

March 27th, 2019

Patrick Wruck
Commission Secretary
BC Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC Canada V6Z 2N3

**Re: Commission Inquiry into the Regulation of Electric Vehicle Charging Service ~ Project No.1598941
Phase 2 of Enquiry – Final Argument**

Dear Mr. Wruck:

BrightSide Solutions is a clean energy consulting and project development company that focuses on advancing clean energy projects in BC. BrightSide works with customers to help them make informed decisions regarding adoption of clean energy fuels and technologies. BrightSide's customers are involved in transportation applications using a variety of fuels including Compressed Natural Gas, Liquefied Natural Gas, Hydrogen and Electricity, in addition to conventional fuels. As founder of BrightSide, I bring over 30 years of experience in clean energy and transportation markets to this discussion.

BrightSide's submission with respect to Phase 2 of the enquiry is organized around the revised scope for the inquiry as issued in Appendix A to Commission Order G-50-19 :

BrightSide's final arguments opposite each question in the revised scope are presented below:

- 1. In the absence of price regulation, how can EV charging providers that are not otherwise public utilities (which would be exempt from regulation in accordance with the Panel's recommendation) be protected from being undercut by non-exempt public utilities? Should nonexempt public utilities be restricted to participate only in remote geographical locations that are currently uneconomical for exempt EV charging providers to serve?**

There is a long history in BC of the challenges of trying to manage utility based fueling station services to emerging fuels markets both for Light Duty Vehicles and for Heavy Duty Vehicles. For example, in the late 1990's, a utility based system of over 50 stations had been constructed to serve over 10,000 natural gas vehicles in the province. More recently FortisBC has established CNG and LNG fueling stations to service several hundred heavy duty commercial vehicles. In both cases utility incentives and investment in fueling stations was key to enable early market traction for the use of cleaner fuels.

Issues regarding regulated utility participation in emerging alternative energy markets, including provision of fueling services, were explored in depth through the Alternative Energy Services inquiry. The finding from this inquiry were issued through the "INQUIRY INTO THE OFFERING OF PRODUCTS AND SERVICES IN ALTERNATIVE ENERGY SOLUTIONS AND OTHER NEW INITIATIVES" report issued Dec 27,

2012. BrightSide argues that the provision of Electric Charging service is a “New Initiative” for utilities and that the finding of the AES Inquiry would normally apply to the provision of EV Charging Services by regulated utilities. While the inquiry was focused on the activities of the natural gas distribution utilities, it was the Commission’s intent that the principles be applied broadly to utility activities in emerging markets.

The Objectives of the AES Inquiry¹ were to:

- a) Provide guidance to future Commission Panels dealing with applications related to new business activities;
- b) Provide guidance to FEU and other utilities dealing with or entering into new business activities outside of the traditional gas distribution utility business;
- c) Provide clarity as to the Commission’s views on activities that should be regulated and activities that should be kept outside the regulatory umbrella;
- d) Provide guidance as to how new activities that are to be regulated should be structured so as to be fair to the traditional ratepayer, the user of the new service and the utility;
- e) Provide direction as to how EEC or other incentive funds should be administered to ensure fair, effective and non-discriminatory treatment;
- f) Address specific issues referred to the Inquiry Panel from other proceedings; and g) Provide direction to FEU as to a process to deal with the Thermal Energy Services Deferral Account.

In the AES inquiry the Commission concluded that, “Many of the issues in this proceeding are similar to those addressed in the Retail Markets Downstream of the Utility Meter (RMDM) Guidelines issued by the Commission in April 1997.”² The Commission Panel especially confirms the RMDM principle “[t]here must be no subsidy of unregulated business activities, whether undertaken by the utility or its NRB, by utility ratepayers” and extends this principle to apply to regulated businesses as set out in Sections 2 and 3.”³

The Commission’s general principle that there be no subsidy of unregulated business activities was moderated in light of the issuance of Prescribed Undertakings under the Greenhouse Gas Reduction Regulation as indicated below:

“The Greenhouse Gas Reduction Regulation indicates that the Government supports traditional utility ratepayers providing limited incentives and other funding for certain prescribed CNG activities, in certain limited circumstances, and for a limited period of time, presumably to “kick start” the natural gas for transportation market. The Panel notes that the monetary and temporal limits placed on the Prescribed Undertaking activities are maximum limits and, in the Panel’s view, these limits represent the maximum subsidization which ratepayers should be required to provide. In the Commission Panel’s view, it is crucial that, except to the extent

¹ https://www.bcuc.com/Documents/Decisions/2012/DOC_33023_G-201-12_FEI-AES-Inquiry-Report_WEB.pdf page 2

² https://www.bcuc.com/Documents/Decisions/2012/DOC_33023_G-201-12_FEI-AES-Inquiry-Report_WEB.pdf page 3

³ https://www.bcuc.com/Documents/Decisions/2012/DOC_33023_G-201-12_FEI-AES-Inquiry-Report_WEB.pdf Page 5

required by legislation, there be no cross-subsidization as between existing ratepayers and CNG Service customers.”⁴

So in summary, the Commission was reluctant to allow utility participation beyond the meter set, but Government policy as defined in the GGRR, allowed the utility to provide service up to certain specified limits.

The GGRR provisions that presently exist allow utilities to amortize CNG and LNG fueling station costs over 20 years and to invest in stations provided they have customer contracts to cover 80% of the cost of service for the first 5 years. As fueling station customers are part of the overall Natural Gas Class of service, all other rate payers cover the business risk on the investment for 20% of the initial 5 year period and 100% of the remaining 15 year life. In this model 80% of the cost of service over the life of the project is financially backstopped by all ratepayers. (It should also be noted that a similar investment in connecting a new traditional market customer requires no term agreement from the customer; consequently 100% of the cost is financially backstopped by all rate payers – all customers backstop the risk associated with a new customer and the utility is guaranteed its return on investment)

The result of the GGRR policy as enacted for natural gas stations was the development of a significant and growing natural gas vehicle market in BC and the achievement of the governments objective of reducing GHG emission. It should be noted; however, that there has been minimal participation in the supply of fueling stations by non-utility market participants. The utility can be a powerful lever to encourage early market traction, but experience indicates it is not possible to utilize this lever and provide a level playing field for non-utility market participants.

Moving back to the EV situation, BrightSide notes that the present GGRR Prescribed Undertaking for EV service is limited to R&D and demonstration efforts. The submission made by MEMPR at the procedural conference indicated that government policy supports having regulated utilities provide EV Charging services downstream of the meter and that the utilities be able to recover their costs through rates. What is missing from the policy statement is clarification of:

- How much investment is to be allowed?
- What types of stations?
- What rates will be used to recover the utility investment in EV Charging stations?
- Which customers will pay those rates?
- What degree of cross subsidization should be allowed?

BrightSide argues that clear and transparent limits need to be set to govern utility investment in EV charging station deployment in a manner similar to what is presently in place for CNG and LNG station investments and that these limits should be established through further amendment of the GGRR.

BrightSide argues that the Government’s policy decision to support active participation of utilities in providing EV charging will make it more difficult for competitive market solutions to be developed. Clearly, where one party in the market has the ability to subsidize investments and to have full cost recovery certainty, and the other must take commercial risk, there is no level playing field. BrightSide

⁴ https://www.bcuc.com/Documents/Decisions/2012/DOC_33023_G-201-12_FEI-AES-Inquiry-Report_WEB.pdf Page 53

argues that it is not possible to protect the commercial interests of non-utility EV Charging providers from being undercut by utility participants in these circumstances. The best that can be achieved is to put clear and transparent limits on the degree of utility participation and to establish a date when the regulatory environment will be reviewed. In this circumstance government policy in effect favours rapid market adoption over fair competition between utility and non-utility participants.

In addition to the regulatory policy that favours the utility, there is also a more practical obstacle that non-utility participants face. EV Charging projects must go through an interconnection process to be added to the grid. Non-utility EV station providers will need access to timely and efficient interconnection services on the same terms and conditions as utility projects. BrightSide argues that measures should be taken to ensure that interconnection services provided by the utility to EV projects are delivered in a manner that does not discriminate between utility-based projects and competitive market projects. Given the non-level commercial playing field this may be a moot point.

With respect to the question of limiting participation of the utility to EV projects in remote communities, BrightSide believes that this would be inconsistent with government policy as stated at the procedural conference. BrightSide suggests that further clarity is needed on this issue and should be provided by the ministry.

2. Question removed

3. For EV charging services provided by non-exempt public utilities participating in the EV charging market, should EV charging customers constitute a separate class from which costs associated with EV charging infrastructure is recovered?

As discussed under Q1, the model in place for natural gas fueling stations has established that the fueling station customers are part of the Natural Gas Class of service. The GGRR establishes the risk sharing rules for recovery of the investment. Under these rules the customer taking the service pays for the majority of the cost of service through fueling rates under minimum 5 yr contracts, with long term cost recovery being backstopped/guaranteed by all rate payers.

Government policy is to support participation of electric utilities in providing EV Charging service and recovery of investment through rates. In principle it would be logical to have the EV Charging rates recover the majority or all of the cost of service, and to have the long term costs of the station investment backstopped by all rate payers similar to the natural gas model. The EV market, however, will likely not support term agreements and cost recovery will be dependent on spot rates and volumes. In addition, it is likely that initial volumes will not support full cost recovery and that station economic viability will depend on EV growth rates. The natural gas station model provides a mechanism to address this, but the percentage recovery may need to be lower than the 80% specified in the natural gas model.

For initial demonstrations in new application areas and for strategic demonstrations that will expand the rate of EV adoption, there should be a mechanism to have a limited amount of incentive funds available to cover the cost of these stations with recovery of these costs from all ratepayers. Recovery of these

costs from the relatively small EV customer pool would place too heavy and economic burden on the emerging market.

4. Should other customer classes of non-exempt public utilities subsidize costs associated with the provision of charging services that can't be recovered from EV charging customers? How much of the cost is it appropriate for them to subsidize – should there be a cap?

Government policy as reported at the procedural conference supports a high degree of utility involvement in provision of EV charging infrastructure. This will likely require a degree of subsidization from non-EV customers. Transparent caps and limits should be put in place similar to those that exist in the natural gas fueling area as defined in the GGRR.

5. If assets are stranded as a result of changing technology or other factors, who should pay for the potential stranded EV charging assets which may be in the non-exempt public utility's rate base?

As discussed under Q's 1 and 3, there is a working model in place that defined how stranded EV asset costs can be recovered. The provisions for cost recovery in the GGRR for natural gas stations provide that all rate payers provide a backstop for stranded assets.

6. In the context of BCUC economic regulation, what regulatory justification is required to allow existing utilities to cross subsidize EV charging services? If EV charging services add incremental load, does that justify cross-subsidization? Would the incremental load appear without the subsidization?

The regulatory justification for allowing existing utilities to cross subsidize EV charging services is presently not clear. One vehicle that could be used would be the GGRR and associated special directions. Changes would need to be made to the GGRR to enable EV Charging investments beyond those presently permitted for research and demonstration purposes.

The addition of incremental load is a questionable benefit to existing ratepayers. The additional load from EV's will be substantial and will require further investment in production and distribution assets. Typically, the cost of the incremental supply will be higher than the legacy costs that existing customers enjoy. Long term the incremental load can be expected to increase the average cost of supply for the utility; hence BrightSide does not accept that incremental load can justify cross-subsidization over the long term.

7. Question Deleted

8. Do non-exempt public utilities participating in the EV charging market, do they have any obligation to serve EV charging customers?

Under the present GGRR the Prescribed Undertakings give the utility to right but not the obligation to provide the undertakings.

9. Question Deleted

10. Any other comments that may be helpful to the Panel, given the scope as revised.

LCFRR - BrightSide notes that under the present LCFRR and associated policies, that the utility is the only party that can claim and monetize LCFRR Credits for providing electricity as a motor fuel. LCFRR credits provide a substantial revenue source that can be used to help justify investment in EV Charging stations. At present the revenue generated by BC Hydro by selling LCFRR credits is to the benefit of all rate payers and does benefit or encourage EV adoption.

The Commission has now enabled non-utility organizations to provide EV charging station service and to charge for those services. To help establish a level playing field it would be useful to have the LCFRR adjusted to enable all providers of fueling station service to be able to receive and monetize credits. This action is outside BCUC control, but needs to be considered in the context of how utility and non-utility providers will compete.

Alternatively, the Commission might consider requiring utilities to pass on LCFRR Credits earned from EV stations to the customers for these stations, rather than dispersing this benefit amongst all rate payers.

Definition of EV - Solutions and directives generated under this enquiry need to recognize that there are EVs other than passenger vehicles in operation in the province that need to be considered when considering how to structure and regulate the charging market. Example of other vehicles include:

- i. Golf carts
- ii. Utility vehicles
- iii. Commercial vehicles
- iv. Electric gantry cranes
- v. Mine haul trucks
- vi. Trains and transit systems
- vii. Lift trucks
- viii. Aircraft
- ix. Vessels (e.g. existing hybrid ships operated by Seaspan and BC Ferries)

In addressing the regulatory environment, the Commission needs to ensure that the definition of EV is broad enough to capture existing and anticipated future vehicles that will be powered by electricity.

11. Is there a need for a specific tariff provisions for the wholesale provision of electricity for the purpose of EV charging?

BC Hydro should develop a specific tariff designed to recover the specific Cost of Service (COS) of supplying electricity to EV charging stations. EV demand has characteristics that drive cost of service in ways that are somewhat different to other demand. For example, addition of EV demand often requires bolstering of the distribution system (e.g. transformer additions and supply line system improvements)

12. If so, how should this wholesale tariff be designed? Is a time of use rate appropriate? Should there be any differences depending on the type of EV charging – Level 1, Level 2, and/or DCFC stations?

BC Hydro should be directed to develop a tariff for EV charging that is based on and incorporates the following:

- i. Full recovery of the Cost of Service of delivering electricity, including system improvements and upgrades required to accommodate the new demand.
- ii. Recovery of incentives and other support provided to encourage EV adoption over a reasonable time frame (e.g. 10 years)
- iii. The energy charge should reflect the cost of capacity additions required to serve the new demand. (e.g. Cost of energy from Site C) Legacy benefits of existing generation assets, should be applied to existing demand, not used for new demand in an environment where rate increases required to pay for new generation assets are difficult to implement.
- iv. Time of Use – EV charging stations are subject to lumpy demand and queueing issues. Time of use pricing should be considered to encourage greater overall utilization of the station, as well as cost issues associated with the time of electricity supply.
- v. Level of Charging provided and impact of demand surge

13. Section 3 of the Electrical Safety Regulation states that it “does not apply to a public utility as defined in the Utilities Commission Act in the exercise of its function as a utility with respect to the generation, transmission and distribution of electrical energy”. Further, “distribution equipment” is a defined term in the UCA. Although it seems clear that EV charging equipment is not “generation or transmission”, the Panel did not make any finding in the Phase 1 Report on whether EV charging infrastructure is “distribution equipment.” The Panel invites submissions on this issue in Phase 2.

BrightSide has no comment on this issue.

14. In Phase 2, the Panel invites submissions from Interveners on whether amendments to the Greenhouse Gas Reduction Regulation to allow public utilities to own and operate EV charging stations as a “prescribed undertaking” are appropriate and if so, the appropriate extent and scope of such undertaking.

As discussed under Q1, BrightSide believes that the GGRR and associated prescribed undertakings is the appropriate vehicle to provide utilities with the authority to own and operate EV charging stations. BrightSide argues that limits and rate recovery requirements should be specified using this regulatory vehicle – also discussed under Q1.

In closing I would like to thank the Commission for the opportunity to make this submission. I look forward to seeing the results.

Sincerely yours,
BrightSide Solutions

A handwritten signature in black ink, appearing to read "M Grist", enclosed in a thin black rectangular border.

Mark Grist
President