131]

Positions of the Parties

In the following discussion we address the two issues raised by interveners regarding demand charges and connection fees.

1. Demand charges and connection fees are a significant portion of exempt utilities' costs, and
2. The need for demand charge reform.

Demand charges and connection fees are a significant portion of exempt utilities' costs

[127] FBC EV Rates and Rate Design Decision, dated November 24, 2021, p. 12.
[128] Exhibit B-11, p. 6.
[129] Transcript Vol. 1, p. 56.
[130] Transcript Vol. 2. p. 392-395.
[131] Transcript Vol. 1, p. 191.

Both ChargePoint and Suncor state that due to demand charges, connection costs, and EV charging fee competition, some exempt utilities are not operating in a financially sustainable manner.[132]

ChargePoint states that connection costs and demand charges reflect a significant portion of exempt utilities' capital and electricity costs. For example, it cites from its evidence that "[o]n average, 20% of the CoV's [City of Vancouver's] capital costs, are directly attributable to utility interconnection fees" and, "where overall utilization is low, a high demand charge cannot be paid off by directly billing drivers for charging", and "demand charges can be a significant barrier to investment."[133]

Tesla makes a similar observation to ChargePoint that "demand charges remain a significant challenge in areas of the province where charging station utilization is lower. The result is stifled or reduced private investment."[134]

Suncor notes that BC Hydro demand charges constitute over 80 percent of Suncor's basic utility costs for its operational EV charging stations.[135] In addition, connection costs are a significant portion of Suncor's overall site build out costs, where interconnection fees can be $100,000 for chargers that cost $200,000.[136]

BCSEA-VEVA, on the other hand, notes that "while private providers face steep connection fees and demand charges that BC Hydro has reduced for itself by its choice of sites and charger power-levels, BC Hydro is also required by government direction to locate many of its sites in low-EV density locations that a private provider would avoid for financial reasons."[137]

The CEC refers to the RMI's 2020 DCFC Rate Design Study: "The economics of operating direct current fast chargers ("DCFC"s) for EVs are typically very challenging and do not generally permit a viable business opportunity while EV adoption is in its early stages and charger utilization rates are low. The primary problem in most cases is that demand charges on the applicable utility tariffs are far greater than the revenue the charging stations generate."[138]

Guthrie notes that exempt providers, EV owners and ratepayers require assurance that BC Hydro is not abusing its monopolistic position by providing itself with beneficial or preferred energy costs.[139]

The need for demand charge reform

Several interveners, while acknowledging the topic is outside the scope of this proceeding, emphasize that demand charge reform for EV charging station operators is necessary.

Suncor emphasizes that "the current regime for demand charges, and in particular the Large General Service category, was not designed with EV charging in mind and, as a result, they unduly prejudice fast charging

[132] ChargePoint Final Argument, p. 10; Exhibit C20-3, Suncor Submissions on Further Process, p. 2.
[133] Exhibit C4-3-1, pp. 3-4
[134] Exhibit E-141, p. 2.
[135] Exhibit C20-4, para 17, p. 6.
[136] Transcript Vol. 3, p. 463.
[137] BCSEA VEVA Final Argument, p. 9 of 18
[138] CEC Final Argument , para 66, p. 9.
[139] Guthrie Final Argument, p. 4 of 10

operators who use higher capacity charging equipment on an intermittent basis as opposed to the original intended application of the Large General Service category for an industrial site where power demands are more constant, requiring the utility to set aside sufficient energy reserves. This outdated rate design does not serve the goals of EV adoption required by Section 5 of the GGRR."[140]

In its letter of comment[141] Tesla points to its submission during the EV Inquiry, that "[a]ddressing demand charges could be particularly effective in improving the business case to develop privately funded, competitive, charging infrastructure," and "continues to encourage the BCUC to take action on this issue – in particular since BC Hydro has in its own submissions demonstrated that demand charges are a challenge for the charging industry as a whole."

Electrify Canada recommends "examining demand charges. Demand charges in rates for public facing charging stations at the nascence of EV adoption are universally punitive …. Fundamentally, an examination of the rate BC Hydro charges private operators of fast charging stations should be considered as a next step requirement with the approval the rate for BC Hydro fast chargers."[142]

ChargePoint accepts that BC Hydro is legislatively enabled to recover its costs for its EV charging stations. It proposes, therefore, that in addition to approving the Proposed Rates, the BCUC "require BC Hydro to propose in a separate proceeding, within 12 months, alternative general service rates and consider demand charge reform for commercial EV charging customers, having regard to reforms carried out in other North American jurisdictions and the BCUC's Inquiry into the Regulation of EV Charging Service."[143]

The CEC submits that "establishing a separate EV charging rate for providers of EV charging is supportable, but only to the extent that the EV specific rates do not simply result in other ratepayers subsidizing EV charging infrastructure for all investors, not just BC Hydro. The CEC would not support a rate that resulted in exempt EV charging utilities being given preferential rates over other commercial ratepayers."[144]

Several interveners offer suggestions for reform, some of which we list below.

- ChargePoint notes that several utilities across North America have designed EV-specific demand charge rates, and lists 17 examples of models from across the continent.[145]
- ChargePoint suggests that EV-specific rates to support municipal and private sector DC fast charging investment in BC for non-fleet stations, similar to what BC Hydro has introduced for fleets, would remove a barrier to DC fast charging investment in the province.[146]

[140] Suncor Final Argument, para 49, p. 14.
[141] Exhibit E-141, p. 2.
[142] Exhibit E-140, 3.
[143] ChargePoint Final Argument, para 5, p. 2.
[144] CEC Final Argument para 323, p. 42.
[145] Exhibit C4-3-1, p. 4.
[146] Exhibit C4-3-1, p. 6.

- Suncor points to the use of demand charge reform for things like the fleet demand transition rate which cancels the demand charges in favour of a higher per kilowatt hour rate for EV charges that aren't really the intended target of a large general service.[147]
- Suncor also suggests the temporary removal of demand charges for EV charging operators during a transitionary period of EV adoption.[148]
- Tesla suggests that "opt-in rates for lower utilization or seasonally variable charging stations could be used to reduce demand charges in exchange for higher energy charges."[149]

In reply to the issue of the need for reform, BC Hydro summarizes the issue in this way: "since BC Hydro doesn't pay those charges, or those fees, exempt service chargers shouldn't have to pay them either, and they shouldn't have to pay them to advance the level playing field rate design consideration." It submits that the assumptions underpinning interveners' submissions are "at most only partially true." For example, "one of the premises is that BC Hydro doesn't face the charges of fees directly, so is indifferent to them, unlike the exempt service providers who need to be cognizant of them. In fact, BC Hydro's evidence is that it explicitly takes into account connection costs when making its siting decisions. ... And meanwhile, exempt customers pay the full connection fees, but less a contribution or (audio drops) from BC Hydro. So they actually pay a little bit less than what they, what they would otherwise have to pay."[150]

Panel Discussion

The BCUC's EV Inquiry's Phase Two Report noted that a "particular issue highlighted throughout the Inquiry has been the negative effect of demand charges on the economics of owning or operating a charging station."[151] In our view, having heard the same concern during this proceeding, high demand charges and connection fees remain a barrier to the development of EV charging infrastructure in the province and will continue to be unless addressed.

British Columbia is not unique in this experience and the Panel believes there is much to be learned from other jurisdictions' approach to dealing with demand charges as well as connection fees. While we accept that BC Hydro does consider connection costs when making its own siting decisions, we are not persuaded—in part because this is outside the scope of this proceeding and therefore there is insufficient evidence—that BC Hydro fully appreciates the degree to which these issues affect exempt utilities and their ability to participate fairly in this competitive market. Insofar as exempt utilities' EV charging rates reflect demand charges and connection fees, so too should BC Hydro's EV charging rates, and on a transparent basis.

Transparency will give confidence to the private operators that they're entering a level playing field, as well as provide assurance to BC Hydro's ratepayers that there is no cross-subsidization or to the extent that cross-subsidization results, as Guthrie puts it, BC Hydro is not abusing its monopolistic position by providing itself with beneficial or preferred energy costs.

[147] Transcript Vol. 3, p. 457.
[148] Transcript Vol. 3, p. 459.
[149] Exhibit E-141, p. 2.
[150] Transcript Vol. 4, p. 712.
[151] EV Inquiry Report Phase 2, p. 25.

3.6 Goods and Services Tax

On September 22, 2021, BC Hydro informed the BCUC of an administrative oversight that arose in implementing its new Rate Schedules 1360, 1560, and 1561 in May 2021, which resulted in the incorrect application of goods and services tax (GST). Specifically, BC Hydro explains, while GST should have been added to the charges in these RS, as described in BC Hydro's Electric Tariff, this was not occurring, and GST was instead included in the rate being charged to customers.

BC Hydro notes that revenues collected under these RS are captured in BC Hydro's Cost of Energy Variance Accounts (to the extent that they contribute to an overall variance compared to planned revenues in the fiscal year) so that ratepayers will receive the benefit of these revenues in future periods. The effect of this issue is that BC Hydro under-collected approximately $18,000, from May 1 to August 31, 2021.[152]

BC Hydro stated that it was working with the EV platform vendor to implement a resolution by September 30, 2021 and would send a follow up letter to the BCUC on the status of this matter.[153] On January 10, 2022, BC Hydro informed the BCUC that it estimates that the actual revenue loss to the end of September 2021 was approximately $23,000, and that there has been no revenue loss related to this issue thereafter.[154]

Panel Determination

Although the result of this error is small relative to the total revenue BC Hydro collects from EV fast charging, the Panel notes that any administrative error, large or small, reflects a lack of oversight. We would typically order BC Hydro's shareholder, and not its ratepayers, to bear the result of a billing oversight such as neglecting to charge GST. Unfortunately, section 18(2) of the CEA means that we cannot prevent BC Hydro from collecting sufficient revenue to provide a service related to a prescribed undertaking, even when BC Hydro makes a mistake. The BCUC dealt with a similar under-collection issue in the FBC EV Decision and allowed FBC to recover its GST revenue loss (approximately $4,000) in future rates.

The Panel finds that BC Hydro is entitled to recover the amount of its revenue loss in future rates, because section 18(2) of the CEA requires the BCUC to set rates that allow public utilities to collect sufficient revenue to recover the costs incurred for implementing prescribed undertakings and the GST incurred is such a cost. **Therefore, we direct BC Hydro to include the recovery of the $23,000 in the new permanent rate filing scheduled for December 31, 2022, as ordered in Section 3.8 in this Decision.**

3.7 Previous Years' Under-recoveries of BC Hydro's EV Fast Charging Service Costs

The BCUC's decision to BC Hydro's F2022 RRA established the Electric Vehicle Costs Regulatory Account to capture the F2020 to F2022 costs related to BC Hydro's EV fast charging stations that meet the definition of a prescribed undertaking under the GGRR. The BCUC also directed BC Hydro to apply for a recovery mechanism for the account in its F2023 revenue requirement.[155]

[152] Exhibit B-19, p. 2.
[153] Exhibit B-19, p. 2.
[154] Exhibit B-19-1, p. 2.
[155] BC Hydro Fiscal 2022 Revenue Requirement Application Decision, p. 102.

BC Hydro states that recovering the previous years' costs net of revenue generated from the provision of BC Hydro's EV fast charging service (Previous Years' Under-Recoveries) would not be unlawful with respect to section 18(2) of the CEA and the prohibition against retroactive ratemaking. However, it would be unlawful with respect to section 18(3) of the CEA, in the current circumstances. BC Hydro suggests that setting a cost of service rate that recovers the full cost of service and the Previous Years' Under-Recoveries would make the rate so high that it effectively bars BC Hydro from providing EV fast charging service, at least in the short-term.[156]

BC Hydro also mentions some caveats with respect to the recovery of the Previous Years' Under-Recoveries.[157] BC Hydro explains that to recover the Previous Years' Under-Recoveries from its EV fast charging service customers, a regulatory account that captured both the costs and revenues would be needed. BC Hydro points out that currently, the fiscal 2020 to fiscal 2022 costs are captured in the Electric Vehicle Costs Regulatory Account, but there is no account to capture the revenue related to BC Hydro's EV fast charging service.[158, 159]

BC Hydro also points out that incorporating the Previous Years' Under-Recoveries into its EV charging rates would mean that the rate would need to be higher than a full cost of service rate. BC Hydro submits that this could result in less revenue each year and the balance in the hypothetical regulatory account would increase rather than decrease. This could also lead to intergenerational issues if the Previous Years' Under-Recoveries are not recovered in a reasonable amount of time.[160]

Positions of the Parties

The CEC expressly agrees with BC Hydro's position on the Previous Years' Under-Recoveries. [161] BCSEA-VEVA[162] and Strata Plan VR 2673[163] substantially agree with BC Hydro. In particular, BCSEA-VEVA expressly does not support establishing a rate rider or increasing BC Hydro's rates for public EV fast charging service in a given year to recover the Previous Years' Under-Recoveries.[164]

RCIA submits that the BCUC can implement appropriate mechanisms for the treatment of the Previous Years' Under-Recoveries to address retroactive rate setting issues, without causing any conflict with section 18(2) of the CEA.[165]

BCOAPO suggests that setting prices for EV charging services on a levelized basis could be an approach to recover the Previous Years' Under-Recoveries from BC Hydro's EV fast charging service customers.[166]

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[156] Transcript Vol. 4, p. 741.
[157] Transcript Vol. 4, p. 738.
[158] Transcript Vol. 4, p. 742.
[159] BC Hydro's Cost of Energy Variance Accounts only captures the variances between the forecast and actual revenues with respect to BC Hydro's EV fast charging service [Exhibit B-1, p. 7].
[160] Transcript Vol. 4, p. 743.
[161] CEC Final Argument, p. 43.
[162] BCSEA-VEVA Final Argument, p. 15.
[163] Strata Plan VR 2673 Final Argument, p. 7.
[164] BCSEA-VEVA Final Argument, p. 15.
[165] RCIA Final Argument, p. 9.
[166] BCOAPO Final Argument, p. 22.

Suncor submits that any collection of the Previous Years' Under-Recoveries should be consistent with the rate design objectives: revenue maximization, a level playing, and supporting adoption of EVs in BC, but primarily revenue maximization.[167]

ChargePoint,[168] Guthrie, and Flintoff do not take a position on the Previous Years' Under-Recoveries.

In reply, BC Hydro submits that all interveners who commented on the issue appear to agree that no order should be made to provide for the recovery of Previous Years' Under-Recoveries in BC Hydro's EV charging rates.[169]

Panel Discussion

The Panel is not persuaded that setting an EV fast charging rate that recovers the full cost of service and the Previous Years' Under-Recoveries would not be lawful with respect to section 18(3) of the CEA. As suggested by BCOAPO, and further discussed below in Section 3.8, one of the ways in which this can be achieved "lawfully" is to use a levelized rate.

3.8 Overall Determination on Proposed Rates

We have considered BC Hydro's rate design principles and, to summarize, found that the primary consideration in setting a just and reasonable rate is to ensure that its EV charging rates are not being subsidized by its other customers.

The evidence clearly shows that BC Hydro's Proposed Rates do not recover its cost to provide those services and BC Hydro acknowledges this to be the case. Because of this under-recovery and the requirements of the GGRR, customers of other BC Hydro services subsidize this shortfall and, as a result, the rate is subsidized. The Panel therefore considers this leads to an unlevel playing field in what is otherwise a competitive EV charging service market and, as a consequence, the Proposed Rates are not just and reasonable.

Further, there is persuasive evidence that the assumptions regarding the cost of energy used by BC Hydro in the calculation of its Proposed Rate is not consistent with the actual costs incurred by exempt EV charging service providers. Specifically, BC Hydro may be underestimating its own demand charge in some cases and does not include any energy-related capital costs such as connection charges in the calculation of its own Proposed Rates whereas the evidence shows that some exempt EV charging service providers incur connection and higher demand charges in at least some circumstances. If that is the case, the subsidized shortfall is likely understated. This also suggests a playing field that is not level, if the Proposed Rates were to be approved. This concern is further reinforced by Suncor's argument for BC Hydro to remove its demand charges and reduce the capital associated with connection fees.[170]

[167] Suncor Final Argument, p. 15.
[168] ChargePoint Final Argument, p. 12.
[169] BC Hydro Reply Argument, p. 26.
[170] Suncor Final Argument, pp. 3, 4, 14.

Therefore, because BC Hydro has not reflected its full costs of service in its Proposed Rates, the Panel finds that BC Hydro has not provided strong support that its Proposed Rates are the best at maximizing revenue, and hence minimizing cross-subsidization from other ratepayers. However, equally important to note is that customer utilization (an important input into BC Hydro's Proposed Rates) is also unknown at this time.

In summary, the subsidized rates proposed by BC Hydro directly contribute to an uneven playing field for exempt-utilities which may have a detrimental impact on achieving the objectives of increasing EV adoption in BC, which would be contrary to the public interest of all British Columbians. Therefore, the Panel finds that BC Hydro's Proposed Rates, which necessitate cross-subsidization, and therefore do not recover its full cost of service, do not meet the UCA test of *just and reasonable rates*. In making these findings we note that it is not possible for the Panel to determine whether exempt EV charging service providers and their shareholders currently subsidize their rates—they are exempt from our regulation and their rates are not subject to our review. This is not the case for BC Hydro, which is a monopolistic, regulated utility. The applicable regulatory principles do not support the participation of the utility in competitive markets downstream of the meter and where that participation is unavoidable, require that it do so without subsidization by its other customers. **Accordingly, the Panel denies BC Hydro's request to establish the Proposed Rates as permanent.**

However, we would consider approving a rate based on levelized recovery of all costs. Such a rate would be just and reasonable, if it reflects all of the costs required to provide the service, including associated capital, operating and maintenance costs, Previous Years' Under-Recoveries and electricity costs that are comparable to the electricity costs paid by exempt EV charging service providers. In the alternative, we would consider approving wholesale rates for exempt EV charging service providers that mirror the costs used to calculate BC Hydro's own levelized EV charging rate.

We acknowledge BC Hydro's position that the lack of actual utilization data makes it difficult to calculate a levelized rate and that its proposed approach provides flexibility to change the rates in future years when more information will presumably be known. However, BC Hydro puts forward a rate that recovers only about 20 percent of its total costs of service based on its proposed assumptions. In either case, actual utilization data is required in order to better inform the rate setting process.

While it is true that a levelized rate under-recovers its costs in the initial years of the levelization period, it is unclear whether, in this circumstance, a levelized rate would under-recover by 80 percent in the first years. The Panel would like some assurance that the Proposed Rates are similar to a levelized rate for the first year.

We recognize that in the event BC Hydro reduces or eliminates the demand and connection charges for exempt EV charging providers instead of adjusting its Proposed Rates, this may result in under-recovery of costs for its general service rates and subsidization by other BC Hydro customers. While we do not generally approve such subsidization, in this case we consider it just and reasonable because it is necessitated by balancing both the requirements of the GGRR and the need to maintain a level playing field in a competitive environment.

In the meantime, the current interim rates remain in place until permanent rates are set by the BCUC. While a lower rate can exacerbate the level playing field issues outlined above, we have no credible evidence before us to enable us to establish a specific higher rate. However, time is of the essence and we therefore encourage BC Hydro to reapply for a permanent rate as soon as possible, with as much actual utilization data as possible.

Therefore, we direct BC Hydro to file a new application for a permanent EV fast charging rate by no later than December 31, 2022.

We have already noted the lack of evidence on both the actual expected revenues at any set EV charging price due to a paucity of historical demand elasticity and utilization data. Further, utilization rates and demand elasticities may vary by location, such as between remote rural and urban locations. If that is the case, EV charging rates may be dependent on geographic location.

BC Hydro has, implicitly, applied for a postage stamp rate for EV charging services. The Proposed Rates are the same in the centre of a large urban area like Vancouver or on a remote highway. Postage stamp rates have long been the *de facto* approach for services provided by monopolistic utilities in BC and many other jurisdictions. However, there is no precedent or regulatory requirement that a behind the meter service in a competitive market must use postage stamp rates.

The issue of postage stamp rates did not arise in the FBC Rate Design and Rates for EV DCFC Service proceeding, nor did the BCUC address this issue in that decision. However, there are considerable differences between BC Hydro's provision of EV Charging service and that of FBC. BC Hydro's service territory is much more diverse. It contains a very large urban area, home to more than half the population of the province, along with very remote communities and large numbers of sparsely populated highway corridors. There is some evidence that suggests that remote locations and sparsely populated highway corridors may be less well served by exempt EV charging service providers.

Further, there is a greater public expectation that BC Hydro, as a Crown owned utility, should provide subsidized charging services. The Panel has found subsidized rates to not be in the public interest where the market is served by exempt providers. However, if there is evidence to support a lack of services in more remote locations, it may be appropriate for the BCUC to consider a different approach to EV rates and the subsidization of rates in those areas.

Accordingly, BC Hydro's public EV charging rate should be regularly reviewed and the first review should occur no later than 12 months from the date of adoption of a permanent rate. This will provide BC Hydro the opportunity to gather actual data on utilization rates in different locations.

4.0 Other Matters

In the sections below, the Panel turns to other matters arising from the proceeding that do not directly affect the determination of BC Hydro's Proposed Rates. However, these other matters are addressed because they may inform how BC Hydro will continue offering its public EV fast charging service in a competitive market. The sections below address the following:

- EV charging stations technology
- Future EV charging stations and EV resource plan
- Accessibility
- Obligation to serve
- Idling fees

- Evaluation and monitoring of BC Hydro's EV fast charging rates
- Separate class of service

4.1 EV Charging Stations Technology

BC Hydro explains that a 50 kW fast charging station can charge an electric vehicle to 80 percent within 30 to 40 minutes, depending on the size of the battery and how depleted the battery is when charging commences.[171] The majority of BC Hydro's fast charging stations have a nameplate capacity of 50 kW, although BC Hydro will be providing 25 kW and 100 kW stations in some locations.[172] It acknowledges that fast charging technology is "fairly new"[173] and "continuously evolving,"[174] and "has a much shorter lifespan than traditional utility assets."[175] BC Hydro states that the 50 kW charger models, which comprise most of its installed asset base, have a manufacturers' recommended life of ten years.[176]

BC Hydro states that it currently has one 100 kW charging station, which is undergoing a period of testing before it is deployed to a site. Plans for deploying more 100 kW fast charging stations have not been finalized and will be subject to availability of government funding and suitability for potential sites.[177]

BC Hydro notes, however, that "most EVs on the road today are only able to charge in this 50 kilowatt range. Our average power per charging session over the past 7 years is 27 kilowatts, which is well less than 50. That value is increasing year over year, … but it's still at 30 kilowatts average for 2021…. Even many electric vehicles that are sold today can't charge beyond the 50 kilowatt range. And most vehicles on the road today will be underutilizing at the 100 kilowatt and higher levels."[178]

Therefore, BC Hydro does not accept that its EV charger technology is now, or will soon become, outdated.[179]

Further, BC Hydro submits that it has "well developed approaches to managing asset risk. From an asset management strategy perspective, our current installed asset base of our 50-kilowatt chargers has an average age of two years, and 68 percent are between one and four years. We expect to run our chargers to the end of their useful life, and premature replacement of 50 kilowatt chargers is not planned."[180]

BC Hydro acknowledges that, but for section 18(2) of the CEA, there could be a stranded asset issue if it had to take out its electric vehicle charging stations before the end of their useful life. It also acknowledges that if some net book value remains when an asset is taken out of service, the BCUC has the discretion whether to allow the utility to recover that net book value in rates. BC Hydro submits that the outcome is different in the case of its

[171] Exhibit B-1, p. 10.
[172] Exhibit B-1, p. 11.
[173] Exhibit B-5, CEC IR 1.20.2.
[174] Exhibit B-5, BCOAPO IR 1.12.1.
[175] Exhibit B-5, CEC IR 1.20.2.
[176] F2022 RRA Decision and Order G-187-21, p. 102.
[177] Exhibit B-1, p. 11.
[178] Transcript Vol. 1, p. 139.
[179] Transcript Vol. 1, p. 139.
[180] Transcript Vol. 1, pp. 139-140.

EV charging stations, however, because of section 18(2) of the CEA which requires the BCUC to allow all costs of the electric vehicle service to be recovered from all ratepayers.[181]

Finally, keeping in mind the timeframe within which BC Hydro is going to be building and bringing to service EV fast charging stations, namely by 2025, BC Hydro suggests that this kind of cost risk is relatively modest.[182]

Positions of the Parties

Suncor submits that BC Hydro's chargers are already outdated. For example, Suncor submits that BC Hydro's Rate Proposal is, "in part, linked to outdated 50kW fast charging stations that will require short-term and long-term costs for upgrading and is therefore an ineffective and inefficient use of capital that will be cross-subsidized by all ratepayers."[183] Nevertheless, Suncor takes no position in relation to BC Hydro's management of its own assets.[184]

BCSEA-VEVA, on the other hand, does not consider that 50 kW EV fast chargers will become stranded assets: "Even though many new EVs can be charged at higher levels, there will continue to be many EVs on the road that cannot use higher-power chargers and many drivers of EVs with higher-power charging capability who will readily use a 50 kW charger when doing so meets their needs." BCSEA-VEVA states that it expects that the proposed three-year evaluation will address, among other things, the appropriateness of BC Hydro's portfolio of different-sized chargers, the number of chargers per site and the locations of the sites.[185]

The CEC submits that there is a significant likelihood that BC Hydro will have stranded assets as a result of changes in the marketplace. The CEC acknowledges, however, that section 18(2) of the CEA permits BC Hydro to recover the cost of its EV charging stations from ratepayers.[186]

BCOAPO submits that one way to minimize the risk of stranded assets would be to "set the EV charging service rate at a level that provides for increased cost recovery in the early years, rather than in the longer timeframe that BC Hydro proposes. To this end, BCOAPO submits that our recommendation of 25 cents per minute rate at its 50 kW charging station service is preferable to BC Hydro's Proposed Rate of 21 cents per minute."[187]

ChargePoint states "that all levels of charging are important to supporting a transition to electric transportation and supporting the Province's goals for 2040 for zero-emission vehicle sales to be 100 percent of passenger vehicle sales. … In general, however, there are still a number of vehicles on the road, the existing EV fleet, that cannot take on much more than 50 kilowatt capacity. However, the number of vehicles being introduced into the market that can take on higher levels of power is increasing. To accommodate today's need while addressing

[181] Transcript Vol. 4, p. 755.
[182] Transcript Vol. 4, p. 755.
[183] Exhibit C20-4, para 35, p. 15.
[184] Suncor Final Argument, para 74, p. 20.
[185] BCSEA–VEVA Final Argument, paras 63–64, p. 17 of 18.
[186] CEC Final Argument, p. 44.
[187] BCOAPO Final Argument, p. 33.

future needs, ChargePoint recommends future proofing sites and using technologies that can dynamically share power to more cost effectively provide higher power while balancing electrification infrastructure costs."[188]

Strata Plan VR 2673 submits that it is doubtful that there will be much resale value of BC Hydro's EV chargers, particularly given the very expensive costs of removal, transport, service and reinstallation at another location, and therefore BC Hydro should source equipment looking at future requirements including, if possible, negotiating for upgrade options with the supplier.[189]

Flintoff points out that faster-charging systems and improved battery designs of higher capacity are being developed as this Application is being reviewed, and that slower charging rate DCFCs may become no longer "used and useful" especially when higher charging rate DCFCs become available and kWh revenue billing is established.[190]

Panel Discussion

The Panel notes that BC Hydro's EV fast chargers are prescribed undertakings, as defined in the CEA and the GGRR, which precludes us from denying BC Hydro the recovery of its costs related to prescribed undertakings. The majority of BC Hydro's charging stations are 50 kW, and several interveners note that many of today's electric vehicles cannot use more than a 50 kW charger. Although newer vehicles can take advantage of newer, higher charging stations, that does not make BC Hydro's decision to invest in 50 kW stations inappropriate because BC Hydro's network can still continue to service the current EV fleet. Further, parties have not provided any evidence with regards to the capital cost and useful life of today's more advanced chargers. As a result, we are not persuaded that BC Hydro's fast chargers are already outdated.

In Section 3.8 above, we direct BC Hydro to file a revised rate application, to recover its full cost of service by no later than December 31, 2022. We further direct BC Hydro to include a proposed depreciation rate. We also acknowledge that BC Hydro's F2023–2025 RRA proposes a seven-year depreciation rate for its EV charging stations, which rate is currently under separate review.

4.2 Future EV charging stations and EV resource plan

BC Hydro states that one of the reasons it entered the EV charging market was to advance provincial policy to encourage the widespread adoption of EVs in British Columbia.[191] By the end of 2025, BC Hydro indicates that it plans to own and operate 325 stations across 145 sites.[192] Further, BC Hydro submits that the December 31, 2025 date in the GGRR, which is the "drop-dead date in the GGRR, and stations must be in service by then to get the benefit of the Clean Energy Act section 18(2) provision, and section 18(3) provision," is consistent with the BCUC's recommendation in the EV Inquiry's Phase Two Report "that the quantum of investment by non-exempt

[188] Transcript Vol. 3, p. 571, l. 6 to p. 572, l. 20.
[189] Strata Plan VR 2673 Final Argument, pp. 7–8 (pdf).
[190] Flintoff Final Argument, p. 4 of 5.
[191] Transcript Vol. 4, p. 622.
[192] Exhibit B-13, slide 16.

utilities allowed by prescriptive preparation be carefully limited to ensure that the private sector isn't unfairly impacted by non-exempt utility ratepayers are not put at undue risk."[193]

BC Hydro describes the amendments to the CEA and the GGRR as "creat[ing] that space [for non-exempt utilities] to enter" the EV charging market, and while the amendments do not "preclude a continued participation in that market after [2025], but in practical terms, based on the evidence we're seeing on the relative costs and revenues associated with the service, we say that one can reasonably infer that Hydro's participation in the market will be for a limited period of time."[194]

Nevertheless, BC Hydro confirms that after December 31, 2025, it will have its EV charging stations in service, and thus will need a rate for the provision of that service. [195]

Positions of the Parties

ChargePoint submits that the "deployment of charging infrastructure across the Province of British Columbia is critical to increasing electric vehicle adoption and meeting the province's Zero Emissions Vehicle Act and CleanBC targets."[196] It points to the BC Public Light-Duty Zero-Emission Vehicle Infrastructure Study (the ZEV Study) which states that approximately "6,710 ports across 400 sites will be needed by 2040 to support the expected EV population."[197] ChargePoint emphasizes that the private market is vital to achieving the Government's greenhouse gas and zero-emission vehicle goals.[198]

Suncor submits that BC Hydro's low rates historically have and will suppress prices for all companies in the EV charging market, to the detriment of the long-term development of the market.[199] It suggests "there is no certainty that BC Hydro will not be a long-term player in the market," despite BC Hydro's argument that the "market will not support prices that will allow them to recover their costs in the absence of guaranteed recovery in Section 18(2) of the CEA."[200] Suncor submits that

> If market conditions change, BC Hydro may well continue to operate its charging stations, or expand its network, building on a base established using the pricing regime in the Rate Proposal. This would give BC Hydro an unfair and unlevel advantage, regardless of what it says now about its future plans. There is even the potential, ..., that the low rates in the Rate Proposal will discourage Private Operator investment to such an extent that greater BC Hydro and other non-exempt utility investment is the only solution to meeting the need for EV charging infrastructure post 2025. Thus, while BC Hydro suggests that it is not "permissible" to consider future potential legislative change, the Commission should consider the course on which the Rate Proposal sets the EV charging market in BC. [201]

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[193] Transcript Vol. 4, pp. 670-671.
[194] Transcript Vol. 4, p. 675.
[195] Transcript Vol. 4, p. 756.
[196] ChargePoint Final Argument, para 7, p. 3.
[197] British Columbia, "British Columbia Public Light-Duty Zero-Emission Vehicle Infrastructure Study", dated May 2021, available online at: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/electricity-alternative-energy/transportation/bc_public_ld_zev_infrastructure_study_final_20210505.pdf p. 26
[198] ChargePoint Final Argument, para 57, p. 12
[199] Suncor Final Argument para 44, pp. 12–13.
[200] Suncor Final Argument para 42, p. 12.
[201] Suncor Final Argument para 43, p. 12.

BCSEA-VEVA notes that the Government held public consultation on how it should approach regulation of EV charging services: "the broad general one which was the one where the Commission was including the language about level playing fields and requiring EV charging asset planning and rates for other providers and so on, and including the prescriptive approach. And in the end they chose the prescriptive approach, and that's reflected in section 5 of the Greenhouse Gas Reduction (Clean Energy) Regulation."[202]

Guthrie submits that the province is at a critical point in the development of a market-driven, competitive EV charging network across BC. The BCUC has an opportunity to "get it right," and failure to do so, he suggests, could mean that the fast-charging environment will become overly dependent on BC Hydro if exempt parties move their investment funding elsewhere. Guthrie emphasizes transparency as one of the keys to establishing a market-driven model with a level playing field, "especially since BC Hydro is the sole provider of electricity and a competitor with exempt providers."[203]

Guthrie also submits that "If the Province of BC and BCH [BC Hydro] want to support EVs and promote the growth of EV sales, the focus needs to remain on EV fast charger availability. In my opinion, the best way to do this is encourage more exempt providers to install fast-charging services throughout BC. It is unreasonable to expect that BCH [BC Hydro] can provide enough chargers, soon enough, acting alone."[204]

Panel Discussion

The BCUC's EV Inquiry's Phase Two Report explored how non-exempt public utilities might participate in the EV charging services market and how their participation should be regulated, if at all. The Phase Two Report recommended to Government a spectrum of possible approaches to regulation of EV charging services, depending on the degree of prescriptiveness of the specific government direction or policy. At one end of the spectrum is a non-prescriptive approach, where Government broadly defines its policy goals and provides high level direction to the BCUC. At the other end of the spectrum is a prescriptive approach, such as amending the GGRR to define EV charging infrastructure as a prescribed undertaking.[205]

The BCUC observed the lack of evidence filed during the EV Inquiry that any non-exempt public utility had a comprehensive plan regarding proposed expenditures in EV charging infrastructure, even though such a plan may be fast-evolving. The BCUC noted that as "with any utility investment, without a plan, it is difficult to evaluate the risks and benefits to ratepayers. In the instance where the non-exempt utility is investing in a market in which exempt utilities are also making investments, an evaluation and understanding of the potential impact on exempt utility participants is required."[206] As a result, the BCUC recommended, if the government selected the non-prescriptive approach to regulation, that non-exempt utilities should develop an EV charging service (EVCS) Resource Plan to evaluate that utility's investments.

By amending the GGRR to include EV charging stations as prescribed undertakings, however, we recognize that the Government has opted for a prescriptive, instead of a non-prescriptive, approach to regulating non-exempt utilities' investments in EV fast charging stations. Consequently, non-exempt utilities are not required to prepare

[202] Transcript Vol. 1, p. 22.
[203] Guthrie Final Argument, p. 3 of 10.
[204] Guthrie Final Argument, p. 2 of 10.
[205] BCUC EV Inquiry Phase 2 Report, pp. 38–39.
[206] BCUC EV Inquiry Phase 2 Report, p. 39.

an EVCS Resource Plan. However, whether regulation is prescriptive or non-prescriptive, an evaluation and understanding of the impact of non-exempt utilities' investment in the EV charging market are essential to thoughtful regulation, and a prerequisite to ensuring the development of adequate EV charging infrastructure to meet the Government's objectives.

Therefore, the Government's decision to pursue the prescriptive approach to regulation does not diminish the importance of transparency regarding non-exempt utilities' plans for EV charging services. To that end, we find reassuring that BC Hydro is preparing a detailed five-year plan to support electric vehicle adoption, based on the ZEV Study, and that it expects to make the plan publicly available in early 2022.[207]

We recognize that BC Hydro's proposed five-year plan to support EV adoption will likely differ from the EVCS Resource Plan described in the EV Inquiry Report. Nevertheless, we echo the observation in the EV Inquiry Phase Two Report that, "as with any utility investment, without a plan, it is difficult to evaluate the risks and benefits to ratepayers." Therefore, we would expect BC Hydro to provide the same type of information in its five-year plan and to demonstrate that it has a "comprehensive plan regarding proposed expenditures in EV charging infrastructure."[208] Further, because BC Hydro is investing in a market in which exempt utilities are also making investments, we also expect that the five-year plan will include an evaluation and understanding of the potential impact of that plan on exempt utility participants. The BCUC requests that BC Hydro file a copy of the five-year deployment plan for its public EV charging sites and stations with the BCUC when it becomes available in early 2022.

4.3 Accessibility

BC Hydro states that one of its deployment objectives is to make the fast charging sites accessible by disabled drivers, although this is not always possible, within a reasonable cost. According to BC Hydro, 16 of their sites are now fully accessible.[209]

Positions of the Parties

BCSEA-VEVA submits that BC Hydro's public EV fast charging service is subject to section 8 of the BC Human Rights Code, which provides that a person must not discriminate in the provision of a service based on disability. It notes that meeting the federal and BC targets for zero emission vehicles will require a robust charging infrastructure that must be able to serve all British Columbians, not just able-bodied ones.[210] It requests that the BCUC confirm that accessibility for persons with disabilities is a core component of the quality of service provided by BC Hydro at its public EV fast charging sites.[211]

BC Hydro responds that it has no objection to the BCSEA-VEVA request. However, it cautions that any future BCUC orders regarding the quality or adequacy of BC Hydro's EV Charging Service would be potentially subject,

[207] BC Hydro F2023 – F2025 RRA proceeding, Exhibit B-2-3-1, p. 10-18; Exhibit B-8, BCSEA IR 19.5.

[208] EV Inquiry Phase Two Report, p. 39.

[209] Transcript Vol. 1, p. 134.

[210] BCSEA-VEVA Final Argument, para 10, p. 4 of 18

[211] BCSEA-VEVA Final Argument, para 66, p. 18 of 18.

depending on the circumstances, to the restrictions that section 18(3) of the CEA imposes on the BCUC's powers.[212]

Panel Discussion

The Panel confirms that accessibility for persons with disabilities is a core component of the quality of service provided by BC Hydro at its public EV fast charging sites. To the extent that provincial laws may require EV fast charging service providers to make their stations accessible to British Columbians, regardless of ability, they apply equally to BC Hydro. This is not a matter for the BCUC to decide or opine on under the UCA.

4.4 Obligation to Serve

Section 38 of the UCA, which is often referred to as one of the sources of a utility's "obligation to serve," states that a public utility must provide, and maintain its property and equipment in a condition to enable it to provide, a service to the public that the BCUC considers is in all respects adequate, safe, efficient, just and reasonable.

The Panel asked BC Hydro to address the following question with respect to its obligation to serve:
If BC Hydro's public EV fast chargers can only serve one customer at a time and customers are unable to charge their EVs within a reasonable timeframe due to congestion, would BC Hydro be in breach of its obligation to serve or provide adequate, safe, efficient, just and reasonable service as required of a public utility under section 38 of the UCA?[213]

BC Hydro acknowledges the BCUC's power under section 38 to establish adequate levels of service. According to BC Hydro, however, section 18(3) of the CEA significantly alters the BCUC's power under section 38 in relation to EV charging services because the BCUC cannot exercise a power that would directly or indirectly prevent BC Hydro from carrying out a prescribed undertaking. "By necessary implication, that means, …, BC Hydro gets [to determine] the scope of its involvement in the delivery of EV charging service, subject to the constraints of the GGRR." In other words, BC Hydro submits, but for section 18(3) of the CEA, the BCUC could direct BC Hydro with respect to how it provides service.[214]

Positions of the Parties

Submissions from interveners fall into three themes. First, ChargePoint submits that "BC Hydro does not have a duty to serve EV fast charging service customers because these customers can be served by others. If BC Hydro does not have a duty to serve, then it is not subject to the obligation to provide adequate, safe, efficient, just and reasonable service. Conversely, if BC Hydro has a duty to serve these customers, it would be entitled to recover costs under a cost of service model."[215]

Second, several interveners acknowledge that congestion at EV charging stations is inevitable. BCSEA-VEVA, for example, notes that congestion at public EV fast charging sites is a fact of life generally accepted by the EV drivers who are or would be customers of BC Hydro's public EV fast charging service, and that maintenance of

[212] BC Hydro Reply Argument, paras 77–78, p. 32.
[213] *Utilities Commission Act*, section 38.
[214] Transcript, Vol. 4, pp. 746-747.
[215] ChargePoint Final Argument, para 52, p. 12

public EV fast charging stations is an ongoing concern for EV drivers. That said, it notes, section 38 of the UCA contemplates that the BCUC may define an acceptable level of service that it considers is "in all respects adequate, safe, efficient, just and reasonable."[31] In BCSEA-VEVA's view, however, BC Hydro's proposed three-year evaluation is the appropriate opportunity for examination of congestion and remedies for congestion at BC Hydro's public EV fast charging service sites. BCSEA-VEVA notes that the BCUC has the authority to supervise whether BC Hydro maintains its public EV fast charging assets in good working order. In the Phase Two Report, the EV Inquiry Panel stated: "Accordingly, we find there's no obligation on non-exempt utilities to build any specific station or stations in any specific location, however once the non-exempt utility has built a station it must ensure that the station remains in good working condition unless the BCUC orders otherwise."[216]

In BCOAPO's submission, provided BC Hydro had sufficient reason for not having built out its station to handle the higher customer demand for EV fast charging at certain stations than can be accommodated, it would be extraordinarily hard to find it in contravention of the requirements outlined in section 38.[217]

The CEC does not consider that serving one customer at a time would result in a breach of BC Hydro's obligation to serve. The CEC agrees with BC Hydro's position that it is up to the BCUC to make determinations as to adequate service levels, subject to constraints under the GGRR.[218]

Third, RCIA addressed the possible interpretation of the obligation to serve as it relates to the maintenance of stations. RCIA notes that "Commissioner Fung said that the BCUC probably should have asked its question with respect to the maintenance of stations, because that was the complaint heard during the EV inquiry. To the extent that the BCUC's concern is about maintenance of stations, RCIA believes that this is within the obligation to serve as described in section 38 of the UCA. Further, it submits that this obligation is not affected by section 18(3) of the CEA, because requiring or enforcing maintenance to enable adequate service is not something that would directly or indirectly prevent BC Hydro from carrying out the EV fast charging undertaking."[219]

Panel Discussion

The obligation to serve arises from the regulatory compact; in exchange for a monopoly franchise, a utility agrees to provide service to anyone willing to pay its established rates. The obligation to serve as set out in the UCA does not distinguish between monopolistic and competitive markets. However, historically, public utilities to which the UCA has typically applied operated in monopoly markets. Indeed, the BCUC suggested in the AES Inquiry[220] in 2012 that the Government "explicitly amend the UCA to exclude regulation of activities where competitive forces are found to provide sufficient protection to the public."[221] In the absence of such legislative amendment, the UCA continues to apply to BC Hydro's EV charging services.

ChargePoint observes that BC Hydro does not have a *duty* to serve EV fast charging service customers because these customers can be served by others. We agree. However, in our view, once BC Hydro *chooses* to serve, it

[216] BCSEA VEVA Final Argument, para 59, 60, p. 16.
[217] BCOAPO Final Argument, p. 31.
[218] CEC Final Argument, p. 43.
[219] RCIA Final Argument, p. 11.
[220] In The Matter Of Fortisbc Energy Inc. Inquiry Into The Offering Of Products And Services In Alternative Energy Solutions And Other New Initiatives Report, dated December 27, 2012, p. 15.
[221] AES Inquiry 2012, p. 15.

remains subject to the obligations set out in the UCA. This means that BC Hydro must ensure that its charging stations are available for use 24 hours a day by any member of the public as required under the GGRR and are maintained to a reasonable standard.

The question of the extent to which section 18(3) limits our authority under section 38 of the UCA to establish adequate levels of EV charging service, is moot. The fact of the matter is that BC Hydro has chosen to serve the EV fast charging market as a regulated utility, and as such, it remains subject to the obligations under the UCA. The Panel further observes that as the EV fast charging services market is a competitive market, market forces will conceivably address whatever issues, for example congestion or station cleanliness, that might be considered integral to the provision of the service as well as the reasonableness of any standards. It would be premature as well as speculative for us to opine upon such matters at this time.

4.5 Idling Fees

BC Hydro has not included idling fees in the Proposed Rates, and states that it has no way to measure how much idling takes place at its stations.[222] It explains that the purpose of an idling fee is to encourage efficient use of the EV charging stations. Idling fees are a per minute rate charged to persons whose vehicles occupy a charging station, but who are not charging their electric vehicles, or not charging their vehicles at a rate above some pre-determined rate.[223] BC Hydro accepts that idling fees could dissuade users of a fast charging station from occupying the station longer than necessary, which could help to maximize availability of fast charging stations for all users.

BC Hydro proposes to address the feasibility of idling fees in the Evaluation Report as discussed in Section 4.6 below.[224]

Positions of the Parties

Strata Plan VR 2673 submits that idling fees are a simple step to address congestion. For example, such a fee can be a continuation of the billing until the EV is unplugged, or a separate, often much higher, fee.[225]

Flintoff submits that idling fees should be considered even though BC Hydro has not included them in the Proposed Rates. He suggests that idling fees could apply to any car occupying a DCFC if the station is at 50 percent–99 percent capacity and the charge session is complete. If a station is at 100 percent capacity, the fee could be doubled.[226]

Panel Determination

The Panel accepts that congestion could be a problem at EV charging stations, and that idling fees could be a deterrent to such congestion. We encourage BC Hydro to monitor congestion and consider whether idling fees are warranted in the future.

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[222] Transcript, Vol. 2, p. 372.
[223] BC Hydro Reply Argument, paras 85 and 86, p. 34.
[224] BC Hydro Reply Argument, para 86, p. 34.
[225] Strata Plan VR 2673 Final Argument, p. 7 (pdf)
[226] Flintoff Final Argument, p. 4 of 5.

4.6 Evaluation and Monitoring of BC Hydro's EV Fast Charging Rates

BC Hydro proposes to file with the BCUC by March 31, 2024, an evaluation report (Evaluation Report) and, if warranted, an application to propose new rate(s) for fast charging service. The Evaluation Report will include an evaluation of the following:[227]

- Station utilization at different power level stations and factors that impact it;
- Customer satisfaction and experience;
- Implementation effectiveness including billing, payments and special conditions;
- Comparison of BC Hydro fast charging service rates with other operators;
- Collection of data on the electricity use characteristics (e.g., load profile, load factor, and peak demand) of the fast charging service and determination of whether General Service remains appropriate or a new rate class should be developed specific to electric vehicle fast charging service;
- Technological advancements in metering and billing for fast charging services;
- Customer and stakeholder engagement on the results of the evaluation report and industry developments; and
- The potential need for repricing or redesign of the rates.

However, BC Hydro submits that it does not plan to include an EV charging infrastructure deployment plan in the Evaluation Report because it believes the revenue requirements application is the most appropriate process to provide updates on station deployments and plans. BC Hydro explains that deployment plans are subject to ongoing revision and adjustment in response to changes, such as the ongoing availability of third-party funding for stations, growth in EV ownership, station utilization, technological change, availability of suitable leasehold properties, and the deployment of fast charging stations by other entities.[228]

BC Hydro states that its proposed timeline of March 31, 2024 will allow for the collection and analysis of two full fiscal years of utilization and financial data (i.e. F2022 and F2023), as well as the completion of customer and stakeholder engagement informed by the results of the evaluation.[229] BC Hydro submits that if the Evaluation Report is to be filed a year earlier (i.e. March 31, 2023), then it will only have the F2022 cost of service data. BC Hydro suggests that fiscal 2022 data may not be reliable due to the COVID-19 pandemic's impact on driving habits. Further, an evaluation in 2023 limits the scope to one year of cost of service analysis because the analysis requires a full year of data in order to capture demand related costs, which are seasonal. BC Hydro explains that the data for a given year is not available until late summer due to data cleaning and reconciliation of bills. BC Hydro submits that its proposed timeline of March 31, 2024 allows for increased penetration of EVs, which would impact utilization. An additional year of utilization data would also help identify trends that could inform

[227] Exhibit B-1, p. 36.
[228] Exhibit B-4, BCUC IR 19.4.
[229] Exhibit B-1, pp. 36–37.

repricing. Further, the proposed timeline considers the benefit of rate stability and considers regulatory efficiency and the costs associated with conducting evaluations.[230]

At the SRP, BC Hydro emphasized the importance of not evaluating too early or too frequently. BC Hydro provided its freshet energy rate that was introduced and approved by the BCUC in 2015 as an example of the downsides of evaluations that are done too early or too frequently. For the freshet energy rate, BC Hydro was directed to complete four different evaluations of that rate covering four different time periods. BC Hydro submits that this approach was expensive and made it difficult to reconcile the information in the various evaluation reports. BC Hydro submits that it is preferable to file a single comprehensive evaluation when the rate is able to be redesigned rather than to file multiple evaluation reports.[231]

BC Hydro submits that its proposed monitoring and evaluation plan was developed in recognition of the considerable uncertainty at this time regarding station utilization and fast charging service revenues.[232] BC Hydro also submits that if electricity-based rates for fast charging service become feasible for BC Hydro prior to the planned evaluation in March 31, 2024, it will consider advancing an application to the BCUC to implement electricity-based rates.[233]

BC Hydro states that cost of service and cross subsidization analysis can also be included in the Evaluation Report. However, this type of analysis is resource and data intensive and requires at least 18 months of lead time for data collection and several months of dedicated specialist staff time. Therefore, it should be planned in advance and conducted at a future set date.[234]

Positions of the Parties

No interveners oppose the Evaluation Report. BCOAPO submits that the proposed March 31, 2024 filing date for the Evaluation Report is reasonable.[235] BCSEA-VEVA[236] and Strata Plan VR2673 support a three-year evaluation report prepared with stakeholder input, to be filed with the BCUC by March 31, 2024. Strata Plan VR2673 suggests that the report include:[237]

- A plan for energy-based pricing; and
- A plan for a separate class of service with a focus to reduce the barriers for exempt public EV fast charging services, including the demand charge burden for EV public fast charging services.

Further, BCOAPO agrees with BC Hydro's view that updated plans for the deployment of EV stations should be part of BC Hydro's RRAs. However, BCOAPO submits that BC Hydro should include the business cases supporting such plans, and suggests that the BCUC direct BC Hydro to include its current station deployment plans and supporting business cases in future RRAs. Notwithstanding this, in BCOAPO's view BC Hydro's plans for station

[230] Exhibit B-4, BCUC IR 19.1.
[231] Transcript Vol. 1, pp. 115–117.
[232] Exhibit B-4, BCUC IR 15.4.
[233] Exhibit B-4, BCUC IR 5.15.
[234] Exhibit B-4, BCUC IR 2.6.
[235] BCOAPO Final Argument, p. 32.
[236] BCSEA-VEVA Final Argument, p. 13
[237] Strata Final Argument, p. 9.

deployment are a necessary part of the Evaluation Report because the report "will use the data collected regarding revenues, costs and utilization of EV Charging Stations to assess the rate required for full cost recovery and determine whether a rate design to achieve this objective is practical." Further, "the assessment of the rates required and the rate designs that could be used to achieve full cost recovery aligns not only with BC Hydro's long-term objective of full cost recovery, but is also a necessary consideration given the requirements set out in sections 58-61 of the *Utilities Commission Act*." BCOAPO submits that the BCUC should direct BC Hydro to fully address these issues in the Evaluation Report.[238]

The CEC recommends the BCUC direct BC Hydro to conduct further research into elasticities related to availability where no competitors exist within reasonable range, and current and expected market adoption rates. The CEC also recommends that BC Hydro be directed to establish a working group, which includes industry participants and ratepayer groups, to assist in improving the information available to the BCUC. Further, the CEC recommends that BC Hydro be required to undertake a fulsome review of price responsiveness including the views of exempt EV charging service providers and review the experiences of other jurisdictions.[239]

Suncor submits that the key metrics BC Hydro should report on should include "utilization, electricity costs, congestion, downtime, maintenance costs, and revenues by charger, as well as overall costs on capital, new site costs (permitting, mobilization and demobilization, trenching and other construction costs), overhead, spare parts inventory, software, and support staff." In addition, BC Hydro should report on its network plans and station upgrade plans to ensure that its infrastructure is not crowding out that of private operators, that BC Hydro is maximizing revenue, and eventually achieving a reasonable return on its investment.[240]

ChargePoint and Mr. Guthrie submit that BC Hydro should file an application or business plan earlier than 2024. ChargePoint submits that the BCUC should approve the Proposed Rates until the Proposed Rate review in 2024 or earlier and require BC Hydro to file an application by 2023 to address the following "deficiencies":[241]

- A thorough analysis of the competitive impact of BC Hydro's rates annually, over two years, including outcomes of its analysis on customers' price sensitivity, utilization forecasts, and market data;
- Extensive stakeholder consultation with exempt utilities including discussion of programs to support private EV investments and steps to mitigate the effects of BC Hydro's participation on the competitive market for EV charging services; and

In addition, ChargePoint submits that the BCUC should require BC Hydro to propose in a separate proceeding, within 12 months, alternative general service rates and consider demand charge reform for commercial EV charging customers.[242]

Mr. Guthrie submits that "[t]hree years from now is too long to develop a Business plan" since a plan is an estimate based on the best available information at the time of preparation. He recommends that the BCUC "instruct [BC Hydro] to prepare a proper Three-Year Business Plan for its fast charging service, detailing the total

[238] BCOAPO Final Argument, pp. 32–33.
[239] CEC Final Argument, pp. 1–2, 18.
[240] Suncor Final Argument, pp. 18–19.
[241] ChargePoint Final Argument, pp. 2–3.
[242] ChargePoint Final Argument, pp. 3.

revenues and costs to establish and operate its fast-charging business." Further, the business plan should be compared regularly to actual results and should be readily available and easily accessible by the public.[243]

In reply, BC Hydro submits that its proposal to file the Evaluation Report by March 31, 2024 is preferable to annual reporting.[244] In addition, BC Hydro provides a table of some of the proposals suggested by interveners. Of those proposals, BC Hydro takes exception to the following:

- Suncor's suggestion to report on costs/revenues on a per charger basis. BC Hydro submits it does not track some of the costs on a per charger basis and reporting on a per charger basis would be "a burdensome administrative exercise with little of no offsetting value."[245]
- Strata Plan VR 2673's suggestion to include a plan to reduce barriers for exempt providers. BC Hydro submits that this would be "far beyond the scope of an evaluation of BC Hydro's EV Charging Service."[246]
- The CEC's suggestion to gather market-wide information on EV charging prices, utilization rates, and similar information from exempt providers. BC Hydro submits that if ongoing market-wide information is required, then the BCUC should gather that information directly from exempt providers, anonymize it, and make the results public for all participants in future regulatory processes. This would ensure the BCUC would have the information it needs and BC Hydro would not have to handle any exempt provider information that is confidential.[247]

Panel Determination

Given the timing of the application for permanent rates (i.e. by no later than December 31, 2022), as directed in Section 3.8 of the Decision, the Panel at this time does not see the need for BC Hydro to provide its proposed Evaluation Report by March 31, 2024. **However, the Panel directs BC Hydro to include the following as part of the new application for permanent rates, which includes some of items that BC Hydro had proposed to include in its Evaluation Report:**

- **Station utilization at different power level stations and factors that impact it;**
- **Financial models with actual and forecast revenue and costs to provide EV fast charging service and updated assumptions;**
- **An overview and comparison of the current EV fast charging service market and rates across Canada and United States; and**
- **A proposal for a depreciation rate for its EV DCFC charging stations and information to support its proposal.**

The Panel recognizes that reporting on the above items in the new application for permanent rates means that the evaluation period will likely only include one year of cost of service analysis. Although more historical data is preferable to less, as noted in Section 3.8 of the Decision, it is important to revisit the rate as soon as possible because the current interim rates can exacerbate the level playing field issues outlined earlier in the Decision.

[243] Guthrie Final Argument, p. 4.
[244] BC Hydro Reply Argument, p. 8.
[245] BC Hydro Reply Argument, p. 19.
[246] BC Hydro Reply Argument, p. 19.
[247] BC Hydro Reply Argument, p. 20.

4.7 Separate Class of Service

The BCUC's EV Inquiry's Phase Two Report stated, among other things, that non-exempt public utilities should be required to develop a separate rate and tariff (or a separate class of service) for any operators utilizing any level of charging, other than Level 1 or 2.[248]

BC Hydro considers EV fast charging service to be part of its General Service and has developed its Proposed Rates to reflect its General Service pricing.[249]

BC Hydro states that the BCUC has considerable discretion under the UCA to determine classes of service, or classes of customer, for rate-setting purposes. BC Hydro explains that classes of service or customer are generally established when there are similar enough usage characteristics within a class to infer a reasonably similar cost of service between members of the class, while bearing in mind that a utility's tariff and other administration costs are proportionate to the number of classes. BC Hydro submits that it does not support establishing EV fast charging service as a separate class of service because it would not serve any material purpose at this time.[250]

Further, BC Hydro submits that the creation of a new rate class requires a cost of service justification, and the appropriate cost studies have not and cannot be completed at this time. BC Hydro explains that the service is still new and it had only recently begun charging for the service. BC Hydro expects usage and load characteristics, which are key determinants in a cost of service analysis, to change with the introduction of its Proposed Rates and the completion of a reliable cost of service analysis must consider data collected after a rate is approved and introduced. BC Hydro submits that the appropriate time to consider whether the creation of a new rate class is justified is upon the completion of the Evaluation Report in March 2024.[251]

Further, BC Hydro notes that creation of a new rate class or class of service is not necessary to undertake the cost of service and ratepayer economic impact analysis for a service. BC Hydro submits that the creation of the three proposed new rate schedules for public fast charging service facilitates this analysis and ensures that revenues and costs can be separately tracked. BC Hydro also notes that the practice of creating new rate schedules within an existing rate class, and the subsequent analysis of the cost and ratepayer economic impacts for the service under the new rate schedule, is common. BC Hydro provides the following as recent examples of this practice: its Freshet Energy Rate Schedule 1892, which is part of the Transmission Service Rate Class, and its Fleet Electrification Demand Transition Rate Schedules 1650 to 1653, which are part of the Large General Service Rate Class.[252] BC Hydro submits that the development of a separate rate class would neither impact the design of its EV fast charging service rates nor ensure any specific level of cost recovery or rates.[253]

BC Hydro states that its future fully allocated cost of service studies will include the Public Fast Charging Service rate schedules in the analysis of the small and medium general service rate classes. At this time, BC Hydro does

[248] BCUC Phase 2 EV Inquiry Report, p. 41.
[249] Exhibit B-1, p. 26.
[250] Exhibit B-4, BCUC IR 1.2.
[251] Exhibit B-4, BCUC IR 1.3.1.
[252] Exhibit B-4, BCUC IR 1.1.
[253] Exhibit B-5, CEC IR 21.3.

not anticipate any material implications from including these rate schedules in its Fully Allocated Cost of Service Study because the potential revenue and costs associated from these services are negligible compared to the revenue and costs of the rate classes of which they are part. For example, the fast charging service under Rate Schedule 1560 is expected to represent less than 0.16 percent of the revenue of the Medium General Service rate class. However, BC Hydro anticipates station utilization, revenues and costs will grow over time, and thus proposes that the Evaluation Report include a determination of whether a new rate class should be developed specific to EV fast charging service.[254] BC Hydro confirms that its Evaluation Report will include a fully allocated cost of service study for BC Hydro's public fast charging service.[255] BC Hydro explains that it anticipates that by its proposed evaluation date of March 2024, it will have sufficient historical data, on items such as energy sales and peak demand, to do a precise allocation of costs.[256]

Positions of the Parties

BC Hydro submits that the BCUC has the discretion under the UCA to establish a separate class of service or class of customer for BC Hydro's EV fast charging service and section 58.1(7) does not limit that discretion.[257] However, BC Hydro does not support establishing a separate class of service or class of customer because it would result in increased administrative and regulatory burden, and therefore increased costs "with no obvious benefit." BC Hydro submits that the only benefit may be greater transparency with respect to the cost of service and thus potentially greater insight into the degree of subsidization of this service by other customers. However, a separate class of service or class of customer does not need to be established to obtain that kind of information.[258] Further, BC Hydro points out that the BCUC's decision to BC Hydro's F2022 RRA already directed BC Hydro to provide ongoing reporting of its revenues and costs for its EV fast charging service.[259] BC Hydro also submits that its proposed Evaluation Report would include data that would help determine whether a new rate class should be developed specific to EV fast charging service.[260]

BCSEA-VEVA[261] and BCOAPO[262] generally do not support establishing a separate class of service for public EV fast charging service. In BCSEA-VEVA's view, financial transparency will be achieved more directly and cost-effectively through the Evaluation Report rather than through the establishment of a separate class of service.[263]

BCOAPO does not object to BC Hydro's proposal to include its EV fast charging service in its General Service rather than establishing a separate EV class at this time as long as the Evaluation Report considers whether a separate rate class is justified and BC Hydro tracks its EV charging service revenue and costs.[264]

[254] Exhibit B-4, BCUC IR 1.3.
[255] Transcript Vol. 2, pp. 255, 356.
[256] Transcript Vol. 2, pp. 309–312.
[257] Transcript Vol. 4, Oral Final Argument, pp. 732–734.
[258] Transcript Vol. 4, pp. 734–735.
[259] Transcript Vol. 4, pp. 735–736.
[260] Transcript Vol. 4, p. 735.
[261] BCSEA-VEVA Final Argument, p. 14.
[262] BCOAPO Final Argument, p. 16.
[263] BCSEA-VEVA Final Argument, pp. 14–15.
[264] BCOAPO Final Argument, p. 16.

RCIA does not oppose BC Hydro's view that the establishment of a separate class of service is a matter of discretion for the BCUC. However, RCIA also suggests that section 60(1)(c) of the UCA may require the BCUC to establish a separate class of service for EV fast charging service.[265]

On the other hand, Strata Plan VR 2673 and Mr. Guthrie are generally in favour of a new class of service or customer. Strata Plan VR2673 submits that public EV fast charging service should be established as a separate class of service because it "may provide the opportunity to tailor the structure of class or classes to address some of the major challenges to all providers of Fast EV Charging Services," such as demand charge burden.[266] In Mr. Guthrie's view, a separate class of service for EV fast charging service would "clearly detail electrical rates for exempt third parties, EV owners and other ratepayers, conveniently in one location." It would also make it easier for exempt EV charging service providers to prepare their own business plans. Mr. Guthrie recommends that the BCUC direct BC Hydro "to establish a separate EV charging rate class for the electricity it delivers to exempt parties and itself."[267]

The CEC supports the establishment of a separate EV charging rate for EV charging service, but only to the extent that the EV specific rates do not result in other ratepayers subsidizing EV charging infrastructure for all investors, not just BC Hydro.[268] The CEC notes that the creation of a new rate class would require a cost of service justification, which requires cost studies that have not and cannot be completed at this time. The CEC submits that BC Hydro should instead "work cooperatively with ChargePoint, Suncor and other prospective market entrants to develop a short-term plan to migrate prices to cost recovery."[269]

With respect to the Panel's question of whether section 58.1(7) of the UCA constrains the BCUC from directing BC Hydro's EV charging service to be a separate class of service, none of the interveners submit that section 58.1(7) of the UCA prevents the BCUC from directing a separate class of service be established, but rather that section of the UCA only prohibits the BCUC from doing so if the purpose was to change the revenue-cost ratio.[270]

In response to RCIA, BC Hydro submits that the BCUC is not obliged to establish a "class of service" within the meaning of section 60(1)(c) of the UCA for every new service offering.[271] BC Hydro submits:[272]

> In circumstances in which section 60(1)(c) applies the Commission must not only establish "distinct classes of service", as noted by RCIA, but must also consider each class a "self contained unit", and must set a rate for each such unit "without regard to the rates set for any other unit". The implication of this requirement is that "class of service" in section 60(1)(c) can not have the same meaning as the "customer classes" or "rate classes" referred to in BC Hydro's FACOS [fully-allocated cost of service]. If those latter expressions in the FACOS had the same meaning as "classes of service" in section 60(1)(c), then the Commission could not engage in a rate re-balancing exercise for any utility (never mind UCA section 58.1) because it would have to

[265] RCIA Final Argument, pp. 8–9.
[266] Strata Plan VR 2673 Final Argument, pp. 5–6.
[267] Guthrie Final Argument, pp. 5–6.
[268] CEC Final Argument, p. 42.
[269] CEC Final Argument, pp. 42–43.
[270] BCSEA-VEVA Final Argument, pp. 14–15; BCOAPO Final Argument, pp. 17–18; ChargePoint Final Argument, pp. 11–12; RCIA Final Argument, pp. 8–9; Strata Plan VR 2673 Final Argument, pp. 5–6.
[271] BC Hydro Reply Argument, p. 27.
[272] BC Hydro Reply Argument, pp. 28–30.

set rates for each "unit" corresponding to each "rate class" "without regard to the rates set for any other unit".

In BC Hydro's submission, UCA section 60(1)(c) is intended to allow the Commission to establish classes of service between which there is no cross-subsidization. In other words, a class of service/customer/rate is a "class of service" for the purposes of section 60(1)(c) when the Commission determines it is appropriate that the rates of that class of service/customer/rate should recover the entire cost of that service. […]

In consequence of the foregoing the Commission has the discretion to establish classes of service, classes of customer or rate classes for Electric Tariff and FACOS purposes (subject in the case of BC Hydro to UCA section 58.1). It may also determine that a class of service/customer/rate is a "class of service" for the purposes of section 60(1)(c). Where it makes the latter determination, the rates for that "class of service" are not considered against other class rates in a FACOS study for the purpose of rate re-balancing, and should, by default, be established to recover the entire cost of service "*without regard to the rates set for any other unit*". […]

BC Hydro submits that it has two primary classes of service within the meaning of section 60(1)(c) of the UCA: bundled services in the Electric Tariff, and wholesale transmission services in its Open Access Transmission Tariff.[273] BC Hydro notes that no intervener disagreed with its position that the BCUC can establish EV charging service as a class of service for the purposes of cost transparency, in BC Hydro's FACOS studies or electric tariff. However, BC Hydro submits that the BCUC should not establish EV charging service as a "class of service" within the meaning of section 60(1)(c) of the UCA because that would require all the costs of service, including previous years' under-recoveries, to be recovered from BC Hydro's EV charging service customers, which at the present time would be unlawful with regards to subsections 18(2) and (3) of the CEA and against regulatory rate-making principles. Further, BC Hydro notes that the recovery of previous years' under-recoveries is not supported by any of the interveners.[274]

Panel Determination

The Panel directs BC Hydro to establish a separate class of service for BC Hydro's EV fast charging service. This should be included in its permanent rate application, to be filed no later than December 31, 2022.

While it isn't essential for services to be within a separate class in order to track the costs and revenues associated with them, the Panel finds that a separate class of service provides greater transparency and segregation of the revenues and costs for providing this service which outweigh the additional administrative costs. Indeed, given the ability to track costs regardless of the establishment of classes, why have any rate class segmentation at all?

As BC Hydro stated in its 2015 Rate Design application, "Customers of electric utilities differ in their requirements for electricity." Such differences are reflected in "utility customers being segmented into different rate classes for technical, administrative and/or regulatory reasons."[275] In our view, transparency and accurate

[273] BC Hydro Reply Argument, p. 30, Footnote 64.

[274] BC Hydro Reply Argument, p. 30.

[275] 2015 BC Hydro Rate Design Application, Exhibit B-1, p. 3-12.

segregation of all financial activities related to BC Hydro's EV fast charging service are essential given the potential impact of BC Hydro's rates on other EV fast charging service providers and segmentation is the best way to achieve that. Further, EV charging services are an excellent candidate for a separate class of service—EV charging services have their own essential characteristics that are not shared by other non-EV charging general service customers. In addition to specific EV charging equipment and load characteristics, the fact that it is a "behind the meter" service is another essential characteristic and a compelling reason.

The Panel does not agree with BC Hydro that the BCUC cannot establish EV charging service as a "class of service" within the meaning of section 60(1)(c) and still conform to sections 18(2) and (3) of the CEA. The Panel notes that in Section 3.8 of this decision, we reject BC Hydro's Proposed Rates on the basis that they are not just and reasonable under the UCA partly because they do not recover the full cost of providing that service. The Panel finds that if BC Hydro proposes a rate that does recover the full cost of service, such as based on a levelized recovery of all costs, then BC Hydro's rates for that class of service, would meet the requirements of section 60(1)(c) of the UCA.

Further, we note that there is no explicit requirement in the UCA that the costs of service be recovered from a particular class, whether on a forecast or an actual basis. That said, we agree that it is a regulatory principle to try to ensure that costs are allocated to the class that cause those costs to be incurred and for rates to be established that fully recover those costs. However, we know from experience that is not always the case or practicable. There are typically variations from full recovery and rates are not always rebalanced in response to such an imbalance. In this regard, we note that BC Hydro continues to under-recover its cost of serving residential customers while all three commercial customer classes are over-recovering their costs[276] This has been the case for a number of years, yet BC Hydro does not seek to correct this imbalance.[277] If there were an explicit requirement under the UCA for the costs of service to be recovered from a particular class, in this circumstance BC Hydro would be non-compliant.

Therefore, we reject BC Hydro's argument that establishing a class of service for EV charging "would require all the costs of service, including previous years' under-recoveries, to be recovered from BC Hydro's EV charging service customers, which at the present time would be unlawful with regards to subsections 18(2) and (3) of the CEA and against regulatory rate-making principles." There is no requirement in the UCA that expenditures previous to establishing the class must be recovered from customers of the new class. Accepting BC Hydro's premise would mean that a new class of customers could never be defined if members of that class had previously received service, the costs of which had been recovered from other classes.

5.0 Confidentiality

Both BC Hydro and Suncor filed confidential evidence, and there was an *in camera* session during the SRP to hear oral evidence from Suncor in confidence. BC Hydro and Suncor request that the evidence which they filed in confidence in the proceeding remain confidential pursuant to section 42 of the *Administrative Tribunals Act* and Part 4 of the BCUC's Rules of Practice and Procedure regarding confidential documents.

[276] https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/regulatory-planning-documents/regulatory-filings/facos/00-2021-02-11-bchydro-facos-f2020.pdf

[277] Direction 8 prevents the BCUC from rebalancing rates, except upon application by the utility.

BC Hydro submits that the evidence is commercially sensitive information, the disclosure of which could cause harm to ratepayers.[278] Suncor submits that the evidence is commercially sensitive financial information, the disclosure of which could be expected to cause substantial competitive harm and undue material financial loss to Suncor.[279]

Other interveners did not comment on these requests.

Panel Determination

The Panel agrees that the evidence filed confidentially by BC Hydro and Suncor, including Suncor's evidence during the *in camera* portion of the SRP, is commercially sensitive. **Therefore, unless otherwise ordered by the BCUC, the Panel approves BC Hydro's and Suncor's requests to keep confidential the evidence identified as such in this proceeding.**

DATED at the City of Vancouver, in the Province of British Columbia, this 26th day of January 2022.

Original signed by:

D. M. Morton
Panel Chair / Commissioner

Original signed by:

A. K. Fung, QC
Commissioner

Original signed by:

E. B. Lockhart
Commissioner

[278] Exhibit B-5, BC Hydro response to BCUC IR 9.4.1.
[279] Exhibit C-20-4, p. 1.

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ORDER NUMBER
G-18-22

IN THE MATTER OF
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

British Columbia Hydro and Power Authority
Public Electric Vehicle Fast Charging Service Rates Application

BEFORE:
D. M. Morton, Panel Chair/Commissioner
A. K. Fung, QC, Commissioner
E. B. Lockhart, Commissioner

on January 26, 2022

ORDER

WHEREAS:

A. On March 5, 2021, British Columbia Hydro and Power Authority (BC Hydro) applied to the British Columbia Utilities Commission (BCUC) for approval of the BC Hydro Public Electric Vehicle (EV) Fast Charging Service Rates Application (Application) pursuant to sections 59 to 61 and 90 of the *Utilities Commission Act* (UCA);

B. In the Application, BC Hydro seeks BCUC approvals, on both an interim and a permanent basis, of time-based rates (collectively, Proposed Rates) as set out in:

    1. Rate Schedule 1360 for fast charging service at 25 kW stations at $0.12 per minute;
    2. Rate Schedule 1560 for fast charging service at 50 kW stations at $0.21 per minute; and
    3. Rate Schedule 1561 for fast charging service at 100 kW stations at $0.27 per minute;

C. By Order G-89-21 dated March 23, 2021, the BCUC approved the Proposed Rates on an interim basis, effective May 1, 2021. The BCUC will determine the manner by which any variance between the approved interim rates and permanent rates, including interest if any, will be refunded to or collected from customers or a class or classes of customers at the time the BCUC renders its final decision on the Application;

D. By Orders G-89-21, G-176-21, G-235-21, and G-254-21, the BCUC established a regulatory timetable for the review of the Application, including two rounds of written information requests to BC Hydro, intervener evidence, a Streamlined Review Process (SRP), followed by BC Hydro oral argument, intervener written argument, and BC Hydro written reply;

E. As part of the public review process, 20 interveners and 42 interested parties registered in this proceeding. The BCUC received 186 letters of comment from members of the public, including BC Hydro's EV fast charging service customers and other EV fast charging service providers; and

F. The BCUC has reviewed the Application, evidence and arguments filed in the proceeding and makes the following determinations.

NOW THEREFORE pursuant to sections 59 to 61 of the *Utilities Commission Act*, for the reasons stated in the decision issued concurrently with this order, the BCUC orders as follows:

1. BC Hydro's request to establish the Proposed Rates as permanent is denied.

2. BC Hydro is directed to file a new application for a permanent EV fast charging rate by no later than December 31, 2022. The interim rates as established by Order G-89-21 remain in place until permanent rates are set by the BCUC.

3. BC Hydro is directed to apply, within 30 days of the issuance of this order, for a dispensation from the *Electricity and Gas Inspection Act* to have the option to charge energy-based rates. BC Hydro is directed to provide a status update to the BCUC on that application by April 30, 2022.

4. BC Hydro is directed to establish a separate class of service for its EV fast charging service. This should be included in BC Hydro's permanent rate application, no later than December 31, 2022.

5. BC Hydro is directed to comply with all other directives contained in the decision issued concurrently with this order.

DATED at the City of Vancouver, in the Province of British Columbia, this 26th day of January 2022.

BY ORDER

Original signed by:

D. M. Morton
Commissioner

List of Acronyms

Acronym	Description
Application	British Columbia Hydro and Power Authority Public Electric Vehicle Fast Charging Service Rates application
BC Hydro	British Columbia Hydro and Power Authority
BCOAPO	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
BCSEA-VEVA	BC Sustainable Energy Association and Vancouver Electric Vehicle Association
BCUC	British Columbia Utilities Commission
CEA	*Clean Energy Act*
The CEC	The Commercial Energy Consumers Association of British Columbia
DCFC	Direct Current Fast Charging
EGIA	*Electricity and Gas Inspection Act*
EV	Electric Vehicle
EV Inquiry	BCUC inquiry to review the regulation of EV charging services in BC
EV Inquiry Phase 1 Report	The BCUC EV Charging Service Inquiry Phase 1 Report dated November 26, 2018
EV Inquiry Phase 2 Report	The BCUC EV Inquiry Phase 2 Report dated June 24, 2019
EVCS	EV charging service
F2022 RRA	BC Hydro Fiscal 2022 Revenue Requirements Application
FBC	FortisBC Inc.
Flintoff	Donald Flintoff
GGRR	Greenhouse Gas Reduction (Clean Energy) Regulation
GST	Goods and services tax
Guthrie	Gary Guthrie
IR	Information Request
MGS	Medium General Service Rate
Proposed Rates	Collectively, the time-based rates BC Hydro seeks approval of on both an interim and a permanent basis
RCIA	Residential Consumer Intervener Association

RMI	Rocky Mountain Institute
RS	Rate Schedules
SGS	Small General Service Rate
SRP	Streamlined Review Process
Suncor	Suncor Energy Inc.
UCA	*Utilities Commission Act*
ZEV	The British Columbia Public Light-Duty Zero-Emission Vehicle Infrastructure Study

IN THE MATTER OF
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

British Columbia Hydro and Power Authority

Public Electric Vehicle Fast Charging Rate Application

EXHIBIT LIST

Exhibit No.	Description
COMMISSION DOCUMENTS	
A-1	Letter dated March 15, 2021 – Appointing the Panel for the review of British Columbia Hydro and Power Authority Public Electric Vehicle Fast Charging Rate Application
A-2	Letter dated March 23, 2021 – BCUC Order G-89-21 establishing public notice and a regulatory timetable
A-3	Letter dated April 19, 2021 – BCUC Information Request No. 1 to BC Hydro
A-4	REMOVED
A-4-1	Letter dated April 21, 2021 – BCUC response regarding Intervener information to StrataPlanVR2673 – Corrected Version
A-5	REMOVED
A-5-1	Letter dated April 21, 2021 – BCUC response regarding Intervener information to Individual Interveners – Corrected Version
A-6	Letter dated May 4, 2021 – Panel response to Nobutaka Kim
A-7	Letter dated June 4, 2021 – BCUC Order G-176-21 establishing a further regulatory timetable
A-8	Letter dated July 5, 2021 – BCUC Information Request No. 1 to Flintoff on Intervener Evidence
A-9	Letter dated July 5, 2021 – BCUC Information Request No 1 to ChargePoint on Intervener Evidence

A-10	Letter dated July 5, 2021 – BCUC Information Request No. 1 to Suncor on Intervener Evidence
A-11	**CONFIDENTIAL** - Letter dated July 5, 2021 – BCUC Confidential Information Request No. 1 to Suncor on Intervener Evidence
A-12	Letter dated July 12, 2021 – BCUC issuing Streamlined Review Process Information
A-13	Letter dated July 12, 2021 – BCUC Questions to BC Hydro for the SRP
A-14	**CONFIDENTIAL** - Letter dated July 12, 2021 – BCUC Confidential Questions to BC Hydro for the SRP
A-15	Letter dated July 22, 2021 – BCUC Questions on BC Hydro's Rebuttal Evidence in Advance of the SRP
A-16	Letter dated July 22, 2021 – BCUC Follow-Up Questions on Flintoff's Evidence in Advance of the SRP
A-17	Letter dated July 22, 2021 – BCUC Follow-Up Questions on Suncor's Evidence in Advance of the SRP
A-18	**CONFIDENTIAL** -Letter dated July 22, 2021 – BCUC Confidential Follow-Up Questions on Suncor's Evidence in Advance of the SRP
A-19	Letter dated July 22, 2021 – BCUC Follow-Up Questions on ChargePoint's Evidence in Advance of the SRP
A-20	Letter dated July 23, 2021 – BCUC submission request from interveners regarding matters raised in BC Hydro Exhibit B-11
A-21	Letter dated July 26, 2021 – BCUC response to SRP remote attendance requests
A-22	Letter dated August 9, 2021 – BCUC Order G-235-21 establishing a further regulatory timetable
A-23	Letter dated August 30, 2021 – BCUC Order G-254-21 amending the regulatory timetable
A-24	Letter dated September 2, 2021 – BCUC providing information regarding Final Arguments
A-25	Letter dated September 21, 2021 – BCUC response to BC Hydro Remote Attendance Request
A-26	Letter dated October 6, 2021 – BCUC response to interveners' extension request for Final Arguments

A-27	Letter dated October 8, 2021 – BCUC response to CEC's further extension request for Final Arguments
A-28	Letter dated October 20, 2021 – BCUC response to BC Hydro confirmation request regarding reply argument deadline

COMMISSION STAFF DOCUMENTS

A2-1	Letter dated June 8, 2021 – BCUC staff submitting excerpt from The Government of Canada Budget 2021: A Recovery Plan for Jobs, Growth, and Resilience 2021
A2-2	Letter dated June 8, 2021 – BCUC staff submitting Electricautonomy.ca article authored by Emma Buchanan Industry Leaders Are Eager To See Details Of Federal Plan To Update EV Charging Station Standards 2021 April 27, 2021
A2-3	Letter dated July 5, 2021 – BCUC staff submitting - Geotab Energy: The evolution of electric vehicles and their growing impact on the electric grid, April 22, 2020
A2-4	Letter dated July 12, 2021 – BCUC staff submitting Energy and Environmental Economics, Inc.(E3): New Economic Model Report dated February 15, 2018
A2-5	Letter dated July 29, 2021 – BCUC staff submitting at SRP Ministry of Energy, Mines and Low Carbon Innovation Information Bulletins RLCF-013 and RLCF-017 revised March 23 and July 2021
A2-6	Letter dated July 29, 2021 – BCUC staff submitting at SRP BC Hydro Street Light Services Rates webpage retrieved July 29, 2021
A2-7	Letter dated July 29, 2021 – BCUC staff submitting at SRP BC Hydro Fiscal 2022 Revenue Requirements Application Compliance Filing dated July 16, 2021

APPLICANT DOCUMENTS

B-1	**BRITISH COLUMBIA HYDRO AND POWER AUTHORITY (BC HYDRO)** – Letter dated March 5, 2021 Public Electric Vehicle (EV) Fast Charging Rate Application
B-1-1	Letter dated May 17, 2021 – BC Hydro submitting Erratum No. 1 to the Application
B-1-2	Letter dated September 15, 2021 – BC Hydro submitting Errata to the Application

B-3	Letter dated April 12, 2021 – BC Hydro submitting compliance with Order G-89-21 Directive 3
B-4	Letter dated May 17, 2021 – BC Hydro submitting responses to BCUC Information Request No. 1
B-4-1	**CONFIDENTIAL** - Letter dated May 17, 2021 – BC Hydro submitting confidential responses to BCUC Information Request No. 1
B-5	Letter dated May 17, 2021 – BC Hydro submitting responses to Interveners Information Requests No. 1
B-5-1	**CONFIDENTIAL** - Letter dated May 17, 2021 – BC Hydro submitting confidential responses to Intervener Information Requests No. 1
B-6	Letter dated May 25, 2021 – BC Hydro submission on Further Process
B-7	Letter dated May 31, 2021 – BC Hydro reply submission on Further Process
B-8	Letter dated July 5, 2021 – BC Hydro submitting Information Request No. 1 to Suncor on Intervener Evidence
B-9	Letter dated July 6, 2021 – BC Hydro submitting Confidentiality Declaration and Undertakings regarding Exhibit C20-4-1
B-10	Letter dated July 16, 2021 – BC Hydro submitting rebuttal evidence in response to Suncor evidence
B-10-1	Letter dated July 26, 2021 – BC Hydro submitting Errata to rebuttal evidence
B-11	Letter dated July 19, 2021 – BC Hydro submitting responses on Decision, Evidence and Regulatory Issues
B-12	**CONFIDENTIAL** - Letter dated July 23, 2021 – BC Hydro submitting confidential responses to BCUC confidential Questions in Advance of the SRP and an Updated Jurisdictional Review of Fast Charging Rates
B-12-1	**PUBLIC** - Letter dated July 23, 2021 – BC Hydro submitting redacted responses to BCUC Questions in Advance of the SRP and an Updated Jurisdictional Review of Fast Charging Rates
B-13	Letter dated July 26, 2021 – BC Hydro submitting SRP Opening Presentation
B-13-1	Letter dated September 15, 2021 – BC Hydro submitting Errata to the SRP Opening Presentation

B-14	Letter dated July 28, 2021 - BC Hydro submitted at the SRP an expanded Table 3 of the Application
B-14-1	Letter dated July 29, 2021 - BC Hydro submitted at the SRP expanded Table 3 attached as an Excel Spreadsheet
B-14-2	Letter dated September 15, 2021 - BC Hydro submitting Errata to the SRP expanded Table 3 attached as an Excel Spreadsheet
B-15	Letter dated July 29, 2021 – BC Hydro submitted at the SRP additional Confidentiality Declaration and Undertakings
B-16	Letter dated August 23, 2021 – BC Hydro submitting responses to BCUC Undertaking Questions
B-16-1	Letter dated September 15, 2021 – BC Hydro submitting Errata to responses to BCUC Undertaking Questions
B-17	Letter dated September 15, 2021 – BC Hydro submitting responses to Intervener Information Requests No. 2
B-18	Letter dated September 16, 2021 – BC Hydro submitting all staff and representatives will attend Oral Argument remotely
B-19	Letter dated September 22, 2021 – BC Hydro submitting tax issues at the stations
B-19-1	Letter dated January 10, 2022 – BC Hydro submitting follow-up regarding tax issues
B-20	Letter dated October 19, 2021 – BC Hydro submitting confirmation request for Reply Argument deadline

INTERVENER DOCUMENTS

C1-1	**LEADINGAHEAD ENERGY (LEADINGAHEAD)** - Letter dated March 31, 2021 submitting request to intervene by Maxime Charron
C1-2	Letter dated April 26, 2021 – LeadingAhead submitting Information Request No. 1 to BC Hydro
C2-1	**GUTHRIE, GARY (GUTHRIE)** - Letter dated March 26, 2021 submitting request to intervene
C2-2	Letter dated April 26, 2021 – Guthrie submitting Information Request No. 1 to BC Hydro

C2-3 Letter dated September 7, 2021 – Guthrie submitting Information Request No. 2 to BC Hydro on September 8, 2021

C3-1 **BC SUSTAINABLE ENERGY ASSOCIATION AND VANCOUVER ELECTRIC VEHICLE ASSOCIATION (BCSEA-VEVA)** - Letter dated April 8, 2021 Request to Intervene by T. Hackney

C3-2 Letter dated April 26, 2021 – BCSEA-VEVA submitting Information Request No. 1 to BC Hydro

C3-3 Letter dated May 25, 2021 – BCSEA-VEVA submission on Further Process

C3-4 Letter dated June 5, 2021 – BCSEA-VEVA submitting Information Request No. 1 to Suncor

C3-5 Letter dated July 12, 2021 – BCSEA-VEVA submitting questions to BC Hydro for the SRP

C3-6 Letter dated July 14, 2021 – BCSEA-VEVA submitting Confidentiality Declaration and Undertakings for William Andrews, Thomas Hackney and Robert Sparks

C3-7 Letter dated July 16, 2021 – BCSEA-VEVA submitting Additional Confidentiality Declaration and Undertakings for William Andrews, Thomas Hackney and Robert Sparks

C3-8 Letter dated July 22, 2021 – BCSEA-VEVA submitting questions to Suncor for the SRP

C3-9 Letter dated August 24, 2021 – BCSEA-VEVA submitting response on further process and undertakings

C4-1 **CHARGEPOINT (CHARGEPOINT)** - Letter dated April 11, 2021 submitting request to intervene by Suzanne Goldberg

C4-2 Letter dated April 26, 2021 – ChargePoint submitting Information Request No. 1 to BC Hydro

C4-3 Letter dated June 24, 2021 – ChargePoint submitting Intervener Evidence

C4-3-1	**REVISED** - Letter dated July 14, 2021 – ChargePoint submitting revised Intervener Evidence
C4-4	Letter dated July 12, 2021 – ChargePoint submitting questions to BC Hydro for the SRP
C4-5	Letter dated July 14, 2021 – ChargePoint submitting responses to BCUC, Strata Plan VR2673 and BCOAPO Information Requests No. 1
C5-1	**RESIDENTIAL CONSUMER INTERVENER ASSOCIATION (RCIA)** - Letter dated April 13, 2021 submitting request to intervene by Fredrik Ambrosson
C5-2	Letter dated April 26, 2021 – RCIA submitting Information Request No. 1 to BC Hydro
C5-3	Letter dated May 25, 2021 – RCIA submission on Further Process
C5-4	Letter dated July 12, 2021 – RCIA submitting questions to BC Hydro for the SRP
C5-5	Letter dated September 8, 2021 – RCIA submitting notice it will not submit Information Request No. 2
C6-1	**COMMERCIAL ENERGY CONSUMERS ASSOCIATION OF BRITISH COLUMBIA (CEC)** Letter dated April 14, 2021 Request to Intervene by Christopher Weafer
C6-2	Letter dated April 26, 2021 – CEC submitting Information Request No. 1 to BC Hydro
C6-3	Letter dated May 25, 2021 – CEC submission on Further Process
C6-4	Letter dated July 12, 2021 – CEC submitting questions to BC Hydro for the SRP
C6-5	Letter dated July 19, 2021 – CEC submitting Confidentiality Declaration and Undertakings for Christopher Weafer and Patrick Weafer
C6-6	Letter dated July 22, 2021 – CEC submitting questions to BC Hydro for the SRP
C6-7	Letter dated August 25, 2021 – CEC submitting response on further process and undertakings
C6-8	Letter dated September 8, 2021 – CEC submitting Information Request No. 2 to BC Hydro
C6-9	Letter dated October 6, 2021, CEC submitting extension request to file Final Argument
C6-10	Letter dated October 7, 2021, CEC submitting extension request to file Final Argument
C7-1	**BRITISH COLUMBIA OLD AGE PENSIONERS' ORGANIZATION, DISABILITY ALLIANCE BC, COUNCIL OF SENIOR CITIZENS' ORGANIZATIONS OF BC, AND THE TENANT RESOURCE AND ADVISORY CENTRE (BCOAPO) –** Letter dated April 14, 2021 – Request for Late Intervener Status by Leigha Worth and Irina Mis

C7-2	Letter dated April 26, 2021 – BCOAPO submitting Information Request No. 1 to BC Hydro
C7-3	Letter dated May 25, 2021 – BCOAPO submission on Further Process
C7-4	Letter dated July 5, 2021 – BCOAPO submitting Information Request No. 1 to ChargePoint
C7-5	Letter dated July 5, 2021 – BCOAPO submitting Information Request No. 1 to Suncor
C7-6	Letter dated July 12, 2021 – BCOAPO submitting questions to BC Hydro for the SRP
C7-7	Letter dated August 26, 2021 – BCOAPO submitting late response on further process and undertakings
C7-8	Letter dated September 8, 2021 – BCOAPO submitting Information Request No. 2 to BC Hydro
C7-9	Letter dated October 6, 2021, BCOAPO submitting extension request to file Final Argument
C8-1	**HO, CHUNG HONG (HO)** - Letter dated March 31, 2021 submitting request to intervene
C9-1	**POTMA, JOEL (POTMA)** - Letter dated March 31, 2021 submitting request to intervene
C10-1	**FOULKES, GRAHAM (FOULKES)** - Letter dated April 2, 2021 submitting request to intervene
C11-1	**STRAW, NARA (STRAW)** - Letter dated April 9, 2021 submitting request to intervene
C12-1	**FLINTOFF, DONALD (FLINTOFF)** - Letter dated April 12, 2021 submitting request to intervene
C12-2	Letter dated April 26, 2021 – Flintoff submitting Information Request No. 1 to BC Hydro
C12-3	Letter dated May 25, 2021 – Flintoff submission on Further Process
C12-4	Letter dated June 23, 2021 – Flintoff submitting Intervener Evidence
C12-5	Letter dated July 12, 2021 – Flintoff submitting questions to BC Hydro for the SRP
C12-6	Letter dated July 14, 2021 – Flintoff submitting responses to BCUC Information Request No. 1
C12-7	Letter dated July 14, 2021 – Flintoff submitting responses to StrataPlanVR2673 Information Request No. 1
C12-8	Letter dated July 22, 2021 – Flintoff submitting questions in advance of SRP on BC Hydro Rebuttal Evidence
C12-9	Letter dated July 26, 2021 – Flintoff submitting reply to follow-up questions on evidence in advance of SRP

C13-1 **HEBERT, KEITH (HEBERT)** - Letter dated April 13, 2021 submitting request to intervene and Letter of Comment

C13-2 Letter dated April 26, 2021 – Hebert submitting Information Request No. 1 to BC Hydro

C14-1 **STRATA PLAN VR 2673 (STRATAPLANVR2673)** - Letter dated April 13, 2021 submitting request to intervene by Douglas Smith, Barrister and Solicitor

C14-2 Letter dated April 26, 2021 – StrataPlanVR2673 submitting Information Request No. 1 to BC Hydro

C14-3 Letter dated May 25, 2021 – StrataPlanVR2673 submission on Further Process

C14-4 Letter dated July 5, 2021 – StrataPlanVR2673 Information Request No. 1 to Suncor on Intervener Evidence

C14-5 Letter dated July 5, 2021 – StrataPlanVR2673 Information Request No 1 to ChargePoint on Intervener Evidence

C14-6 Letter dated July 5, 2021 – StrataPlanVR2673 Information Request No. 1 to Flintoff on Intervener Evidence

C14-7 Letter dated July 22, 2021 – StrataPlanVR2673 submitting questions to ChargePoint for the SRP

C14-8 Letter dated July 26, 2021 – StrataPlanVR2673 submitting Additional Matter for SRP

C14-9 Letter dated August 25, 2021 – StrataPlanVR2673 submitting response on further process and undertakings

C15-1 **MCINTOSH, WAYNE (MCINTOSH**) - Letter dated April 2, 2021 submitting request to Intervene

C16-1 **BROUGHTON, COLIN (BROUGHTON)** - Submission dated March 31, 2021 Submitting request to Intervene

C17-1 **SANGHA, PARM (SANGHA**) - Letter dated March 31, 2021 submitting request to Intervene

C18-1 REMOVED – PLEASE SEE EXHIBIT A-6

C19-1 **BLEIDISTEL, MAIKE (BLEIDISTEL)** - Letter dated April 1, 2021 submitting request to Intervene

C20-1 **SUNCOR ENERGY SERVICES INC. (SUNCOR)** - Letter dated April 13, 2021 submitting request to intervene by Adam Pommer

C20-2 Letter dated April 26, 2021 – Suncor submitting Information Request No. 1 to BC Hydro

C20-3	Letter dated May 25, 2021 – Suncor submission on Further Process
C20-4	Letter dated June 24, 2021 – Suncor submitting Intervener Evidence
C20-4-1	**CONFIDENTIAL** - Letter dated June 24, 2021 – Suncor submitting confidential Intervener Evidence
C20-5	Letter dated July 12, 2021 – Suncor submitting questions to BC Hydro for the SRP
C20-6	Letter dated July 14, 2021 – Suncor submitting responses to StrataPlanVR2673 Information Request No. 1
C20-7	Letter dated July 14, 2021 – Suncor submitting responses to BC Hydro Information Request No. 1
C20-8	Letter dated July 14, 2021 – Suncor submitting responses to BCOAPO Information Request No. 1
C20-9	**CONFIDENTIAL** - Letter dated July 14, 2021 – Suncor submitting responses to BCUC Confidential Information Request No. 1
C20-10	**REDACTED** - Letter dated July 14, 2021 – Suncor submitting redacted responses to BCUC Information Request No. 1
C20-10-1	**CONFIDENTIAL** - Letter dated July 14, 2021 – Suncor submitting confidential responses to BCUC Information Request No. 1
C20-11	Letter dated July 14, 2021 – Suncor submitting responses to BCSEA-VEVA Information Request No. 1
C20-12	Letter dated July 21, 2021 – Suncor submitting Confidentiality Declaration and Undertakings
C20-13	Letter dated July 29, 2021 – Suncor submitting Undertaking as requested at the SRP
C20-14	**CONFIDENTIAL** - Letter dated August 11, 2021 – Suncor submitting supplemental confidential responses to BCUC Follow-Up Questions on Suncor Evidence
C20-14-1	**REDACTED** - Letter dated August 11, 2021 – Suncor submitting supplemental redacted responses to BCUC Follow-Up Questions on Suncor Evidence
C20-15	Letter dated August 26, 2021 – Suncor submitting response on further process and undertakings

INTERESTED PARTY DOCUMENTS

D-1	FORTISBC INC. (FBC) – Submission dated March 23, 2021 – Request for Interested Party status by Diane Roy
D-2	EVANS, P. (EVANS) - Submission dated March 28, 2021 – Request for Interested Party status
D-2-1	Evans – Letter of Comment dated March 28, 2021
D-3	Wick, A. (Wick) - Submission dated March 31, 2021 – Request for Interested Party status
D-3-1	Wick, A. - Letter of Comment dated March 31, 2021
D-4	REMOVED
D-5	REMOVED
D-6	Dumont, J. (Dumont) - Submission dated March 31, 2021 – Request for Interested Party status
D-6-1	Dumont, J. - Letter of Comment dated March 31, 2021
D-7	REMOVED
D-8	Taylor, R. (Tylor) - Submission dated March 31, 2021 – Request for Interested Party status
D-9	REMOVED
D-10	Liang, C. (Liang) - Submission dated March 31, 2021 – Request for Interested Party status
D-10-1	LIANG - Letter of Comment dated March 31, 2021
D-11	Cole, D. (Cole) - Submission dated March 31, 2021 – Request for Interested Party status
D-11-1	COLE - Letter of Comment dated March 31, 2021
D-12	Hill, S. (Hill) - Submission dated April 1, 2021 – Request for Interested Party status
D-12-1	HILL - Letter of Comment dated March 31, 2021
D-13	Halcomb-Smith, G. (Halcomb-Smith) - Submission dated April 1, 2021 – Request for Interested Party status
D-13-1	HALCOMB-SMITH - Letter of Comment dated March 31, 2021
D-14	REMOVED

D-15	REMOVED
D-16	REMOVED
D-17	McKay, R. (McKay) Submission dated April 6, 2021 – Request for Interested Party status
D-17-1	McKay - Letter of Comment dated April 4, 2021
D-17-2	McKay – Additional Letter of Comment dated April 29, 2021
D-18	Healey, M. (Healey)Submission dated April 6, 2021 – Request for Interested Party status
D-18-1	Healey - Letter of Comment dated April 3, 2021
D-19	Pencer, C. (Pencer) Submission dated April 6, 2021 – Request for Interested Party status
D-19-1	Pencer - Letter of Comment dated April 6, 2021
D-20	Roger, D. (Roger) Submission dated April 6, 2021 – Request for Interested Party status
D-21	Swakum, S. (Swakum) Submission dated April 6, 2021 – Request for Interested Party status
D-21-1	Swakum - Letter of Comment dated April 1, 2021
D-22	Bergen, W. (Bergen) - Submission dated April 6, 2021 – Request for Interested Party status
D-22-1	Bergen - Letter of Comment dated April 1, 2021
D-23	Audet, M. (Audet) - Submission dated April 8, 2021 – Request for Interested Party status
D-23-1	Audet, M. Letter of Comment dated April 8, 2021
D-24	Nordquist, S. (Nordquist) - Submission dated April 8, 2021 – Request for Interested Party status
D-24-1	Nordquist - Letter of Comment dated April 7, 2021
D-24-2	Nordquist – Additional Letter of Comment dated August 17, 2021
D-25	Penner, C. (Penner) - Submission dated April 9, 2021 – Request for Interested Party status
D-25-1	Penner - Letter of Comment dated April 8, 2021
D-26	Weimer, J. (Weimer) - Submission dated April 15, 2021 – Request for Interested Party status

D-27	MacDonald, J. (MacDonald) - Submission dated April 15, 2021 – Request for Interested Party status
D-27-1	MacDonald, J. - Letter of Comment dated April 14, 2021
D-28	Sunshine Coast Electric Vehicle Association (SCEVA) - Submission dated April 19, 2021 – Request for Interested Party status
D-28-1	SCEVA - Letter of Comment dated April 18, 2021
D-29	Dietzfelbinger, C. (Dietzfelbinger) – Submission dated April 30, 2021 – Request for Interested Party status
D-29-1	Dietzfelbinger – Letter of Comment dated April 29, 2021
D-30	Shiu, D. (Shiu) – Submission dated April 30, 2021 – Request for Interested Party status
D-30-1	Shiu – Letter of Comment dated May 2, 2021
D-31	Lutes, T. (Lutes) – Submission dated April 30, 2021 – Request for Interested Party status
D-31-1	Lutes – Letter of Comment dated April 29, 2021
D-32	Mak, D. (Mak) – Submission dated April 30, 2021 – Request for Interested Party status
D-32-1	Mak – Letter of Comment dated April 30, 2021
D-33	Miller, R. (Miller) – Submission dated April 29, 2021 – Request for Interested Party status
D-33-1	Miller – Letter of Comment dated April 29, 2021
D-34	Teves, B. (Teves) – Submission dated April 30, 2021 – Request for Interested Party status
D-34-1	Teves – Letter of Comment dated April 29, 2021
D-35	Tonsaker, P. (Tonsaker) – Submission dated May 6, 2021 – Request for Interested Party status
D-35-1	Tonsaker, P. - Letter of Comment dated May 6, 2021
D-36	Phelps, B. (Phelps) – Submission dated May 12, 2021 – Request for Interested Party status
D-36-1	Phelps - Letter of Comment dated May 11, 2021
D-36-2	Phelps – Additional Letter of Comment dated May 14, 2021

D-37	Ironside, P. (Ironside) – Submission dated May 13, 2021 – Request for Interested Party status
D-37-1	Ironside - Letter of Comment dated May 13, 2021
D-38	Frascati, L. (Frascati) – Submission dated May 13, 2021 – Request for Interested Party status
D-38-1	Frascati - Letter of Comment dated May 13, 2021
D-39	Gingerich, D. (Gingerich) - Submission dated May 18, 2021 – Request for Interested Party status
D-39-1	Gingerich - Letter of Comment dated May 16, 2021
D-40	Stout, B. (Stout) - Submission dated May 18, 2021 – Request for Interested Party status
D-40-1	Stout - Letter of Comment dated May 16, 2021
D-41	Briggs, T. (Briggs) - Submission dated May 19, 2021 – Request for Interested Party status
D-41-1	Briggs – Letter of Comment dated May 17, 2021
D-42	English Revolution - Submission dated September 8, 2021 – Request for Interested Party status

LETTERS OF COMMENT

E-1	McCormick, B. – Letter of Comment dated March 2, 2021
E-2	Bullock, R. - Letter of Comment dated March 30, 2021
E-3	Bell, T. - Letter of Comment dated March 31, 2021
E-4	Brisco, J. - Letter of Comment dated March 31, 2021
E-5	Cherniawsky, J. - Letter of Comment dated March 31, 2021
E-6	Copley, R. - Letter of Comment dated March 31, 2021
E-7	Stenner, P. - Letter of Comment dated March 31, 2021
E-8	Asselin, J. - Letter of Comment dated March 31, 2021
E-9	Chen, W. - Letter of Comment dated March 31, 2021

E-10	Cowie, K. - Letter of Comment dated March 31, 2021
E-11	Fong, T. - Letter of Comment dated March 31, 2021
E-12	Gibson, B. - Letter of Comment dated March 31, 2021
E-13	Given, R. - Letter of Comment dated March 31, 2021
E-14	Goodman, D. - Letter of Comment dated March 31, 2021
E-14-1	Goodman – Additional Letter of Comment dated April 29, 2021
E-15	Heinrichs, P. - Letter of Comment dated March 31, 2021
E-16	Ho, D. - Letter of Comment dated March 31, 2021
E-17	Knudsen, J. - Letter of Comment dated March 31, 2021
E-18	LaCasse, G. - Letter of Comment dated March 31, 2021
E-19	Larsen, D. - Letter of Comment dated March 31, 2021
E-20	Little, W. - Letter of Comment dated March 31, 2021
E-21	Lydell, C. - Letter of Comment dated March 31, 2021
E-22	Mann, J. - Letter of Comment dated March 31, 2021
E-23	Mauro, J. - Letter of Comment dated March 31, 2021
E-24	McKeown, S. - Letter of Comment dated March 31, 2021
E-25	Dove, J. - Letter of Comment dated March 31, 2021
E-26	Heuman, W. - Letter of Comment dated March 31, 2021
E-27	Jones, N. - Letter of Comment dated March 31, 2021
E-28	Marshall, L. - Letter of Comment dated March 31, 2021
E-29	Noullett, M. - Letter of Comment dated March 31, 2021
E-30	Nystrom, M. - Letter of Comment dated March 31, 2021
E-31	Paleo, D. - Letter of Comment dated March 31, 2021
E-32	Palmer, P. - Letter of Comment dated March 31, 2021

E-33	Pauze, S. - Letter of Comment dated March 31, 2021
E-34	Peterson, R. - Letter of Comment dated March 31, 2021
E-35	Plummer, S. - Letter of Comment dated March 31, 2021
E-36	Saviskoff, P. - Letter of Comment dated March 31, 2021
E-37	Siddaway, C. - Letter of Comment dated March 31, 2021
E-38	Singh, S. - Letter of Comment dated March 31, 2021
E-39	Stefan - Letter of Comment dated March 31, 2021
E-40	Sunderland, N. - Letter of Comment dated March 31, 2021
E-41	Szeto, C. - Letter of Comment dated March 31, 2021
E-42	Taylor, B. - Letter of Comment dated March 31, 2021
E-43	Taylor, R. - Letter of Comment dated March 31, 2021
E-44	Wilson, T. - Letter of Comment dated March 31, 2021
E-45	Cathcart, S. - Letter of Comment dated April 1, 2021
E-46	Adams, G. - Letter of Comment dated April 5, 2021
E-47	Dumore, D. - Letter of Comment dated April 1, 2021
E-48	Clay, D. - Letter of Comment dated April 1, 2021
E-49	Moren, K. - Letter of Comment dated April 1, 2021
E-50	Yun, A. - Letter of Comment dated April 2, 2021
E-51	Cheng, J. - Letter of Comment dated April 1, 2021
E-52	Hucaluk, B. - Letter of Comment dated April 2, 2021
E-53	Brown, G. - Letter of Comment dated April 6, 2021
E-54	Crick, P. - Letter of Comment dated April 5, 2021
E-55	Pang, D. - Letter of Comment dated April 6, 2021
E-55-1	Pang, D. – Additional Letter of Comment dated March 31, 2021

E-56	Horton, T. - Letter of Comment dated April 6, 2021
E-57	Mertz, B. - Letter of Comment dated April 6, 2021
E-58	Castellan, M. - Letter of Comment dated April 6, 2021
E-59	Drazic, E. - Letter of Comment dated April 6, 2021
E-60	Simon, M. - Letter of Comment dated April 6, 2021
E-61	Clay, H. - Letter of Comment dated April 6, 2021
E-62	Davis, L. - Letter of Comment dated April 7, 2021
E-63	Koc, G. - Letter of Comment dated March 31, 2021
E-64	Wallace, S. - Letter of Comment dated April 8, 2021
E-65	Wik, D. - Letter of Comment dated April 9, 2021
E-66	Gheorghiu, I. - Letter of Comment dated April 10, 2021
E-67	Taylor, W. - Letter of Comment dated April 12, 2021
E-68	Klassen, K. - Letter of Comment dated April 12, 2021
E-69	Kreischer, F. - Letter of Comment dated April 13, 2021
E-70	Palmer, J. - Letter of Comment dated April 13, 2021
E-71	Dick, D. - Letter of Comment dated April 10, 2021
E-72	Perras, P. - Letter of Comment dated April 11, 2021
E-72-1	Perras, P. – Additional Letter of Comment dated April 16, 2021
E-72-2	Perras, P. – Additional Letter of Comment dated April 28, 2021
E-72-3	Perras, P. – Additional Letter of Comment dated May 17, 2021
E-73	Gremmen, B. - Letter of Comment dated April 6, 2021
E-74	Hunter, M. - Letter of Comment dated March 31, 2021
E-74-1	Hunter – Additional Letter of Comment dated March 31, 2021
E-75	Thomas, K. - Letter of Comment dated March 31, 2021

E-76	Slater, J. - Letter of Comment dated March 31, 2021
E-77	Spark, M. - Letter of Comment dated March 31, 2021
E-78	Morton, G. - Letter of Comment dated April 6, 2021
E-79	Brosseau, D. - Letter of Comment dated April 29, 2021
E-79-1	Brosseau, D. – Additional Letter of Comment dated April 29, 2021
E-80	Alcock, R. - Letter of Comment dated April 29, 2021
E-81	Atlon, E. - Letter of Comment dated April 30, 2021
E-82	Benna, M. - Letter of Comment dated April 29, 2021
E-83	Boutilier, S. - Letter of Comment dated April 29, 2021
E-84	Brisson, D. - Letter of Comment dated May 2, 2021
E-85	Caranoo, K. - Letter of Comment dated April 29, 2021
E-86	Carmichael, K. - Letter of Comment dated April 30, 2021
E-86-1	Carmichael, K. - Letter of Comment dated May 4, 2021
E-87	Cavers, D. - Letter of Comment dated April 29, 2021
E-88	Clarkson, D. - Letter of Comment dated April 29, 2021
E-89	Cosco, F. - Letter of Comment dated April 29, 2021
E-90	Craigmyle, R. - Letter of Comment dated April 29, 2021
E-91	Davis, H. - Letter of Comment dated April 29, 2021
E-92	Dhanoya, J. - Letter of Comment dated April 29, 2021
E-93	Drummond, J. - Letter of Comment dated April 29, 2021
E-94	Feldman, M. - Letter of Comment dated April 29, 2021
E-95	Fraser, J. - Letter of Comment dated April 29, 2021
E-96	Gisler, R. - Letter of Comment dated April 29, 2021
E-97	Grenkow, C. - Letter of Comment dated May 2, 2021

E-98 Grimm, D. - Letter of Comment dated April 30, 2021

E-99 Hartwick, C.M. - Letter of Comment dated April 29, 2021

E-100 Henschell, J. - Letter of Comment dated April 29, 2021

E-101 Hurschler, S. - Letter of Comment dated April 29, 2021

E-102 Jewesson, D. - Letter of Comment dated April 30, 2021

E-103 Ma, G. - Letter of Comment dated April 29, 2021

E-104 Neighbor, H. - Letter of Comment dated April 29, 2021

E-105 Nymann, T. - Letter of Comment dated April 29, 2021

E-106 Or, B. - Letter of Comment dated April 29, 2021

E-107 Rajan, S. - Letter of Comment dated April 29, 2021

E-108 Sheppard, M. - Letter of Comment dated May 1, 2021

E-109 Singh, A. - Letter of Comment dated April 29, 2021

E-110 Soltani-Arabshahi, S-B - Letter of Comment dated April 29, 2021

E-111 Stanborough, M. - Letter of Comment dated April 29, 2021

E-112 Taboada, J - Letter of Comment dated April 29, 2021

E-113 Turcotte, M. - Letter of Comment dated April 29, 2021

E-114 Vodnak, I. - Letter of Comment dated April 30, 2021

E-115 White, B. - Letter of Comment dated April 29, 2021

E-116 Whitman, C. - Letter of Comment dated April 29, 2021

E-117 Wilson, R. - Letter of Comment dated April 30, 2021

E-118 Yung, V. - Letter of Comment dated April 29, 2021

E-119 MacDonald, A. - Letter of Comment dated May 3, 2021

E-120 Donaghy, P. - Letter of Comment dated May 3, 2021

E-121 Pigeon, V. - Letter of Comment dated May 3, 2021

E-122 Bolding, C. - Letter of Comment dated May 4, 2021

E-123 Weber, T. - Letter of Comment dated May 4, 2021

E-124 Regional District of Mount Waddington - Letter of Comment dated May 5, 2021

E-125 Anderson, K. - Letter of Comment dated May 6, 2021

E-126 Svendsen, W. - Letter of Comment dated May 7, 2021

E-127 Stanlake, M. - Letter of Comment dated May 4, 2021

E-128 Clark, A. - Letter of Comment dated May 10, 2021

E-129 Sedlmair, P. - Letter of Comment dated May 10, 2021

E-130 Bryenton, R. - Letter of Comment dated May 12, 2021

E-131 Foster, R. - Letter of Comment dated April 29, 2021

E-132 Noren, P. - Letter of Comment dated April 29, 2021

E-133 Marshall, E. - Letter of Comment dated May 13, 2021

E-134 Balcar, N. - Letter of Comment dated April 29, 2021

E-135 Manley, M. - Letter of Comment dated April 29, 2021

E-136 Larose, A. - Letter of Comment dated April 29, 2021

E-137 Flodin, B. - Letter of Comment dated March 31, 2021

E-138 Chan, F. - Letter of Comment dated May 13, 2021

E-139 Ranbir - Letter of Comment dated April 29, 2021

E-140 Electrify Canada - Letter of Comment dated May 17, 2021 submitted by David Appelbaum

E-141 Tesla Motors Canada ULC - Letter of Comment dated May 17, 2021 submitted by Iain Myrans

E-142 te Boekhorst, M. and C. - Letter of Comment dated May 16, 2021

E-143 Reeder, W. - Letter of Comment dated May 16, 2021

E-144 Lee, J. - Letter of Comment dated May 17, 2021

E-145 Ross, M. - Letter of Comment dated May 17, 2021

E-146 Willis, P. – Letter of Comment dated June 24, 2021