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FortisBC Inc.

**Application for Approval of Rate Design and Rates for Electric
Vehicle Direct Current Fast Charging Service**

Decision
and Order G-341-21

November 24, 2021

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

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Executive Summary

In December 2017, FortisBC Inc. (FBC) applied to the British Columbia Utilities Commission (BCUC) for Approval of Rate Design and Rates for Electric Vehicle (EV) Direct Current Fast Charging (DCFC) Service (Original Application). Before undertaking a full review of the Original Application, the BCUC provided an interim approval of time-based rates at \$9.00 per half hour for public EV charging services. The BCUC subsequently launched an inquiry to explore the potential regulatory issues in the EV charging market which may have broader stakeholder impacts.

In the EV Inquiry, the BCUC found that the EV charging market does not exhibit monopoly characteristics and therefore economic regulation of any aspect of the EV charging market is not required. The BCUC subsequently provided an exemption to EV charging service providers that are not otherwise public utilities from regulation under Part 3 of the *Utilities Commission Act*. The BCUC also found that while there are opportunities for participants of non-exempt utilities in the EV charging service market, regulatory oversight can help to mitigate ratepayer risk and potential impact on exempt utilities.

On June 22, 2020, the Provincial Legislature amended its Greenhouse Gas Reduction Regulation (GGRR) to include EV charging stations as prescribed undertakings for public utilities, thus limiting the BCUC's review and approval of these expenditures. Under the GGRR, the BCUC is required to set rates that allow public utilities to collect sufficient revenue to recover the costs incurred for implementing prescribed undertakings, enabling cross-subsidization between EV customers and all other FBC ratepayers.

In this Decision, the Panel reviews the developments regarding the regulation of EV DCFC service since FBC's Original Application, including the EV Inquiry, amendments to the GGRR, and issues around time-based rates for EV DCFC charging service. The Panel makes the following key findings:

- 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 this 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 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;
- 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 this Decision, the Panel 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 is 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.

1.0 Introduction

On December 22, 2017, FortisBC Inc. (FBC) applied to the British Columbia Utilities Commission (BCUC) for Approval of Rate Design and Rates for Electric Vehicle (EV) Direct Current Fast Charging (DCFC) Service and Tariff Rate Schedule 96 (RS 96) pursuant to sections 59 to 61 and 90 of the *Utilities Commission Act* (UCA) (Original Application). The proposed RS 96 is a new rate schedule for EV charging at FBC-owned DCFC stations, at a time-based rate of \$9.00 per half hour, or \$0.30 per minute, for the charging time spent at the station.

Before undertaking a full review of the FBC Original Application, the BCUC considered that certain regulatory matters related to the rate design and rates for EV charging should be canvassed, and that a general inquiry was warranted to explore potential regulatory issues in the EV charging service market which may have broader stakeholder impacts. Accordingly, in 2018, the BCUC initiated an inquiry into the regulation of EV charging service in British Columbia (EV Inquiry) and issued two reports in November 2018 and June 2019, respectively. In June 2020, the Greenhouse Gas Reduction (Clean Energy) Regulation (GGRR) was amended by Order in Council No. 339 (OIC 339/20), which added a section related to EV charging stations.

In July 2020, the BCUC resumed the review of FBC's Original Application. The utility updated and revised its approval sought in RS 96 for service at FBC-owned EV charging stations of a \$0.27 per minute rate at 50 kilowatt (kW) stations and a \$0.54 per minute rate at 100 kW stations. The BCUC conducted a public review process which included intervener registration, two rounds of information requests (IR), and oral and written arguments.

FBC's proposed rates are for providing EV DCFC service at FBC owned fast charging stations to drivers of EVs (i.e. a retail rate) rather than a rate to provide electricity services to EV DCFC service providers in FBC's service area (i.e. a wholesale rate). Accordingly, no determinations are made with respect to a wholesale rate in this Decision.

In this Decision, the Panel reviews the developments regarding the regulation of EV charging service since FBC's Original Application in 2017, including the EV Inquiry, amendments to the GGRR, and issues around time-based rates for EV DCFC charging service. The Panel then addresses the specific approvals sought by FBC regarding its proposed EV charging rates and related matters.

1.1 Original Application and Interim Rates

As noted above, the FBC's Original Application was filed on December 22, 2017. As part of the Accelerate Kootenays project, FBC in 2017 had installed and owns DCFC stations located along the Highway 3 corridor in Greenwood, Christina Lake, Castlegar, Salmo and Creston, British Columbia.¹ FBC submitted that the EV DCFC stations are, in effect, a pilot project for FBC to own and operate EV fast charging technology for the first time.

¹ Exhibit B-1, p. 9.

FBC, in its Original Application, sought the following BCUC approvals:

- on an interim and permanent basis, a new Electric Tariff Rate Schedule 96 (RS 96) for EV charging at FBC-owned DCFC stations, a time-based rate of \$9.00 per half hour charging session prorated to the second of time spent at the station; and
- an Emissions Regulation deferral account to attract interest at FBC's short-term interest rate to record net revenues realized from the monetization of carbon credits. The balance of the deferral account will be amortized in customers' rates in the subsequent years' revenue requirement.

By Order G-9-18 dated January 12, 2018, the BCUC approved the \$0.30 per minute time-based rate for EV charging at FBC's stations on an interim basis, as requested by FBC, effective January 12, 2018. The BCUC also directed FBC to separately track and account for all costs associated with the EV DCFC stations and exclude all such costs from its utility rate base until the BCUC directs otherwise.

In that Order, the BCUC noted that the rate design and rates for EV charging including the services provided by DCFC stations, at the time, were in early development stage in BC and other entities may emerge over time to provide EV charging service. The Panel adjourned the review of the FBC Original Application to allow for a general inquiry to explore the potential regulatory issues in the EV charging service market.²

1.2 EV Inquiry

By Order G-10-18 dated January 12, 2018, the BCUC initiated an inquiry into the regulation of EV charging services in BC (EV Inquiry). The EV Inquiry was undertaken 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:³

- 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.

² Order G-9-18 and accompanying Reasons for Decision, p. 2.

³ EV Charging Service Inquiry Phase 1 Report, p. 1.

Phase 2 of the EV Inquiry focused on the regulatory framework for existing public utilities (e.g. British Columbia Hydro and Power Authority (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.⁴ Other findings in the EV Inquiry Phase 2 Report that are relevant for the review of this FBC application include:⁵

- 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.

1.3 Amendments to the GGRR

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.

FBC and BC Hydro are currently the only non-exempt utilities that have applied for approval for rate design and rates to provide EV DCFC service in BC, and together their EV DCFC stations make up a sizeable portion of BC’s EV DCFC market.⁶

1.4 Revised Application, Regulatory Process and Order G-215-21

On September 30, 2020, FBC filed a revised and updated application (Revised Application), seeking BCUC approval of the following:⁷

- i. permanent approval of RS 96 – Electric Vehicle Charging, which includes a \$0.27 per minute EV charging rate for service at FBC-owned DCFC 50 kW stations and a \$0.54 per minute EV charging rate for service at FBC-owned DCFC 100 kW stations;

⁴ EV Charging Service Inquiry Phase 2 Report, Section 8.0; as the term “exempt” is used in Order G-66-19.

⁵ Ibid., Executive Summary, p. 3.

⁶ On March 5, 2021, BC Hydro applied to the BCUC for approval of the BC Hydro Public Electric Vehicle Fast Charging Service Rates Application.

⁷ Exhibit B-5, p. 1.

- ii. approval that RS 96 shall not be subject to general rate increases, unless otherwise directed by the BCUC;
- iii. approval of a straight-line 10 percent annual depreciation rate for FBC's EV charging stations; and
- iv. approval for FBC to include the assets associated with the EV charging stations, and related revenues and expenses, in FBC's regulated accounts, as set out in section 4 of the Revised Application.

As part of the review of the Revised Application, FBC amended its permanent rates sought to \$0.26 per minute at 50 kW stations and \$0.54 per minute at 100 kW stations, to be effective within 30 days of the date of the BCUC's order approving the rates.⁸ FBC also sought approval pursuant to section 52 of the UCA to dispose of FBC's EV DCFC stations in New Denver and in Nukusp to the BC Hydro.

Regulatory Process

The BCUC established a regulatory timetable for review of the Revised Application, which included intervenor registration, FBC's evidentiary update, public notice, two rounds of written IRs, and written final and supplemental arguments.⁹ On May 27, 2021, the BCUC held an oral submissions session with FBC and intervenors to clarify and elaborate on their arguments. Nine parties registered as intervenors:

- Victoria EV Association
- BC Hydro
- Don Flintoff (Flintoff)
- BC Sustainable Energy Association (BCSEA) and Vancouver Electric Vehicle Association (VEVA) (collectively, BCSEA-VEVA)
- The Commercial Energy Consumers Association of British Columbia (the CEC)
- ChargePoint
- Donovan Whistler
- British Columbia Old Age Pensioners' Organization, *et al.* (BCOAPO)
- Alliance for Transportation Electrification

Four parties registered as interested parties and the BCUC received six letters of comment from four individuals.

Order G-215-21

By Order G-215-21 dated July 14, 2021, the BCUC approved FBC's request to include the assets associated with its EV DCFC stations that meet the definition of a prescribed undertaking under the GGRR in FBC's rate base, as set out in section 4 of the Revised Application. The Panel also approved the transfer of ownership of FBC's EV DCFC stations in New Denver and in Nakusp to BC Hydro. Furthermore, the Panel sought submissions from FBC

⁸ As per Exhibit B-7, BCUC IR 12.1, FBC initially revised its proposed rate at 100 kW stations to \$0.55/min to include the calculation of depreciation expense in its project capital spending before allowance for funds used during construction. As per Exhibit B-16, BCUC IR 20.6, FBC updated the financials related to its Revised Application and recalculated the RS 96 rate with the 4.36 percent general rate change effective January 1, 2021. FBC also corrected an error relating to average energy per charging event that affects the 2027-2030 calculations for 50 kW stations.

⁹ Orders G-183-20, G-223-20, G-254-20, G-33-21, G-58-21, and G-90-21.

and interveners as to whether the review of the remaining approvals sought in the Revised Application should be suspended pending the outcome of the BC Hydro public EV fast charging service rates proceeding.

Submissions were received in August 2021 regarding the potential adjournment of the FBC proceeding. Further, in its letter dated August 3, 2021, FBC requested clarification of Order G-215-21 regarding FBC's requested depreciation rates and whether FBC can include all revenues and expenses of its EV charging stations in its regulated accounts.¹⁰ By letter dated September 1, 2021, the Panel considered that an adjournment is not warranted and indicated that a decision addressing the rate approvals sought in the FBC Revised Application and any other outstanding items will be issued in due course.

Accordingly, in light of the determinations already made in Order G-215-21 and the BCUC letter dated September 1, 2021, the Panel in this Decision will address the approvals sought as items i, ii, and iii above, as well as clarifications sought by FBC.

2.0 Proposed Rate Design and Rates

FBC EV DCFC Program

FBC's EV DCFC stations had been in service since January 12, 2018 and the rate for EV charging had been \$0.30 per minute, as established on an interim basis by Order G-9-18. In December 2017, FBC in the Original Application noted that it will construct, own and operate five DCFC stations located in Creston, Salmo, Castlegar, Christina Lake, and Greenwood.¹¹ As of September 30, 2020, when FBC filed its Revised Application, FBC notes that it has installed 23 EV DCFC stations across 16 sites within the FBC service territory and only 50 kW stations were deployed. By the end of 2021, FBC plans to own and operate 40 EV DCFC stations across 23 sites and some of these units will be 100 kW stations.¹²

FBC Proposed Rates

FBC's proposed rates for its EV DCFC stations vary with station capacity. As noted above, FBC proposes to set two rates – a time-based rate for DCFC service of \$0.26 per minute at 50 kW stations and \$0.54 per minute at 100 kW stations. FBC submits that these rates recover FBC's cost of service on a levelized basis, with assumptions of reasonable level of use based on FBC's experience with its existing EV DCFC stations and the projected growth in sales of EVs in BC over the next 10 years.¹³ FBC explains that the nature of levelized rate means that in some of the early years, the EV charging revenue will be expected to be less than the cost of service. In these years, all other FBC customers will bear the costs that exceed revenues. In years where the charging revenue is greater than the cost of service, all other FBC customers will benefit.¹⁴

As part of the Revised Application, FBC provides its cost-of-service analysis to support the calculation of the proposed rates. The key assumptions in the analysis include consumption of electricity, station usage, inflation rates, and carbon credits. The cost-of-service items include capital expenditures and associated Contributions in

¹⁰ Exhibit B-22, p. 6.

¹¹ Exhibit B-1, p. 9.

¹² Exhibit B-5, p. 2; Exhibit B-10, FBC CEC IR 2.2.

¹³ Ibid., pp. 1, 12.

¹⁴ Ibid., p. 20.

Aid of Construction (CIAC), depreciation and amortization, cost of electricity, Operating and Maintenance (O&M), property taxes, income tax and earned return. Details of these components FBC provides in Appendix E of the Revised Application.

EV DCFC Rate Comparison

In Exhibit B-21, FBC provides an update on the summary of public EV fast charging network for regional highways that serve the FBC service area. FBC submits that its proposed rates for service are at an appropriate level relative to other service providers, as shown in the following summary table:

Table 1: EV Fast Charging Network in FBC's Service Area and Regional Highways (as of June 2, 2021)¹⁵

Service Provider	Rates		Power Level (kW)	Number of stations in FBC's service area and regional highways
FBC	50 kW: \$0.30/min (interim) Proposed: 50 kW: \$0.26/min 100 kW: \$0.54/min		50	30
Petro Canada	\$0.27/min in BC		100-350	4
Electrify Canada	Pass+ (\$4.00 Monthly): 1-90 kW: \$0.21/min 1-350 kW: \$0.44/min	Pass (Free): 1-90 kW: \$0.27/min 1-350 kW: \$0.57/min	50-350	10
	\$0.40/min idle fee			
Tesla	< 60 kW: \$0.22/min > 60 kW: \$0.44/min free for some older models, free supercharging miles/months historically offered as sale promo \$0.50 - \$1.00/min idle fee		150-250	24
BC Hydro	25 kW: \$0.12/min (interim) 50 kW: \$0.21/min (interim) 100 kW: \$0.27/min (interim)		50	6
District of Summerland	50 kW: \$0.30/min		50	5
BC Ministry	Free		25-50	6

¹⁵ Exhibit B-21.

Intervenors generally support FBC's proposed rates, although some intervenors suggest alternatives to how the rates should be changed over time and monitored. In the sections that follow, the Panel addresses the following issues that participants have raised in the proceeding, including:

1. The rate design for FBC's EV fast charging rates including the use of time-based rates vs. energy-based rates and time-based rates tiered by power level;
2. The appropriateness of cost-of-service based, levelized rates;
3. The depreciation period for EV fast charging stations; and
4. The treatment of the variance between interim and permanent rates.

2.1 Use of Time-based Rates vs. Energy-based Rates and Time-based Rate Tiered by Power Level

Time is the billing determinant for FBC's proposed EV fast charging rates. The BCUC received letters of comment from members of the public regarding issues related to time-based rates because the amount of electricity consumed in a charging session depends on the EV's charging capabilities, state-of-charge of the battery, and temperature.¹⁶ For example, Tesla models generally have greater battery capacity and maximum direct current (DC) charging rates than other EV models.¹⁷ FBC submits that an energy-based component of the rate could improve the perception of fairness of the fee structure. However, other factors need to be considered.¹⁸

FBC submits that there is currently no Measurement Canada approved DC metering and this prevents FBC from offering energy-based rates. FBC further explains that "Although approved revenue-grade alternating current (AC) metering is used to measure the utility supply to the charging sites, no commercially available solution exists for integrating this equipment with the billing system used for the DC fast charging stations."¹⁹ FBC is aware that some local municipalities charge and bill customers on an energy basis using the internal metering of the EV charging stations. However, these meters are not accredited by Measurement Canada.²⁰

According to its September 2016 information bulletin, Measurement Canada indicates that timing devices are exempt from the approval and device certification requirements in section 8 of the *Weights and Measures Act*. Devices used to supply electricity sold on the basis of energy (kWh) or time related demand (kW) at EV charging stations meet the legal definition of a "meter" and would be subject to the requirements under the *Electricity and Gas Inspection Act*.²¹

FBC notes that Measurement Canada is currently working to determine how to address the potential for DC fast charging stations billing based on kilowatt-hours (kWh). FBC submits that it will examine the potential to offer wholly or partially energy-based rates when Measurement Canada approved metering is available for DCFC

¹⁶ Exhibits D-2-1, D-2-2, D-4-1 and D-4-2.

¹⁷ Exhibit B-1, Appendix F, EV Technology and Market Overview, Powertech Labs Inc., report dated October 19, 2016, pp. 27, 30.

¹⁸ Exhibit B-7, BCUC IR 7.8.1.

¹⁹ Ibid., BCUC IR 7.7.

²⁰ Exhibit B-16, BCUC IR 21.1.

²¹ Exhibit B-1, p. 16 and Appendix D, Measurement Canada Information Bulletin dated September 16, 2016.

energy metering and billing purposes.²² As of February 2021 when FBC provided its IR No. 2 responses, FBC referenced Measurement Canada's website which indicates that Measurement Canada expects existing and new EV charging stations that meet established technical standards will be allowed to charge based on kWh in the next 18 months.²³

FBC notes that currently all EV charging service providers are all time-based rates. The fee structure of Canadian Tire / Electrify Canada station is time-based, tiered by power level and has an idling fee. The fee structure of Petro-Canada station is time-based, but not tiered by power level.²⁴

Positions of the Parties

FBC submits that energy-based rates cannot be implemented due to the lack of Measurement Canada-approved metering at present. FBC further states that "Using metering devices that are not accredited by Measurement Canada for customer billing purposes would violate section 9 of the *Electricity and Gas Inspection Act*, R.S.C., 1985, c. E-4."²⁵ It is currently illegal under Federal law to implement energy-based rates.²⁶ When Measurement Canada approved metering becomes available, FBC will examine the potential to offer wholly or partially energy-based rates, including whether there are any other impediments to implementing such rates.²⁷

BCSEA-VEVA acknowledges FBC's position and notes that FBC has committed to examining the potential to offer energy-based rates when energy-based rates for DCFC becomes available.²⁸ Flintoff suggests that the Panel could direct FBC to prepare an application for energy-based rates in spring of 2022 when Measurement Canada approves DC metering.²⁹ The CEC submits that it is concerned about ensuring that there is full cost of service recovery for EV charging stations and that FBC has not calculated the equivalent rates for 50 kW or 100 kW DCFC service on a per kWh basis (also see Section 2.2).³⁰ One letter of comment suggests that the BCUC should either require FBC to work with Measurement Canada to get interim approval for kWh billing or install existing power meter technology that is compliant with Measurement Canada requirements.³¹

Intervenors do not oppose the time-based rate design that is tiered by the 50 kW and 100 kW power levels. Flintoff submits that FBC's proposed rate of \$0.54/minute for 100 kW stations seems high in comparison to others at slightly less than \$0.30/minute but costs may be different and the higher rate is justified.³²

FBC submits that the proposed rates are generally consistent with rates across Canada. Market-based service providers are likely to be able to offer rates at or below FBC's proposed rates. If large price differences between FBC's rates and other rates arise, FBC may review the use of market-based versus cost of service-based rates for

²² Exhibit B-7, BCUC IR 7.1.2, 7.7, 7.7.1 and 7.8.1; Exhibit B-9, BCSEA IR 5.1.

²³ Exhibit B-18, BCSEA-VEVA IR 10.1; <https://www.ic.gc.ca/eic/site/mc-mc.nsf/eng/lm04949.html>

²⁴ Exhibit B-5, p. 19.

²⁵ FBC Final Argument, p. 25.

²⁶ Exhibit B-23, p. 1.

²⁷ FBC Final Argument, p. 26.

²⁸ BCSEA-VEVA Final Argument, p. 12.

²⁹ Exhibit C3-6, p. 2.

³⁰ The CEC Final Argument, p. 8.

³¹ Exhibit D-4-1.

³² Exhibit C3-5, p. 1.

its DCFC stations.³³ BCSEA-VEVA agrees with FBC that the proposed rates are comparable to the market in FBC's service territory and in other parts of Canada.³⁴

Letters of Comment

Mr. Cownden submits that the proposed rate structure clearly does not comply with the requirements of the UCA. He further explains that "[t]he pricing structure is discriminatory because different vehicles charge at different rates depending on the capacity of the batteries on the vehicle and the electrical characteristics of the onboard charging system. Therefore, different customers will receive significantly different amounts of electricity during identical durations of charging and will therefore be charged different rates for the amount of electricity actually received."³⁵

In his letter of comment, Mr. Cownden provides an example:³⁶

For my electric vehicle, the charging rate typically starts out at approximately 120A at low state of battery charge and drops off to approximately 10A when the batteries are at a higher state of charge. Under FBC's existing and proposed rate structure I would get charged the same amount of money for a minute of charging at 120A as a minute of charging at 10A. An electric vehicle with a larger battery capacity would be able to sustain the 120A charge for a longer period of time than my car and would therefore receive substantially more electricity than I would for the same amount of money.

Panel Determination

The Panel finds that a time-based rate for EV fast charging service is currently the only option for FBC to provide DCFC service. The evidence shows that there are no Measurement Canada approved meters that would enable FBC to sell electricity from a DC Fast Charger by kWh. Although timing devices are exempt from the *Weights and Measures Act* and Measurement Canada notes that time-based and flat fee billing methods are most commonly used in Canada, we are concerned that given the considerable disparities in charging rates between different car models, this could give rise to a rate that is unduly discriminatory.

Participants acknowledge that energy-based rates for EV fast charging is desirable, which the Panel agrees with. 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 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

³³ FBC Final Argument, p. 30.

³⁴ BCSEA-VEVA Final Argument, pp. 13-14; Exhibit C4-7, p. 1.

³⁵ Exhibit E-1, p. 1.

³⁶ Ibid.

electricity. This comparison assumes that the two EVs are at a similar battery state-of-charge using a 100 kW charging station.

This is analogous to two homeowners being charged a standard daily rate for electricity, but one home is substantially larger and consumes much more electricity. In our view, time- based EV charging rates clearly amount to a discriminatory rate. However, the test the Panel must apply is not whether it is discriminatory but whether it is unduly discriminatory [Emphasis added]. 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.”

While no interveners raised this issue, we are mindful of Mr. Cownden’s letter of comment regarding the discrimination that arises from time-based EV charging rates and we appreciate him bringing this issue forward. However, we note two factors that are determinative in this proceeding. One is that FBC’s EV stations have been operating on time- based rates for three years and to the best of our knowledge no complaints have been brought forward. However, the BCUC has received general inquiries as to why energy-based billing is currently not permitted and the BCUC has notified Measurement Canada of these inquiries. Second is that there 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.

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 FBC does have the option to seek a dispensation from the *Electricity and Gas Inspection Act* to enable energy-based billing. FBC submits that an energy-based component could improve the perception of fairness of the fee structure. The Panel considers that an application for dispensation would be of little to no harm to FBC and its ratepayers while Measurement Canada continues its processes to approve DC metering devices that will meet its standards. It is the Panel’s understanding that many DCFCs have the ability to measure the amount of electricity and often users receive a receipt with the amount of electricity they have received. This raises expectations in users that the rate could be energy based.

Accordingly, 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 this order. FBC is directed to provide a status update to the BCUC by April 30, 2022.

In making this determination, we understand that FBC will have to make software changes to support energy-based rates. In this regard, FBC states: “Although approved revenue-grade AC metering is used to measure the utility supply to the charging sites, no commercially available solution exists for integrating this equipment with the billing system used for the DC fast charging stations. When Measurement Canada approved metering becomes available, FBC will examine the potential to offer wholly or partially energy-based rates, but cannot speculate at this time on the extent to which other impediments will be encountered.”³⁷ We encourage FBC to proactively pursue the availability of billing solutions for energy-based rates so they will be prepared for a change in Measurement Canada’s standards.

³⁷ Exhibit B-7, BCUC IR 7.7.

Notwithstanding this determination, the Panel agrees with FBC's proposal to set multiple tiers for EV fast charging rates based on the charging station's power level. Assuming the EV can charge at the station's full potential, the amount of electricity consumed at a 100 kW station will be more than a 50 kW station, holding all else equal. Further, the capital costs of owning a 100 kW station are generally greater than those of a 50 kW station. Therefore, the Panel accepts FBC's proposed rate design to set prices for EV charging based on the power level of its DCFC stations.

2.2 Cost of Service and Levelized Rates

FBC states that it relies on the Bonbright principles³⁸ to achieve its EV charging rate design principles and objectives. Specifically, FBC cites the following Bonbright principles:³⁹

- Recovering the Cost of Service; the aggregate of all customer rates and revenues must be sufficient to recover the utility's total cost of service;
- Fair apportionment of costs among customers (appropriate cost recovery should be reflected in rates);
- Price signals that encourage efficient use and discourage inefficient use;
- Customer understanding and acceptance;
- Practical and cost-effective to implement (sustainable and meet long-term objectives);
- Rate stability (customer rate impact should be managed);
- Revenue stability; and
- Avoidance of undue discrimination (interclass equity must be enhanced and maintained).

FBC considers that (i) the fair apportionment of costs among customers and (ii) price signals that encourage efficient use and discourage inefficient use, to be most relevant in setting rates that vary depending on station capacity. FBC explains that the 100 kW rate is higher than the 50 kW rate because electricity and capital costs associated with the 100 kW charging station are higher. FBC's proposal to have a separate rate for the 50 kW and 100 kW stations reduces the potential for subsidization that may have resulted from a blended rate given that the cost for each service is different.⁴⁰

FBC's proposed rate is calculated based on the levelized cost of service incorporating the assumptions and cost-of-service inputs described in Section 2.0 of this Decision. FBC submits that using a levelized approach allows FBC to set an EV charging rate that remains flat over the analysis period and collects the cost of service associated with the EV stations over that period. The levelized cost of service is determined using FBC's weighted average cost of capital as the discount rate and is the present value of the annual cost of service over the analysis period. FBC views that having a flat rate over the analysis period, rather than a rate that follows the cost-of-service profile, will allow customers to have stability and consistent rates as opposed to having rates that vary each year with the cost of service and forecast usage.⁴¹

³⁸ James C. Bonbright, *Principles of Public Utility Rates*, 2nd Edition (Public Utility Reports, Inc., 1961) March 1988.

³⁹ Exhibit B-7, BCUC IR 7.1, 7.3.

⁴⁰ Ibid., BCUC IR 7.1.

⁴¹ Exhibit B-5, pp. 17-18.

FBC provided its cost-of-service analysis and financial schedules in support of its RS 96 proposed rates calculations in Appendix E of the Revised Application, as well as updated schedules in the two rounds of IRs.⁴² The assumptions of the cost-of-service analysis are as follows:

- a) **Charging Events Per Day:** FBC assumed consumption of 20 kWh per charge event based on average historical kWh volumes per charge session at FBC's existing stations.⁴³
- b) **Station Usage:** 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.⁴⁴
- c) **Inflation Rates:** FBC updated the inflation of electricity costs for FBC's approved rates for 2020 and 2021. FBC then applied an indicative rate increase of 3.5 percent for 2022-2024 and 2 percent inflation for 2025-2029.⁴⁵
- d) **Carbon Credits:** FBC forecast \$200/credit for revenue that can be generated under the Renewable and Low Carbon Fuel Requirements Regulation (RLCFRR). The \$200/credit is based on the penalty that fuel suppliers are required to pay to become compliant under the RLCFRR.⁴⁶
- e) **Transaction Fees:** FBC included a 15 percent transaction fee for global management services charged by FLO. This fee covers station status monitoring, remote diagnostics and upgrades, data storage, and payment processing, collection and accounting services.⁴⁷

The inputs to FBC's cost-of-service analysis are as follows:

- a) **Capital Expenditures and Contributions:** FBC included its actual cost of \$3.48 million and forecast capital costs of \$1.69 million in 2021. FBC has also included CIAC of \$2.97 million and certain repayment obligations to Natural Resources Canada.⁴⁸
- b) **Depreciation Rate:** FBC estimated a 10-year service life for both the 50 kW and 100 kW DCFC stations. See discussion in Section 2.3 below.
- c) **Cost of Electricity:** FBC used RS 21 – Commercial Service as the cost of power for FBC's DCFC stations. FBC has assumed a typical half hour charge session will deliver 20 kWh of energy, with thirty-four individual 50 kW stations contributing 54 kW of demand and six 100 kW station contributing 108 kW of demand to each individually metered DCFC site. FBC updated its cost of service to reflect the 4.36 percent increase to RS 21 (Commercial Service) approved by Order G-298-20.⁴⁹
- d) **Operating and Maintenance (O&M):** FBC included O&M costs of \$5,193 per year for maintenance, travel, repairs outside warranty, and FBC network management expenses, including half of a full-time equivalent employee. FBC will decrease this cost to \$4,900 in 2026 due to a decreased need to monitor

⁴² Ibid., Appendix E; Exhibit B-7, Attachment 12.1; Exhibit B-16, Attachment 20.6A.

⁴³ Exhibit B-5, p. 13.

⁴⁴ Exhibit B-7, BCUC IR 8.4.

⁴⁵ Exhibit B-5, p. 13.

⁴⁶ Ibid., pp. 13-14; Exhibit B-7, BCUC IR 9.4.1, 9.8.

⁴⁷ Ibid., p. 15.

⁴⁸ Ibid., pp. 15-16.

⁴⁹ Ibid., p. 16; Exhibit B-8-1, BCOAPO IR 19.1; Exhibit B-16, BCUC IR 20.4.

and manage third party location services, as FBC views that its sites will be well-established and require fewer interactions.⁵⁰

- e) **Property Taxes:** FBC EV charging revenues will be subject to the 1 percent in lieu property taxes. There is no property tax on the land itself since FBC has entered into 10-year no-cost Licenses of Occupation for the individual sites with a 5-year renewal option.⁵¹
- f) **Other Revenue – Carbon Credits:** FBC included the monetization of carbon credits so that the value of these credits is embedded in the EV charging rate.⁵²
- g) **Income Taxes:** FBC included an income tax rate at the 2020 enacted rate of 27 percent, capital cost allowance (CCA) of 30 percent on a declining balance basis, and additional CCA allowance in accordance with the Accelerated Investment Income regime.⁵³
- h) **Earned Return:** FBC included an earned return based on FBC's approved equity thickness and return on equity of 40 percent and 9.15 percent, respectively. FBC's long-term and short-term debt ratios and rates are based on FBC's 2020 and 2021 Annual Review, which was approved by Order G-42-21.⁵⁴

For the 50 kW stations, FBC submits that the proposed rate will recover FBC's cost of service on a 13-year levelized basis, including the 2018 to 2021 EV expenditures. For 100 kW stations, the proposed rate will recover FBC's cost of service on a 10-year levelized basis.⁵⁵ FBC projects that revenues at the proposed rates will under-recover the cost of service until approximately year 2025. However, revenues at the proposed rates will exceed cost of service thereafter until year 2030 when the levelized period ends.⁵⁶ The proposed rates also are expected to have no impact on other FBC customers over the assets' lives.⁵⁷

In terms of an alternative to the cost-of-service rate, FBC submits that market-based rates are not considered at this time because there are not many exempt utility rates that exist.⁵⁸ FBC will consider market-based rates in the future if appropriate.⁵⁹

In the EV Inquiry, the BCUC found that the EV charging market is not a monopoly because there is more than one service provider.⁶⁰ The BCUC also found that non-exempt public utility's (i.e. FBC) investments are not reasonably expected to interfere with the private competitive market.⁶¹ FBC believes that prospective market-based service providers are likely to enter the market and be able to offer rates at or below FBC's proposed rates. FBC also notes that Petro-Canada's stations are of higher electricity output and have rates set at a level equivalent to FBC's proposed 50 kW rate.⁶²

⁵⁰ Exhibit B-8-1, BCOAPO IR 15.2.

⁵¹ Exhibit B-5, p. 17; Exhibit B-9, BCSEA IR 8.1.

⁵² Exhibit B-5, p. 17.

⁵³ Ibid.

⁵⁴ Ibid; Exhibit B-7, BCUC IR 13.1.

⁵⁵ Ibid., p. 12.

⁵⁶ Exhibit B-8-1, BCOAPO IR 22.2.

⁵⁷ Exhibit B-10, CEC IR 14.5.

⁵⁸ Exhibit B-7, BCUC IR1 6.1.

⁵⁹ Exhibit B-7, BCUC IR1 6.2.

⁶⁰ EV Inquiry Report Phase 1, dated November 26, 2018, p. 19.

⁶¹ EV Inquiry Report Phase 2, dated June 24, 2019, p. 39.

⁶² Exhibit B-10, CEC IR 14.1 and 14.2.

Positions of the Parties

All interveners support the approval of FBC's proposed rates for public EV DCFC.⁶³ BCSEA-VEVA agrees that the key assumptions and cost of service inputs in FBC's cost-of-service model are reasonable.⁶⁴ The CEC considers that the rate is reasonably designed to recover its cost of service.⁶⁵ However, BCOAPO and BCSEA-VEVA note that there is a high degree of uncertainty in the data used to derive the proposed rates, such as the minutes used per charging event and the number of charging events per day across FBC's existing EV charging stations.⁶⁶ BCOAPO suggests that the monitoring of the effectiveness of the proposed rates in recovering FBC's costs over the next 10 years is warranted either by way of COSA or Annual Reviews.⁶⁷

In reply, FBC submits that the review of RS 96 in the Annual Review process should focus on material changes and be mindful of the need for regulatory efficiency.⁶⁸

Panel Determination

For the reasons set out below, the Panel approves FBC's proposal to set EV DCFC rates on a levelized cost-of-service basis. Other than the electricity input costs that require further clarification (see Section 2.3), the Panel considers that the assumptions and inputs used to derive the \$0.26/minute rate for 50 kW stations and \$0.54/minute rate for 100 kW stations are reasonable. This includes FBC's assumption of a 10-year depreciation for its EV charging assets which is discussed in more detail in Section 2.4.

FBC states that it relied on Bonbright principles to design the proposed rate. The Panel acknowledges that Bonbright principles have been the standard to evaluate a regulated utility's rate design. However, applying 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. Economic regulation of monopoly utilities serves as a proxy for the free market⁶⁹ 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 FBC's EV charging stations and EV customers are highly mobile and can travel with relative ease to another service provider.

A fundamental Bonbright principle, which is achieved by FBC's rate design at least on a levelized basis over the expected life of the EV charging stations, is to recover the forecast cost of service.⁷⁰ In the Panel's opinion, recovering the cost of service over a levelized period does satisfy the Bonbright principle of recovering the cost of service. The BCUC has approved a number of levelized rates, particularly in the circumstances of a greenfield

⁶³ BCSEA-VEVA Final Argument, p. 12, CEC Final Arguments, p. 9.

⁶⁴ Ibid., p. 13.

⁶⁵ The CEC Final Argument, p. 9.

⁶⁶ BCOAPO Final Arguments, pp. 13, 19; BCSEA-VEVA Final Argument, p. 13.

⁶⁷ Ibid., pp. 15, 21.

⁶⁸ FBC Reply, p. 11.

⁶⁹ EV Inquiry Phase 1 Report, p. 32.

⁷⁰ Principles of Public Utility Rates, James C. Bonbright, 1961, p. 66.

project, for example River District Energy⁷¹ and Corix Burnaby Mountain District Energy Utility for its UniverCity customers.⁷²

However, as Bonbright stated in his seminal work, he was concerned with “the most monopolized types of utility enterprise and especially with the electric utilities”.⁷³ 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.

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 the EV Inquiry, the BCUC found, among other things, that the EV charging market, including landlords and strata corporations, does not exhibit monopoly characteristics. It also found that the BCUC should only regulate where necessary and that regulation should not impede competitive markets.⁷⁴

One approach to the participation of monopolistic utilities in competitive markets is to require the utility to provide the service through an unregulated subsidiary, with an appropriate code of conduct and transfer pricing policy in place. This ensures that there is no cross subsidization and that the shareholder, and not the ratepayer, is both at risk for under-recovery and the beneficiary of any over recovery.

In the absences of such a remedy, the primary considerations in setting a rate for a regulated utility operating in a competitive market should be consideration of the equilibrium market price and its relationship to the regulated utility’s cost to provide that service.

Notwithstanding section 18(2) of the CEA, this Panel considers that the development of a robust public EV charging market is in the broader public interest. We therefore do not find it appropriate to approve EV charging

⁷¹ Order G-271-19.

⁷² Order G-279-21.

⁷³ Principles of Public Utility Rates, James C. Bonbright, 1961, Preface, p. viii.

⁷⁴ EV Phase 1 Report, pp. 22, 33.

rates for regulated utilities that cause other market participants to exit the market. We consider a rate that supports the development of a 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;⁷⁵

We agree that the playing field should remain as level as possible. Some may argue that if a utility is able to provide EV charging service for lower than the private sector can, that the public interest is best served by encouraging the utility to do so, even if that results in "crowding out private investment." We do not agree with this view. EV charging service is a "behind the meter" service that is best provided by a competitive market. It is unlikely, in our view, that provision by a monopolistic utility can result in a better outcome. A lower price for EV charging services, relative to the equilibrium price in a competitive market, could potentially be achieved through subsidization from other ratepayer classes. However, this may not meet the regulatory test for a just, reasonable and not unduly discriminatory rate. We also note that the GGRR, with its limit on the number of locations a public utility operate that are subsidized by other ratepayers does not anticipate an EV charging market devoid of competitive of non public utility actors.

In setting rates that consider competitive factors, it is not clear to the Panel that Bonbright principles relating to such issues as price signals, rate stability and revenue stability can be addressed and therefore whether they should be considered at all. That said, there may be some Bonbright principles that can be applicable. For example, in the previous section, we considered the issue of fairness in allocating costs among various customers.

In the EV Inquiry Phase 2 Report, the BCUC expressed concerns about the ability of regulated utilities to cross subsidize EV charging rates and we share those concerns. While we appreciate that in this case, the rate is forecast to recover all incremental costs over the levelized period and therefore not afford any such subsidy, the calculation is sensitive to various assumptions, including those about the expected life of EV charging assets, charging station utilization rates and demand elasticities. Further, because of the nature of a levelized rate, during the first few years, the rate does not recover the full cost of service.

However, we also have concerns that if the equilibrium market price is insufficient to recover FBC's full cost of service in any given year, setting a rate at a level that will recover the cost of service will essentially price FBC's service "out of the market" and result in more subsidization to recover the cost of service than would be required than if the rate were set lower.

Therefore, the Panel considers the appropriate rate design principle should be an aim to minimize any recovery from FBC's other ratepayers for this service regardless of whether that results in an over-or under collection of the cost of service in any given year, providing that the resulting rate isn't set at a rate that will undermine the competitive market. Given this and the developing nature of the EV charging market, the rates should be re-evaluated in the future to determine whether they are still appropriate.

⁷⁵ EV Inquiry Report Phase 2, p. 29.

That said, we recognize the challenges of evaluating and comparing rates in a competitive market, in particular, how to determine what the equilibrium market price would be in the absence of a competitor with a subsidized rate. To be clear, we do not consider it inappropriate that FBC be the leader in setting an equilibrium market price – provided there is no subsidization, by customers of FBC’s regulated services, of the fully allocated cost of the EV fast charging service. However, if there is subsidization, we must exercise caution in approving the rate exclusively on a cost-of-service basis. In that circumstance, we find that the approved rate must not undermine the ability of a competitive market to operate and continue to grow, as that would be a rate that is not unjust, unreasonable, unduly discriminatory or unduly preferential.

Therefore, we consider a market rate comparison to be helpful as a check between FBC’s proposed rates and the rates offered by other service providers. For 50 kW stations, FBC’s \$0.26/minute rate is near the average of the \$0.21/minute to \$0.30/minute range of those who have set a fee for EV charging service. For 100 kW stations, although prices range from \$0.27/minute to \$0.57/minute and FBC’s proposed rate is \$0.54/minute, the Panel notes that FBC’s total investments in these 100 kW stations are about three times smaller than 50 kW stations. In the absence of actual operating experience and utilization rates information, the Panel is persuaded that FBC’s proposed rate for 100 kW stations is appropriate at this time.

Overall, the Panel finds that FBC’s proposed rate design and resulting rates are just and reasonable, in the absence of any persuasive evidence concerning equilibrium market price and demand elasticity. The Panel also finds that it is in the interests of FBC’s customers to have the proposed EV fast charging rates to recover their cost of service on a forecast and levelized basis. However, there is insufficient information to determine either actual cross-subsidization or whether revenues are being maximized because EV charging station utilization rates and FBC’s impact on other service providers’ EV charging rates are unknown at this time.

These uncertainties persuade the Panel of the need for periodic monitoring and evaluation of FBC’s EV charging rates and their impact on the market. This periodic monitoring and evaluation is discussed further in Section 4.2.

2.3 Accounting for General Rate Increases

FBC requests that, due to the levelized nature of the proposed rates, RS 96 be exempt from general rate changes. The levelized rate already includes reasonable estimates of the annual general rate change to RS 21, which represents the cost of electricity, as well as inflation factors for O&M and property taxes which would factor into a general rate change impacting all rates.⁷⁶ FBC submits that RS 96 would be periodically reviewed as part of the Cost of Service Analysis (COSA) and also as part of the Annual Review under the current Multi-Year Rate Plan (MRP).⁷⁷

During the course of the proceeding, FBC updated its proposed rates to account for the FBC general rate increase of 4.36 percent approved on a permanent basis via Order G-42-21, effective January 1, 2021, as well as updates to correct an error in the total electricity calculation for the 50 kW stations. FBC has revised its approval sought as follows⁷⁸:

Table 2: Updated Station Rate (Per Min)

⁷⁶ Exhibit B-7, BCUC IR 6.3.

⁷⁷ Ibid., BCUC IR1 6.7.

⁷⁸ Exhibit B-16, BCUC IR2.20.5, 20.6.

	As applied for Station Rate (Per Min)	Updated Station Rate (Per Min)
50 kW Stations	\$0.27	\$0.26
100 kW Stations	\$0.55	\$0.54

In reviewing the RS 21 electricity input costs, the following information was compiled using FBC's original financial model (spreadsheet) and the attachments in Exhibit B-16, responses to BCUC IR 20.5A and 20.6A.

Table 3: RS 21 Electricity Input Costs

Station Type	Without 4.36% general rate increase	With 4.36% general rate increase	Difference
50 kW	\$189,000 ⁷⁹	\$185,000 ⁸⁰	\$4,000 lower
100 kW	\$60,000 ⁸¹	\$59,000 ⁸²	\$1,000 lower

The updated 2021 RS 21 electricity cost is lower with the 4.36 percent general rate increase, effective January 1, 2021, than the original 2021 RS 21 electricity cost. As noted above, electricity input cost is one of several components in the cost-of-service model. The overall net present value (NPV) of the cost-of-service model for the 50 kW station NPV is approximately \$3.5 million and the 100 kW NPV is approximately \$953,000.

Positions of the Parties

Rate changes during the levelized period

With respect to the levelized rates, FBC submits that its proposal results in an EV charging rate that is flat over the analysis period. This will provide stable and consistent rates for EV charging customers, rather than a rate that follows the cost-of-service profile.⁸³ BCSEA-VEVA agrees with FBC and submit that a stable rate “will help overcome barriers to the adoption of EVs and encourage the use of FBC’s EV charging stations.”⁸⁴

The CEC recommends that the BCUC deny the proposed exemption from general rate increase “as this would be a very small component of the charging service rates and not determinative in encouraging EV charging customer participation.”⁸⁵ The CEC submits that the station usage is very difficult to predict over a ten-year period, the operating and maintenance costs may be optimistic, and inflation could be significantly off-target given the considerable uncertainties in the market at this point.⁸⁶

⁷⁹ Exhibit B-5, Appendix E, 50 kW stations.

⁸⁰ Exhibit B-16, BCUC IR No. 2, Attachment 20.6A, 50 kW stations.

⁸¹ Exhibit B-16, BCUC IR No. 1, Attachment 12.1, 100 kW stations. Updated for AFUDC depreciation.

⁸² Exhibit B-16, BCUC IR No. 2, Attachment 20.6A, 100 kW stations. Updated for AFUDC depreciation.

⁸³ FBC Final Argument, p. 26.

⁸⁴ BCSEA-VEVA Final Argument, p. 14.

⁸⁵ CEC Final Arguments, p. 1.

⁸⁶ Ibid., p. 13

Similarly, Flintoff submits that this exemption is unnecessary and EV owners should be exposed to increase in the cost of energy as are other drivers and ratepayers.⁸⁷ Flintoff suggests that levelized rates be adjusted periodically or annually to keep pace with changes in energy prices, inflation, and other unforeseen events such as COVID. Flintoff views that FBC's levelized rates may set the market price of EV charging for other service providers in the same region and "the other utility customers will bear the risks of the stations being revenue-neutral and becoming stranded assets in the future."⁸⁸

While BCOAPO acknowledges that there are benefits to a constant rate and accepts FBC's levelized rate approach, BCOAPO views that an EV fast charging rate that is linked to FBC's annual general rate increase is likely to track costs more closely. BCOAPO suggests that FBC's EV rates should be monitored to ensure that they are in alignment with actual and updated forecast costs.⁸⁹

In reply, FBC submits that the proposed rates already include reasonable estimates of the annual general rate change to the cost of electricity in RS 21 and include inflation factors for O&M and property taxes. Otherwise, these inflationary factors would need to be removed from the proposed rates. Further, FBC explains that the general rate changes are based on escalating overall utility costs and are unlikely to be a good proxy for EV charging infrastructure costs which are materially different in nature. FBC views that a consistent rate will provide cost certainty and stable pricing to encourage the use of EVs.⁹⁰ FBC explains that a non-levelized rate would need to be much higher to recover the annual cost of service in early years. These higher rates would be detrimental to FBC's charging stations and all of its ratepayers.⁹¹ FBC also notes that its proposed levelized rates are generally consistent with market rates.⁹²

Panel Determination

As noted above, some interveners suggest that FBC's EV rates should not be exempt from general rate increases. However, FBC's proposal is premised on levelized rates where the calculated rate is averaged out over a fixed period. In the Panel view, if one agrees with FBC's levelized rates approach, then this implies that general rate changes over the levelized period must have no impact. The Panel agrees with FBC that the escalation factors that are already embedded in the financial model for the rate calculation would need to be removed otherwise. Therefore, the Panel finds FBC's proposal to not adjust its RS 96 EV fast charging rates to reflect any general rate changes to be appropriate.

However, the Panel questions the electricity input cost related to RS 21. Table 3 shows that with the 4.36 percent general rate increase for FBC effective January 1, 2021, the RS 21 electricity input costs are \$4,000 and \$1,000 lower than FBC's original estimates prior to the 4.36 percent rate increase, respectively, for 50 kW and 100 kW stations. The Panel would expect a general rate increase to increase the electricity input cost to provide EV fast charging service, not decrease. Given the relatively small unexplained difference of \$4,000 out of a \$3.5 million project for 50 kW stations, and similarly for 100 kW stations, **the Panel directs FBC to submit a letter clarifying the electricity input cost within 15 days of this Decision.**

⁸⁷ Flintoff Final Arguments, p. 6.

⁸⁸ Ibid., pp. 4-5, 17.

⁸⁹ BCOAPO Final Argument, p. 19.

⁹⁰ FBC Reply, pp. 9-10.

⁹¹ Ibid., pp. 11-12.

⁹² Ibid., p. 13.

2.4 Depreciation, Technology and Risk of Stranded Assets

FBC estimated a 10-year service life for both the 50 kW and 100 kW stations. In its Revised Application, FBC is requesting approval to use straight line depreciation for its EV charging stations, at a 10 percent depreciation rate, based on the estimated service life. FBC submits that the 10-year service life estimate is based on guidance provided by its vendor AddEnergie and has been adopted by others in the industry, including the Vancouver EV Ecosystem Strategy, Southwestern Public Service Company, the Oregon Public Utilities Commission and Portland General Electric, and the Government of New Zealand.⁹³

FBC expects that the DCFC stations will have zero salvage value due to technology obsolescence and reliability concerns with 10-year old stations.⁹⁴ FBC notes that after 10 years, its charging stations technology will become obsolete and the equipment will have reduced reliability.⁹⁵

FBC confirms that section 18 of the CEA allows FBC to recover from its ratepayers the cost of stranded assets related to its EV charging stations that are prescribed undertakings.⁹⁶

Positions of Parties

In FBC's final argument, it submits that its "proposed rates are based on a cost of service analysis of its eligible charging stations and assume a reasonable level of use based on FBC's experience with its existing stations and projected growth in sales of EVs in BC over the next 10 years."⁹⁷ However, interveners note that the inputs used in FBC's model contain considerable uncertainty and are difficult to predict over the 10-year period.⁹⁸ Further, Flintoff submits that EV technology is rapidly changing and the industry will most likely produce EVs with increased range, requiring higher battery charging rates and shorter charging times.⁹⁹

During the oral submissions session, FBC submits that "the prospect of an unexpected change in technology is too unlikely and unforeseeable to impact FBC's forecast cost of service or proposed rates." FBC also notes ChargePoint's written submission that disagrees with FBC's comment that FBC's charging stations would be obsolete after 10 years. FBC clarifies that FBC's statement was to reflect the 10-year average service life of the stations, but agrees that the stations wouldn't necessarily automatically be functionally obsolete at 10 years.¹⁰⁰

FBC also submits that there is no reason to believe that FBC station technology will be obsolete within the 10-year horizon in which rates have been forecast. All of the charging stations follow industry standard charging technology, which is the combined charging system, or CCS and CHAdeMO. FBC explains that having industry standards is to provide coordination across the industry, which reduces the risk of investment in technology for

⁹³ Exhibit B-7, BCUC IR 11.1.

⁹⁴ Ibid., BCUC IR 11.2.3.

⁹⁵ Ibid., BCUC IR 16.1, IR 11.2.1.

⁹⁶ Transcript, Volume 1, p. 19.

⁹⁷ FBC Final Argument, p. 26.

⁹⁸ BCOAPO Final Argument, pp. 14, 17; BCSEA-VEVA Final Argument, p. 13; CEC Final Argument, p. 13.

⁹⁹ Flintoff Final Argument, p. 11.

¹⁰⁰ Transcript, Volume 1, p. 13.

both car manufacturers and the charging stations. FBC submits that there is no evidence in this proceeding of a competing industry standard that is set to supplant CCS or CHAdeMO.¹⁰¹

Further, FBC notes that all commercially available EVs currently manufactured are using charging technology compatible with FBC's charging stations. Since these cars will likely have a longer lifespan than FBC's charging stations, there will be many EVs that will be able to use the charging stations for the foreseeable future. However, in the event that the stations required some technological upgrade that was not forecast, FBC would assess the situation at the time. FBC notes that one option would be to update or replace the stations, which may be relatively inexpensive as the charging technology is only one component of the costs of the station and the old chargers may be repurposed, which would further reduce the costs. FBC submits that if there were material costs, it may bring forward an application to adjust the rate. However, it is currently not possible to reasonably forecast the timing or cost of such an unexpected event.¹⁰²

Intervenors generally agree that the issue of technology obsolescence and cost recovery should be monitored and addressed if and when there is evidence of the issue occurring as it is not currently possible to reasonably forecast such an event.

The CEC submits that since ratepayers are funding these prescribed undertakings and since this is an evolving business sector, FBC's expenditures in EV charging should be monitored. The CEC states that the BCUC could provide details on what FBC should include in its Annual Reviews and use that process to review the status of FBC's EV charging expenditures and whether some stations may be becoming obsolete.¹⁰³

BCOAPo submits that the EV charging stations should be depreciated over the service life that recognizes the assets' physical life and, to the extent practicable, the assets' technological life. BCOAPo submits that obsolescence wouldn't "sneak up on the utility" as there would be signals. Utilities would be obliged to bring these signals to the BCUC's attention or the BCUC on its own motion could launch an inquiry. The issue of obsolescence could be addressed at that time, so that the best possible format to recover the EV charging station costs could be planned ahead of when the actual obsolescence occurs, should it occur.¹⁰⁴

BCSEA-VEVA submits that it is FBC's responsibility to determine whether and how to keep its EV charging station technology current and competitive with other service providers, and any such issues could be addressed in FBC's Annual Reviews under the multi-year ratemaking plan. BCSEA-VEVA also submits that the disposal and retirement of obsolete equipment is a regulatory accounting issue that would be addressed if and when it arose under the same approach as any other situation. Any wrinkles that may be caused by the GGRR would also be addressed at that time.¹⁰⁵

Panel Determination

EV DCFC charging stations are subject to retirements resulting from fast-paced technological advancements. The Panel acknowledges the uncertainty at this time regarding how long FBC's stations will remain in use given the

¹⁰¹ Ibid., p. 14.

¹⁰² Transcript, Volume 1, pp. 14–15.

¹⁰³ Ibid., p. 23.

¹⁰⁴ Ibid., pp. 40–41.

¹⁰⁵ Ibid., pp. 51–52.

rapid advancements expected in EV technology and charging technology. Although the Panel is skeptical of a 10-year useful life, there is currently no strong evidence provided in this proceeding to support a useful life that is different from the one proposed. **Therefore, the Panel approves FBC's proposed straight-line depreciation rate of 10 percent for EV DCFC charging stations.**

Given the technology in the EV market is expected to rapidly change over the next few years and the lack of evidence regarding the useful life of this technology, the Panel is hopeful that there would be more information available over these next few years. **As discussed below in Section 4.2 of this Decision, the Panel directs FBC to file a detailed assessment of RS 96 and to include certain information in that assessment.** The future process to review RS 96 would be an appropriate time to review whether FBC's EV DCFC charging stations are becoming obsolete or whether the depreciation rate should be adjusted. **Accordingly, the Panel directs FBC to include a proposal for a depreciation rate for its EV DCFC charging stations and information to support its proposal as part of its detailed assessment of RS 96.**

2.5 Variance Between Approved Interim Rates and Final Permanent Rates

As noted above in Section 1.1 of this Decision, FBC's EV fast charging rate was approved on an interim basis at \$0.30/minute, as set out in the proposed RS 96. FBC proposes that the updated RS 96 rates of \$0.26/minute and \$0.54/minute, respectively, for 50 kW and 100 kW stations to be effective within 30 days of the date the BCUC renders its final decision.¹⁰⁶

On March 23, 2021, the BCUC issued Order G-90-21 to seek supplemental arguments on the following:

Should the BCUC direct the variance, if any, between the interim and permanent rates be recovered, or refunded as the case may be, in the permanent rates for customers of FBC's EV charging service?

- If so, what are the implications of doing so.
- If not, why not.

Positions of the Parties

FBC submits that the variance between the interim rate of \$0.30/minute and the proposed rate of \$0.26/minute for the 50 kW stations from 2018 to 2020 is approximately \$8,000. There were no 100 kW stations in operation.

<u>Interim EV Calculation</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>Total</u>	<u>Exhibit</u>
Interim EV Revenue	(4)	(24)	(32)	(60)	B-7, BCUC IR1 15.2
Proposed EV Revenue ¹	(3)	(21)	(28)	(52)	
Difference (\$000)	(0)	(3)	(4)	(8)	

FBC proposes that no action is needed given the amount of the variance. However, if the BCUC directs FBC to refund the difference to EV customers (rather than to all customers), then FBC suggests establishing one-year

¹⁰⁶ Exhibit B-7, BCUC IR 2.1.

rate rider that would reduce the 50 kW station rate. FBC notes that a \$0.01/minute rate decrease would return approximately \$10,000 over a year.¹⁰⁷

All interveners agree with FBC that no action is required because the variance is small.¹⁰⁸ Some interveners also note that the effort and complexity to implement a temporary rate rider may not be justified.¹⁰⁹

Panel Discussion

The Panel finds that a refund, for the difference between the interim and permanent rates since 2018, is not necessary considering the circumstances of FBC's participation in the EV charging market. No participants suggest that a refund is warranted or that the administrative efforts to refund approximately \$8,000 are justified.

In setting the EV fast charging rates, the Panel considered not only whether FBC's proposed rates are sufficient to recover costs, but also the competitiveness of FBC's rates compared to other service providers in the market. The Panel finds it appropriate for FBC to implement its approved EV fast charging rates without any temporary rate riders or adjustments. Otherwise, the EV fast charging rates that customers will ultimately pay may be confusing. Furthermore, the Panel expects that the \$8,000 will be included as part of FBC's cumulative balance to own and operate EV DCFC stations, which will be reviewed in a future Annual Review process (also see Section 3.0 below).

2.6 Goods and Services Tax

On September 24, 2021, FBC informed the BCUC that it has identified an administrative oversight regarding the implementation of FBC's existing interim rate that resulted in Goods and Services Tax (GST) not being correctly applied.¹¹⁰ FBC submits that GST should be added to RS 96. However, the vendor's payment platform has embedded GST within the interim rate, which resulted in an under collection of \$4,000 for the period from January 12, 2018 to August 31, 2021.

FBC submits that there is no impact to its proposed rates. The revenues and expense including this variance caused by the GST error will be reflected in FBC's regulated accounts. FBC proposes to recover the amount of the administrative error from all customers as part of FBC's revenue requirements through its Annual Review process.

Panel Discussion

The Panel is concerned with the lack of due care on the part of FBC in carrying out its oversight and operation of its EV DCFC service. Further, FBC's realization and submission on this issue was filed quite late in this proceeding, more than five months after the close of evidentiary portion of this proceeding. While the amount of the

¹⁰⁷ FBC Supplemental Argument, pp. 1-2.

¹⁰⁸ BCSEA-VEVA Supplemental Argument, p. 2; Flintoff Supplemental Argument, p. 5; BC Hydro Supplemental Argument, p. 1; BCOAPO Supplemental Argument, pp. 2-3; CEC Supplemental Argument, p. 2; ChargePoint Supplemental Argument, p. 1.

¹⁰⁹ Flintoff Supplemental Argument, p. 5; BC Hydro Supplemental Argument, p. 2; BCOAPO Supplemental Argument, p. 3.

¹¹⁰ Exhibit B-24.

administrative error is relatively small, billing errors of any kind will have an impact on customer expectations going forward, not to mention the additional cost of the actions necessary to resolve the error.

Under normal circumstances, this Panel would have considered rejection of these types of cost variances and instead require FBC's shareholder to account for the error. However, the BCUC's usual adjudicative powers are limited in consideration of section 18(2) of the CEA as applied to prescribed undertakings such as FBC's EV charging service. We therefore must regrettably accept in this instance FBC's proposal to recover this administrative error from all customers as part of FBC's revenue requirements through its Annual Review process under the 2020–2024 Multi-Year Rate Plan.

2.7 Overall Determination on Proposed Rates

For the reasons set out above, the Panel will approve, on a permanent basis, FBC's proposed time-based rates for 50 kW stations and 100 kW stations as set out in Rate Schedule 96, subject to FBC submitting a letter of clarification to explain the differences in electricity input cost, within 15 days of the issuance of this order, to the satisfaction of the BCUC. Permanent rates will be effective within 30 days of the date of the BCUC confirming the approved rates after its review of FBC's letter of clarification.

3.0 Regulatory Treatment of Revenue and Costs already Incurred

In the Revised Application, FBC proposes to account for the existing stations and all future stations in its regulated rate base and book of accounts. FBC submits that its existing and planned DCFC stations are prescribed undertakings pursuant to section 18 of the CEA, as they are within the class of prescribed undertakings set out in section 5 of the GGRR.¹¹¹ Section 18(2) of the CEA states that the BCUC must set rates for a public utility that allow it to recover its costs incurred with respect to the prescribed undertaking.

Since 2018, pursuant to Order G-9-18, FBC's capital costs associated with its existing stations have been held outside of rate base. Both revenues and expenses, including any associated costs for depreciation, O&M, financing and return have been accounted for in FBC's non-regulated books.¹¹²

When FBC receives approval of this Revised Application, the assets associated with the EV charging stations, and related revenues and expenses, will be reflected in FBC's regulated accounts. FBC will account for the net book value of these stations and the net book value of the contributions (CIAC) received for these stations in rate base. The following table shows the approximate net book value of FBC's existing EV station charging stations and contributions received as of December 31, 2020:¹¹³

¹¹¹ Exhibit B-5, p. 1.

¹¹² Ibid., p. 2.

¹¹³ Exhibit B-5, Table 4-1, p. 22.

Table 4-1: EV Charging Assets and CIAC (approximate book value 12/31/2020)

\$ million	Gross Value	Accumulated Depreciation/Amortization	Net Book Value
EV Charging Assets	3.52	(0.28)	3.24
CIAC	(1.27)	0.11	(1.16)
Total	2.25	(0.17)	2.08

Each year over the MRP, FBC will forecast the capital expenditures and capital additions entering rate base for EV charging stations that are planned to be constructed in the test year, including the associated depreciation, amortization, earned return, taxes and any other related costs. O&M costs related to the provision of EV charging will be included as forecast O&M (outside of indexed-based O&M). The monetization and amortization of carbon credits will be forecast each test year as Other Revenue, and revenue from EV charging will be forecast as a component of Tariff Revenue. Consistent with the treatment approved by the BCUC's Decision on FortisBC's MRP application,¹¹⁴ any variances between forecast and actual costs and revenues associated with the EV charging service will be accounted for in FBC's existing Flow-through deferral account.¹¹⁵

For the period from 2018 to 2020, the cumulative projected net surplus (i.e. revenue less costs) is expected to be a credit of \$74,000.¹¹⁶ FBC will consider the option of transferring the net cumulative historical credits and a projection for 2021 to its Flow-through deferral account in 2021, and will bring forward this or another proposal for the BCUC's review in the Annual Review process for setting 2022 rates. FBC plans to propose a method to recover the actual costs (less revenues) associated with its EV charging stations in its Annual Review.¹¹⁷

BCUC Approval to Include EV DCFC Stations in FBC's Rate Base

By Order G-215-21 dated July 14, 2021, the BCUC found that FBC's EV DCFC stations as set out in the Revised Application meet the definition in section 5 of the GGRR to be considered prescribed undertakings. The Panel also acknowledged that section 18(2) of the CEA requires the BCUC to "set rates that allow the public utility to collect sufficient revenue in each fiscal year to enable it to recover its costs incurred with respect to the prescribed undertaking." Therefore, the Panel approved FBC's request to include the assets associated with its EV DCFC stations that meet the definition of a prescribed undertaking under the GGRR in FBC's rate base.

In written submissions dated August 3, 2021, FBC sought clarification of whether the approval stated in Order G-215-21 included approval of FBC's requested depreciation rates and whether FBC can include all revenues and expenses of its EV charging stations in its regulated accounts as requested by FBC. FBC notes that without these approvals, it is unclear whether FBC can incorporate the costs and revenues related to its charging stations in its revenue requirements.¹¹⁸

¹¹⁴ FortisBC Energy Inc. and FortisBC Inc. Application for Approval of a Multi-Year Rate Plan for the Years 2020 through 2024, Decision and Orders G-165-20 and G-166-20, dated June 22, 2020, p. 73.

¹¹⁵ Exhibit B-5, pp. 22–23.

¹¹⁶ Exhibit B-7, BCUC IR 15.2.

¹¹⁷ Ibid., BCUC IR1 15.2.1.

¹¹⁸ Exhibit B-22, p. 6.

BCOAPO supports FBC's request for clarification of the approvals granted by Order G-215-21, but notes that the scope of EV station costs to be included in the revenue requirements will be impacted by the BCUC's final determination regarding the extent of cost recovery under the GGRR for cost components of an eligible charging station.¹¹⁹

In reply to BCOAPO, FBC submits that the BCUC's approval to allow FBC to include in rate base its EV charging station assets that meet the definition of prescribed undertakings in the GGRR resolves the issue noted by BCOAPO, in that FBC is approved to recover the full costs of its prescribed undertakings.¹²⁰

Panel Discussion

By Order G-215-21 dated July 14, 2021, FBC was approved to include the assets associated with its EV DCFC stations that are considered prescribed undertakings in its rate base. This means that FBC could include the costs and revenues related to its EV DCFC stations in its revenue requirements, with the exception of the expenses that are impacted by the depreciation rate, which had not been approved at the time. In Section 2.4 of this Decision, the Panel has now approved FBC's requested depreciation rates for FBC's EV DCFC charging stations. Therefore, the expenses impacted by the depreciation rate can also be included in FBC's revenue requirements.

The Panel accepts that FBC will consider the option of transferring the net cumulative historical credits to its Flow-through deferral account, and will bring this forward or another proposal in its Annual Review process for setting rates for FBC. The Panel also accepts that FBC will forecast the revenue and costs associated with its EV DCFC stations in its Annual Review process over each year of its MRP and any variances between the forecast and actual costs and revenues will be accounted for in FBC's existing Flow-through deferral account. However, any review of the recoverability of these costs and revenues in FBC's rates will be done during those respective proceedings.

4.0 Other Matters

4.1 Future EV Charging Stations and EV Resource Plan

FBC currently owns and operates 23 EV DCFC stations across 16 sites located within FBC's service territory. By the end of 2021, FBC plans to own and operate 40 stations across 23 sites.¹²¹

The BCUC noted that non-exempt utilities should develop an EV charging service (EVCS) Resource Plan to evaluate the utility's investments.¹²² This recommendation was part of the BCUC's regulatory framework option to provide non-prescriptive, high level direction to the BCUC regarding the regulation for non-exempt utilities' participation in the EV charging market. Alternatively, if the Government considers it appropriate, it may provide

¹¹⁹ Exhibit C8-5, p. 2.

¹²⁰ Exhibit B-23, p. 2.

¹²¹ Exhibit B-5, p. 2.

¹²² EV Inquiry Phase 2 Report, pp. 38-39.

prescriptive direction to the BCUC such as amending the GGRR to define EV charging infrastructure as a prescribed undertaking.¹²³

FBC does not believe a formal EVCS resource plan is required at this time because it is not clear whether additional investment will be required to further support public fast charging services in FBC's service territory.¹²⁴ FBC submits that it currently has no further plans to add more EV charging stations beyond what is in the Application.¹²⁵

FBC plans to have the BCUC review whether any future stations meet the criteria to be a prescribed undertaking during its Annual Reviews.¹²⁶ FBC submits that concerns regarding whether a particular station has or will come into operation can be addressed in the Annual Review process. Therefore, the BCUC can consider on a forecast basis whether, on a balance of probabilities, a charging station will be a prescribed undertaking.¹²⁷

Position of Parties

Parties generally did not comment on this issue, with the exception of BCSEA-VEVA. BCSEA-VEVA notes that the EV Inquiry Panel's statement regarding the requirement for non-exempt public utilities to develop an EVCS Resource Plan for review by the BCUC was one aspect of the non-prescriptive approach that the Government chose not to take when it took the prescriptive approach by amending section 5 of the GGRR.¹²⁸

Panel Discussion

The Panel accepts that FBC plans to have the BCUC review whether any EV charging stations that are not included in the Revised Application meet the criteria to be a prescribed undertaking in its Annual Review process. However, if the additional EV charging stations result in the need to recalculate the levelized rate, then it may be more appropriate to review these stations in a separate regulatory process. Therefore, as part of the Annual Review process, the Panel expects FBC to provide sufficient information for the BCUC to assess whether the prescribed undertaking criteria has been met and why the levelized rate does not need to be recalculated as a result of additional EV charging stations. If the levelized rate does need to be recalculated, then the Panel expects FBC to file this information for the BCUC's review as part of a separate application to review its levelized rates, outside of the normal Annual Review process.

The Panel acknowledges that the Government chose to take a prescriptive approach regarding non-exempt utilities' investments in EV fast charging stations by amending the GGRR to include EV charging stations. Further, the GGRR does not require non-exempt utilities to work together to develop the EV market. As noted in the EV Inquiry Phase 2 Report, the absence of an EVCS Resource Plan makes it difficult for the BCUC to evaluate the risks and benefits of non-exempt utilities' investments in EV charging stations to ratepayers.¹²⁹ The BCUC previously warned that thoughtful regulation must be in place to ensure that non-exempt public utility investments don't have the end effect of crowding out exempt utility investment.

¹²³ Ibid., Executive Summary, pp. 4-5.

¹²⁴ Exhibit B-7, BCUC IR 16.1.

¹²⁵ Ibid., BCUC IR1 16.1.

¹²⁶ Ibid., BCUC IR1 16.2.

¹²⁷ Ibid., BCUC IR1 3.8.4.

¹²⁸ Transcript, Volume 1, p. 52.

¹²⁹ BCUC EV Inquiry Phase 2 Report, p. 39.

We further note that FBC provides electricity services to EV charging service providers in its service area. This means FBC may compete against its own customers, which could lead to additional market competitiveness issues. An EVCS Resource Plan could help evaluate the potential impact of non-exempt utilities' investments in the EV charging market on exempt utility participants, with an aim to further advance government policy objectives to build a clean growth future, as currently outlined in its CleanBC Plan.

An EVCS Resource Plan could support the collective development of the EV market by ensuring that non-exempt utilities are investing in EV charging stations in a way that may reduce redundancy in resources or allocate resources to areas that lack sufficient EV charging service. This could enable the market to develop and grow in a more efficient manner.

However, since the GGRR does not contemplate an EVCS Resource Plan, the Panel declines to direct FBC to provide one at this time although it continues to consider such a plan to be highly desirable.

4.2 Future Reviews of FBC's EV Fast Charging Rates

FBC indicates that it would periodically review RS 96 as part of its COSA, such as the FBC COSA filed in 2017, which would consider whether the revenues from RS 96 were reasonably recovering the cost of service under RS 96. FBC initiates a COSA every 5 to 7 years.¹³⁰ FBC may also file an application for any changes in RS 96 if there are material deviations from its forecast revenue and costs, or if a new rate structure is permissible such as energy-based rates.¹³¹

In addition, FBC will include updated annual forecast for the EV program as part of its Annual Review, in which the BCUC and interveners can inquire into matters including station usage, demand and consumption statistics, revenue and cost figures as well as customer feedback and site buildout.¹³² The potential downside of reviewing the EV program alongside a broader annual review is the potential for less scrutiny. However, FBC views that a separate process to review the EV program would add an additional process to an already busy calendar. If the BCUC determines that a standalone review is to occur, FBC believes that it should be done on an annual basis with a 12-month interval and the specific timing could be set at the convenience of the BCUC.¹³³

Positions of the Parties

FBC submits that its review plans as outlined above should provide confidence to the BCUC that RS 96 will remain sufficiently in line with FBC's costs such that RS 96 will reasonably recover FBC's cost of service for its eligible charging stations. If there are any significant revenue or cost deviations from forecast, or if a new rate structure is feasible or preferable to the current RS 96, then FBC would file an application to the BCUC for any changes.¹³⁴ BCSEA-VEVA supports this approach, expecting that it will be practical and effective.¹³⁵

¹³⁰ Exhibit B-7, BCUC IR 6.7.

¹³¹ Ibid., BCUC IR 6.9.

¹³² Ibid., BCUC IR 6.8.

¹³³ Exhibit B-16, BCUC IR 20.2.

¹³⁴ FBC Final Argument, pp. 32-33.

¹³⁵ BCSEA-VEVA Final Arguments, p. 14.

BCOAPO states that due to the uncertainty in the forecast charging event times, electricity input costs, and other assumptions in FBC's cost-of-service calculations for its EV fast charging rates, the performance of the proposed rates and FBC's ability to reasonably recover costs associated with EV stations should be monitored closely.¹³⁶ Further, in the Annual Reviews, BCOAPO suggests that FBC must include both costs and revenues to date as well as the forecast for the balance of the ten-year period.¹³⁷

In response to BCOAPO, FBC submits that it is not proposing that each Annual Review be used to conduct a full review of the rate design of RS 96 every year as this would not be regulatory efficient and reasonable. FBC expects that the Annual Reviews would focus on material changes and not matters that are already canvassed in this proceeding.¹³⁸

Panel Determination

As noted in Section 2.2 above, while the Panel considered the cost recovery aspect of FBC's EV fast charging rates, market competitiveness in comparison with other service providers is also an important factor. The rates approved in this Revised Application allows for recovery of FBC's costs to provide EVCS on a forecast basis. However, the forecasts rely on current assumptions about demand elasticity and station utilization that have little foundation in actual experience. It is not clear what impact FBC's EV charging rates will have on the nascent competitive market. Further, Measurement Canada may approve DCFC energy based metering, either globally or on an exemption basis for FBC. Any or all of these circumstances necessitate regular reviews of the EV fast charging rate.

The review and evaluation of FBC's EV fast charging rates and rate design are complex matters and specialized in nature. The Panel is concerned that the Annual Review process, which is designed to be a streamlined process with a predictable regulatory timetable, is not conducive for a comprehensive review of EV charging rates. Further, participants such as other EV charging service providers that do not regularly participate in FBC's Annual Review process may nonetheless wish to participate in a review of FBC's EV charging rates as they impact on the competitiveness of their own service. We recommend that along with the utility providers of EV charging service, the BCUC invite non-exempt utilities providing EV fast charging services as well as other stakeholders to participate in a comprehensive review of EV fast charging service rates in BC in the future.

Accordingly, the Panel directs FBC to file a detailed assessment of RS 96 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. Such detailed assessment must include:

- **An update of the financial models presented in this proceeding with actual and forecast information and updated assumptions;**
- **A detailed assessment of RS 96 and alternative rate design options;**
- **An overview of the current EV fast charging service market and rates across Canada and United States;**

¹³⁶ BCOAPO Final Argument, p. 13.

¹³⁷ Ibid., p. 21.

¹³⁸ FBC Reply, p. 11.

- **A proposal for a depreciation rate for its EV DCFC charging stations and information to support its proposal;**
- **An assessment as to whether idling fees are warranted.**

The Panel also acknowledges FBC's commitment to include RS 96 as part of its next COSA study.

4.3 Idling Fee

FBC explains that an idling fee is "an additional time-based charge that is added to the cost of a charging session after charging is complete to discourage EV owners from occupying a charging station unnecessarily."¹³⁹ Based on its analysis of station usage patterns, FBC considers that implementing an idling fee is not necessary at this time. Drivers at FBC's stations tend to charge for around 30 minutes and then leave after charging their vehicles. FBC notes that it will seek BCUC approval if RS 96 should be modified to include idling fees.¹⁴⁰

Positions of the Parties

FBC and some interveners suggest that an idling fee is not necessary at this time.¹⁴¹ The CEC views that it is not necessary to implement an idling fee in the absence of concerns, but notes that since only one charging event can occur at a time, it is important for FBC to monitor this possible issue going forward.¹⁴² Flintoff suggests that idling fees should be considered to keep charging stations available for other users.¹⁴³

In reply, FBC submits that there is no evidence of any need for an idling fee and Flintoff's evidence referenced in his argument was not on the record and should not be given any weight. FBC will monitor its EV charging stations and will propose an idling fee if needed.¹⁴⁴

Panel Determination

The Panel accepts that FBC has considered the data available of its own charging stations and its observation that EV drivers are not staying longer than necessary. As for other EV charging service providers in FBC's service area and regional highways, only Electrify Canada and Tesla out of the six service providers currently have time-based idling fees and Tesla charging stations are for the exclusive use of Tesla vehicles. Given the lack of evidence indicating congestion at FBC's EV charging stations and limited service providers have implemented idling fees, the Panel is not persuaded that idling fees are warranted for FBC's fast charging stations at this time. **As already directed in Section 4.2 above, FBC is directed to include an assessment as to whether idling fees are warranted as part of the future rate design review process for FBC's EV fast charging rates.** The BCUC will also actively monitor the need for idling fees.

¹³⁹ Exhibit B-10, CEC IR 13.3.

¹⁴⁰ Exhibit B-7, BCUC IR 7.3.

¹⁴¹ FBC Final Argument, p. 35; BCSEA-VEVA Final Argument, p. 15

¹⁴² CEC Final Argument, p. 11

¹⁴³ Flintoff Final Argument, p. 17

¹⁴⁴ FBC Reply, p. 14

4.4 Commercial EV Charging

The CEC explored the possibility of FBC offering a commercial EV charging rate.¹⁴⁵ However, FBC is not aware of any cost basis to charge a different rate to commercial vehicles. FBC has had preliminary discussions with customers that are interested in dedicated charging infrastructure for their electric fleets, including regional governments, school districts and private operators.

The CEC supports FBC's efforts to assist commercial enterprises wishing to develop dedicated charging infrastructure and recommends that the BCUC encourage FBC to continue work in this area.¹⁴⁶

Panel Discussion

The Panel acknowledges that FBC has been in discussions with customers who are interested in dedicated charging infrastructure for their EV fleets. The Panel also understands that electric utilities will likely play an important role in EV charging beyond passenger vehicles either as an electric utility serving station operator or owning and operating charging stations themselves. In the Decision regarding the FortisBC Energy Inc. and FBC Application for Approval of a Multi-Year Rate Plan for the Years 2020 through 2024, that Panel noted FBC's potential initiative to develop high-speed charging technologies for medium and heavy-duty vehicles.¹⁴⁷ The BCUC has also recently held a public proceeding to review BC Hydro's Fleet Electrification rates. FBC is encouraged to review BC Hydro's fleet electrification rate schedules as part of its own rate development process and is encouraged to bring forth an application.

4.5 Confidentiality

FBC requests that the live financial models filed in this proceeding be kept confidential by the BCUC pursuant to Section 18 of the BCUC's Rules of Practice and Procedure regarding confidential documents as set out in Order G-15-19.

FBC submits that the financial models are the result of significant development effort by FBC on behalf of its customers and, therefore, the formulas and configuration of the model are commercially sensitive. FBC believes there is more than adequate non-confidential information provided in the cost-of-service analysis and financial schedules filed in Appendix E to the Application.¹⁴⁸

Intervenors did not comment on this request.

Panel Determination

The Panel agrees that the financial models are the result of significant development effort by FBC and the models are commercially sensitive in nature. The Panel recognizes that FBC's financial models may also be commercially sensitive from the perspective that there are various service providers competing in the EV

¹⁴⁵ Exhibit B-10, CEC IR 7.2.2; Exhibit B-19, CEC IR 18.1.2 and 19.2.

¹⁴⁶ The CEC Final Argument, p. 15.

¹⁴⁷ FortisBC Energy Inc. and FortisBC Inc. Application for Approval of a Multi-Year Rate Plan for the Years 2020 through 2024, Decision and Orders G-165-20 and G-166-20, dated June 22, 2020, pp. 153 and 155.

¹⁴⁸ Exhibit B-6.

charging market. **Therefore, unless otherwise ordered by the BCUC, the Panel approves FBC's request to keep confidential the financial models that include formulas and configurations filed in this proceeding.**

DATED at the City of Vancouver, in the Province of British Columbia, this 24th day of November 2021.

Original signed by:

D. M. Morton
Panel Chair / Commissioner

Original signed by:

A. K. Fung, QC
Commissioner



ORDER NUMBER
G-341-21

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

and

FortisBC Inc.
Application for Approval of Rate Design and Rates
for Electric Vehicle Direct Current Fast Charging Service

BEFORE:

D. M. Morton, Panel Chair/Commissioner
A. K. Fung, QC, Commissioner

on November 24, 2021

ORDER

WHEREAS:

- A. On December 22, 2017, FortisBC Inc. (FBC) submitted an application (Original Application) to the British Columbia Utilities Commission (BCUC) for Approval of Rate Design and Rates for Electric Vehicle (EV) Direct Current Fast Charging (DCFC) Service and Tariff Rate Schedule 96 (RS 96) pursuant to sections 59 to 61 and 90 of the *Utilities Commission Act* (UCA);
- B. By Order G-9-18 dated January 12, 2018, the BCUC:
 - i. approved a time-based rate of \$9.00 per 30-minute period for EV charging at FBC owned DCFC stations, as set out in RS 96, on an interim basis, effective January 12, 2018;
 - ii. directed FBC to separately track and account for all costs associated with the EV DCFC stations and exclude all such costs from its utility rate base until the BCUC directs otherwise; and
 - iii. adjourned the review of the FBC Application until further notice;
- C. By Order G-10-18 dated January 12, 2018, the BCUC established an inquiry (Inquiry) into the regulation of EV charging service in British Columbia as the BCUC noted that certain regulatory matters related to the rate design and rates for EV charging should be canvassed before undertaking a full review of the FBC Original Application;
- D. By Order in Council No. 339 (OIC 339/20), as approved and issued on June 22, 2020, the Lieutenant Governor in Council amended the Greenhouse Gas Reduction (Clean Energy) Regulation (GGRR) to add Section 5 regarding prescribed undertaking – electric vehicle charging stations;
- E. On September 30, 2020, FBC filed a revised and updated application (Revised Application), seeking BCUC approval of the following:

- i. permanent approval of RS 96 – Electric Vehicle Charging, which includes a \$0.27 per minute EV charging rate for service at FBC-owned DCFC 50 kW stations and a \$0.54 per minute EV charging rate for service at FBC-owned DCFC 100 kW stations;
 - ii. approval that Rate Schedule 96 shall not be subject to general rate increases, unless otherwise directed by the BCUC;
 - iii. approval of a straight-line 10 percent depreciation rate for FBC’s EV charging stations; and
 - iv. approval for FBC to include the assets associated with the EV charging stations, and related revenues and expenses, in FBC’s regulated accounts, as set out in section 4 of the Application.
- F. As updated during the course of the proceeding, FBC seeks approval of permanent rates for EV charging service at FBC-owned DCFC stations at \$0.26/minute at 50 kW stations and \$0.54/minute at 100 kW stations, to be effective within 30 days of the date of the BCUC’s order approving the rates. FBC also seeks approval pursuant to section 52 of the UCA to dispose FBC’s EV DCFC station in New Denver and in Nakusp to the British Columbia Hydro and Power Authority (BC Hydro);
- G. By Orders G-183-20, G-223-20, G-254-20, G-33-21, G-58-21, and G-90-21, the BCUC established a regulatory timetable for the proceeding, which included dates for intervener registration, FBC’s evidentiary update, public notice, two rounds of written information requests (IRs), and written final and supplemental arguments. By letter dated May 10, 2021, the BCUC requested oral submissions from FBC and interveners, to be held on May 27, 2021, to clarify and elaborate on their arguments;
- H. By Order G-215-21 with reasons for decision dated July 14, 2021, the BCUC approved, among other things, FBC’s request to include the assets associated with its EV DCFC stations that meet the definition of a prescribed undertaking under the GGRR in FBC’s rates base, as set out in section 4 of the Revised Application, and the disposition of FBC’s EV DCFC station in New Denver and Nakusp to BC Hydro; and
- I. Upon completion of its review of this proceeding, the BCUC makes the following determinations.

NOW THEREFORE, pursuant to sections 56, 59 to 61 of the UCA and the decision issued concurrently with this order, the BCUC orders as follows:

1. FBC will be approved to offer on a permanent basis Rate Schedule (RS 96) - Electric Vehicle Charging for EV charging service at FBC-owned DCFC stations at \$0.26/minute at 50 kW stations and \$0.54/minute at 100 kW stations, upon FBC submitting a letter clarifying the electricity input cost within 15 days of this Decision, to the satisfaction and approval of the BCUC.
2. Upon FBC submitting the clarifying letter set out in directive 1 of this order, the BCUC will review the letter and, if satisfied, will set RS 96 permanent rates to be effective within 30 days of its determination.
3. The rates specified in RS 96 shall not be subject to general rate increases, unless otherwise directed by the BCUC.
4. FBC is approved to apply a straight-line 10 percent depreciation rate for FBC-owned EV DCFC stations.

5. FBC 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 24th day of November 2021.

BY ORDER

Original signed by:

D. M. Morton
Commissioner

FortisBC Inc.
FortisBC Inc. Rate Design and Rates for Electric Vehicle
Direct Current Fast Charging Service Application

GLOSSARY AND ACRONYMS

ACRONYM / GLOSSARY	DESCRIPTION
AC	Alternating current
BC Hydro	British Columbia Hydro and Power Authority
BCOAPO	British Columbia Old Age Pensioners' Organization, <i>et al.</i>
BCSEA	BC Sustainable Energy Association
BCSEA-VEVA	BC Sustainable Energy Association and Vancouver Electric Vehicle Association
BCUC	British Columbia Utilities Commission
CCA	Capital Cost Allowance
CEA	<i>Clean Energy Act</i>
CEC	The Commercial Energy Consumers Association of British Columbia
CIAC	Contributions in Aid of Construction
COSA	Cost of Service Analysis
DC	Direct Current
DCFC	Direct Current Fast Charging
EV	Electric Vehicle
EV Inquiry	An inquiry into the regulation of EV charging service in British Columbia
EV Inquiry Phase 1 Report	EV Charging Service Inquiry Phase 1 Report dated November 26, 2018
EV Inquiry Phase 2 Report	EV Charging Service Inquiry Phase 2 Report dated June 24, 2019
EVCS	EV Charging Service
FBC	FortisBC Inc.
Flintoff	Don Flintoff
GGRR	Greenhouse Gas Reduction (Clean Energy) Regulation

ACRONYM / GLOSSARY	DESCRIPTION
GST	Goods and Services Tax
IR	Information Request
kW	kilowatt
kWh	kilowatt-hours
MRP	Multi-Year Rate Plan
NPV	Net Present Value
O&M	Operating and Maintenance
Original Application	Application for Approval of Rate Design and Rates for Electric Vehicle Direct Current Fast Charging Service and Tariff Rate Schedule 96 pursuant to sections 59 to 61 and 90 of the <i>Utilities Commission Act</i> dated December 22, 2017
Revised Application	Revised and updated application seeking BCUC approval of the following: <ul style="list-style-type: none"> i. permanent approval of RS 96 – Electric Vehicle Charging, which includes a \$0.27 per minute EV charging rate for service at FBC-owned DCFC 50 kW stations and a \$0.54 per minute EV charging rate for service at FBC-owned DCFC 100 kW stations; ii. approval that RS 96 shall not be subject to general rate increases, unless otherwise directed by the BCUC; iii. approval of a straight-line 10 percent annual depreciation rate for FBC’s EV charging stations; and iv. approval for FBC to include the assets associated with the EV charging stations, and related revenues and expenses, in FBC’s regulated accounts, as set out in section 4 of the Revised Application.
RLCFRR	Renewable and Low Carbon Fuel Requirements Regulation
RS 96	Electric Tariff Rate Schedule 96
UCA	<i>Utilities Commission Act</i>

FortisBC Inc.
FortisBC Inc. Rate Design and Rates for Electric Vehicle
Direct Current Fast Charging Service Application

EXHIBIT LIST

EXHIBIT NO.	DESCRIPTION
<i>COMMISSION DOCUMENTS</i>	
A-1	Letter dated January 10, 2018 - Appointing the Panel for the review of the FortisBC Inc. Rate Design and Rates for Electric Vehicle (EV) Direct Current Fast Charging (DCFC) Service Application
A-2	Letter dated January 12, 2018 – Commission Order G-9-18 approving interim rates and adjourning the proceeding
A-3	Letter dated July 31, 2019 – BCUC request FBC submission on further process
A-4	Letter dated August 22, 2019 – BCUC response to FBC submission on further process (Exhibit B-2)
A-5	Letter dated July 10, 2020 – Panel Amendment
A-6	Letter dated July 10, 2020 – BCUC Order G-183-20 establishing the regulatory timetable to restart the proceeding
A-7	Letter dated August 28, 2020 —BCUC Order G-223-20 establishing the regulatory timetable to review the Application
A-8	Letter dated October 13, 2020 – BCUC Order G-254-20 establishing an amended regulatory timetable
A-9	Letter dated October 29, 2020 — BCUC Information Request No. 1 to FBC
A-10	Letter dated December 18, 2020 – Request for Submissions on Further Process
A-11	Letter dated January 28, 2021 – BCUC Order G-33-21 establishing a further regulatory timetable
A-12	Letter dated February 11, 2021 – BCUC Information Request No. 2 to FBC
A-13	Letter dated February 24, 2021 – Request to address the legal interpretations of GGRR as part of final arguments
A-14	Letter dated March 1, 2021 – BCUC Order G-58-21 amending the regulatory timetable
A-15	Letter dated March 23, 2021 – BCUC Order G-90-21 establishing the regulatory timetable for supplemental arguments

- A-16 Letter dated May 10, 2021 – BCUC notice to parties regarding the oral submissions’ session
- A-17 Letter dated May 26, 2021 – BCUC Request for comments on the summary of the EV fast charging service in the FBC area
- A-18 Letter dated July 14 – BCUC Order G-215-21 with Reasons for Decision and establishing the regulatory timetable for submissions on proceeding adjournment
- A-19 Letter dated September 1, 2021 – BCUC response to submissions regarding proceeding adjournment

APPLICANT DOCUMENTS

- B-1 **FORTISBC INC. (FBC)** Letter dated December 22, 2017 - Rate Design and Rates for Electric Vehicle (EV) Direct Current Fast Charging (DCFC) Service Application
- B-2 Letter dated August 20, 2019 – FBC Submission on Further Process
- B-3 Letter dated June 30, 2020 – FBC Submission on Process Restart
- B-4 Letter dated July 28, 2020 – FBC Clarification on Application
- B-5 Letter dated September 30, 2020 – FBC Revision on Application
- B-6 **CONFIDENTIAL** - Letter dated October 16, 2020 – FBC Submitting separately Confidential Financial Models to the Application
- B-7 Letter dated November 19, 2020 – FBC submitting responses to BCUC Information Request No. 1
- B-8 **CONFIDENTIAL** – Letter dated November 19, 2020 – FBC submitting responses to BCOAPO Information Request No. 1, Questions 11.4, 11.5 and 11.6
- B-8-1 **REDACTED** - Letter dated November 19, 2020 – FBC submitting redacted responses to BCOAPO Information Request No. 1
- B-9 Letter dated November 19, 2020 – FBC submitting responses to BCSEA Information Request No. 1
- B-10 Letter dated November 19, 2020 – FBC submitting responses to CEC Information Request No. 1
- B-11 Letter dated November 19, 2020 – FBC submitting responses to ChargePoint Information Request No. 1
- B-12 Letter dated November 19, 2020 – FBC submitting responses to Flintoff Information Request No. 1

- B-13 Letter dated January 8, 2021 – FBC submitting Proposal Regarding Accessibility of Stations
- B-14 Letter dated January 20, 2021 – FBC submitting comments on further process
- B-15 Letter dated February 24, 2021 – FBC submitting amendment to the regulatory timetable
- B-16 Letter dated February 25, 2021 – FBC submitting responses to BCUC Information Request No. 2
- B-17 Letter dated February 25, 2021 – FBC submitting responses to BCOAPO Information Request No. 2
- B-18 Letter dated February 25, 2021 – FBC submitting responses to BCSEA-VEVA Information Request No. 2
- B-19 Letter dated February 25, 2021 – FBC submitting responses to CEC Information Request No. 2
- B-20 Letter dated February 25, 2021 – FBC submitting responses to Flintoff Information Request No. 2
- B-21 Letter dated June 2, 2021 – FBC submitting comments on the Summary of the EV Fast Charging Service in FBC Service Area
- B-22 Letter dated August 3, 2021 – FBC submission regarding Adjournment and Interim Rates
- B-23 Letter dated August 24, 2021 – FBC submitting reply on proceeding adjournment
- B-24 Letter dated September 24, 2021 – FBC submitting tax issues at the stations

INTERVENER DOCUMENTS

- C1-1 **VICTORIA EV ASSOCIATION (VICTORIA EVA)** – Letter dated June 29, 2020 – Request for Intervener Status by Jim Hindson
- C2-1 **BRITISH COLUMBIA HYDRO AND POWER AUTHORITY (BC HYDRO)** - Letter dated July 13, 2020 Request to Intervene by Fred James
- C2-2 Letter dated May 26, 2021 – BC Hydro submission regarding Oral Submission and Argument
- C3-1 **DON FLINTOFF (FLINTOFF)** - Letter dated July 22, 2020 Request to Intervene
- C3-2 Letter dated November 5, 2020 – Flintoff submitting Information Request No. 1 to FBC
- C3-3 Letter dated January 10, 2021 – Flintoff submitting Information Request No. 2 to FBC
- C3-4 Letter dated May 26, 2021 – Flintoff submission regarding Oral Submission and Argument

- C3-5 Letter dated June 2, 2021 – Flintoff submitting comments on the Summary of the EV Fast Charging Service in FBC Service Area
- C3-6 Letter dated August 10, 2021 – Flintoff submission regarding Adjournment and Interim Rates
- C4-1 **BC SUSTAINABLE ENERGY ASSOCIATION (BCSEA)** - Letter dated July 22, 2020 Request to Intervene by Thomas Hackney
- C4-2 Letter dated November 4, 2020 – BCSEA Request to also represent Vancouver Electric Vehicle Association (Vancouver EVA)
- C4-3 Letter dated November 5, 2020 – BCSEA-Vancouver EVA submitting Information Request No. 1 to FBC
- C4-4 Letter dated December 11, 2020 – BCSEA-Vancouver EVA Request for opportunity for file intervenor evidence
- C4-5 Letter dated January 12, 2021 – BCSEA-Vancouver EVA Request submitting comments on further process
- C4-6 Letter dated February 11, 2021 – BCSEA-Vancouver EVA submitting Information Request No. 2 to FBC
- C4-7 Letter dated May 30, 2021 – BCSEA-Vancouver EVA submitting response on the summary of the EV fast charging service in the FBC area
- C4-8 Letter dated August 5, 2021 – BCSEA-Vancouver EVA submission regarding Adjournment and Interim Rates
- C5-1 **COMMERCIAL ENERGY CONSUMERS ASSOCIATION OF BRITISH COLUMBIA (CEC)** – Letter dated July 30, 2020 Request to Intervene by Christopher Weafer
- C5-2 Letter dated November 5, 2020 – CEC submitting Information Request No. 1 to FBC
- C5-3 Letter dated January 13, 2021 – CEC submitting comments on further process
- C5-4 Letter dated February 11, 2021 – CEC submitting Information Request No. 2 to FBC
- C5-5 Letter dated August 12, 2021 – CEC submission regarding Adjournment and Interim Rates
- C6-1 **CHARGEPOINT (CHARGEPOINT)** - Letter dated July 30, 2020 Request to Intervene by Suzanne Goldberg
- C6-2 Letter dated November 5, 2020 – ChargePoint submitting Information Request No. 1 to FBC

- C6-3 Letter dated May 26, 2021 – ChargePoint submission regarding Oral Submission and Argument
- C7-1 **DONOVAN WHISTLER (WHISTLER)** – Letter dated July 30, 2020 Request to Intervene
- C8-1 **BRITISH COLUMBIA OLD AGE PENSIONERS' ORGANIZATION, COUNCIL OF SENIOR CITIZENS' ORGANIZATIONS OF BC, ACTIVE SUPPORT AGAINST POVERTY, DISABILITY ALLIANCE BC, AND TENANT RESOURCE & ADVISORY CENTRE (BCOAPO ET AL)** - Letter dated July 31, 2020 - Request for Intervener Status by Leigha Worth
- C8-2 Letter dated November 5, 2020 – BCOAPO submitting Information Request No. 1 to FBC
- C8-3 Letter dated January 13, 2021 – BCOAPO submitting comments on further process
- C8-4 Letter dated February 11, 2021 – BCOAPO Information Request No. 2 to FBC
- C8-5 Letter dated August 12, 2021 – BCOAPO submission regarding Adjournment and Interim Rates
- C9-1 **ALLIANCE FOR TRANSPORTATION ELECTRIFICATION (ATE OR ALLIANCE)** - Letter dated October 16, 2020 Request to Intervene by Michael Krauthamer

INTERESTED PARTY DOCUMENTS

- D-1 **THOMAS, LYLE** – August 2, 2019 Request for Interested Party Status on behalf of the Town of Princeton
- D-2 **NOBLE, COLIN** – August 27, 2019 Request for Interested Party Status
- D-2-1 Noble, C. - Letter of Comment dated July 14, 2020
- D-2-2 Noble, C. - Letter of Comment dated October 1, 2020
- D-3 **TSE, KEVIN** – September 6, 2019 Request for Interested Party Status on behalf of the Internat Energy Solutions Canada
- D-4 **COWNDEN, RYAN** – October 15, 2020 Request for Interested Party Status
- D-4-1 Cownden, R. - Letter of Comment dated September 30, 2020
- D-4-2 Cownden, R. - Letter of Comment dated July 30, 2021

LETTERS OF COMMENT

- E-1 Garnett, B. – Letter of Comment dated October 9, 2020
- E-2 Stein, C. - Letter of Comment dated October 5, 2020