

Order Number G-231-18

INTRODUCTION

I submit the following responses to the British Columbia Utility Commission (BCUC) Order Number G-231-18, Phase Two of ‘An inquiry into the Regulation of Electric Vehicle Charging Services’. My responses are based on my experience of owning and operating an Electric Vehicle (EV) for five years during which time I used a variety of public charging stations, including those operated by BC Hydro, throughout BC.

1. *(a) Can both regulatory models – little or no regulation for those exempt public utilities and the participation of non-exempt utilities – co-exist?*

The EV market will grow. To support and encourage this growth, there needs to be a network of charging facilities similar to today’s gas stations. Non-exempt Public Utilities (NPU) and Exempt Utilities (EU) are key to this expansion.

I believe both can co-exist in the same market IF there are adequate regulations covering the NPU’s participation. Since NPUs are the sole provider of electricity required by all EUs, they have a potential real and perceived market advantage. Current and future EUs will want a ‘level playing field’ if they are to successfully compete with their sole supplier.

Regulating rates charged by the NPUs, which ensure that NPUs and EUs pay the same for electricity, would be one way to provide some protection.

There must be some controls on NPUs participation or there is a risk that they can dominate any given market (particularly smaller or remote markets) eliminating the opportunities for and benefits of a competitive market.

1. *(b) 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?*

Without price regulations, I think the following restrictions should be considered:

- Targeted or restricted number of NPUs installations: If there were limits set on the total number of installations NPUs could install, their market penetration can be controlled at levels which do not negatively affect the competitive nature of an open market.
- Expansion based on a case-by-case basis: Expansion of installations could be approved on a case-by-case basis. Although cumbersome and potentially costly, NPUs would justify that the proposed expansion impact on the existing

and potential market. EUs would have an opportunity to provide input into NPU's competition in their markets.

- Location based expansion: Focus on developing along major transportation corridors and remote or underserved areas, not currently served by EUs. As EV market grows, there will be increased demand in these areas and EUs may also enter these markets. Most EV owners will charge at home or at work. This level of charging should be adequate for local travel, especially as EVs continue to increase their battery capacities, improving the drivable distance between charges. More charging stations are required to support long-distance travel between communities. The focus here should be on DCFC that can recharge EVs quickly to support long distance travel.

1. *(c) Should non-exempt public utilities be restricted to participate only in remote geographical locations that are currently uneconomical for exempt EV charging providers to serve?*

There are advantages of focusing NPU's expansion in along major arterials and in remote under-served markets to promote the adoption of EVs throughout BC. In these markets, the costs of providing infrastructure before there is any local EV demand will be high. EUs are less likely to risk investment funds in these areas as there will be little income potential in the near term. NPU's expansion, however, would have to be limited or capped or EUs will be less likely to enter a market already well-served by NPU's, thus reducing the competition in that market.

As noted above, if there adequate regulations and controls on NPU's operations, particularly tariff and market penetration rates, NPU's could be allowed to compete in other areas.

BCUC should encourage competition in all markets by setting limits on the number of installs or market penetration percentage of NPU's.

2. *(a) If the provision of EV charging is exempt from regulation, is there any justification for non-exempt public utilities to provide EV charging services?*

EV charging is an emerging market that requires initial capital to expand. In the past, NPU's have proven a successful way to expand utility operations into under-served and remote areas. The large NPU's have better access to required capital to fund front-end costs.

Increased EV sales might be slower if a demand-driven charger roll out is the only market option. The NPU's can provide a market stimulus to the charging market, particularly in under-served and remote areas.

2. *(b) If the role of non-exempt public utilities is to kick start the market, how can the BCUC determine when the kick start is no longer needed?*

BCUC, working in conjunction with the NPU and consultation with EUs, should develop a deployment plan to establish market penetration rates and limits prior to allowing further expansion of the NPUs charging stations. Without some controls over how much of any given market the NPUs can serve, EUs will be hesitant to risk investment in these markets. The result: a lack of competition and erosion of the competitive nature currently existing.

The “kick start” threshold will probably vary from market to market and a deployment plan noted above will be guide to BCUC when this threshold is met.

2. *(c) What is the role of those utilities once that kick start is completed?*

If the purpose of NPU participation in any market is to kick start that market, an exit strategy should be developed and approved PRIOR to the roll-out of charging stations. Without this prior agreement, the NPUs are risking investment dollars without any assurance they can recoup these investments through ongoing operations.

The NPUs could have several options:

- Continue charging services with suitable tariff controls and market participation restraints discussed above to ensure there are opportunities for competing EUs.
- Liquate its charging assets to EUs interested in entering the market.

2. *(d) If there are stranded assets at that time how should they be dealt with?*

If the NPUs are being asked or want to invest in a market that results in those investments becoming ‘stranded’ in the future, when market demand changes, there should be a plan ahead of time to recover these investments.

Expanding charging services into underserved markets seems to be a Provincial Government environmental initiative. As such, Provincial funding should be available to support this expansion. If the rollout is successful and the intended goals are achieved, Provincial funds should also available to offset the costs of stranded assets.

3. *(a) If non-exempt public utilities participate in the EV charging market, should EV charging customers constitute a separate class from which costs associated with EV charging infrastructure is recovered?*

To me, electricity is a commodity with known costs of production and delivery. As such, there should be no differential in rates for EVs from those charged to non-EV users. Both NPUs and EUs should pay the same for electrical consumption. NPUs should be required to separate and track their costs related to charger operations, just as EUs will do.

3. *(b) Or should the service be offered in a separate non-regulated business?*

The NPUs are monopolies and will remain monopolies even when they enter a competitive market. A separate non-regulated business may not provide the protection to EUs and other NPU customers without BCUC oversight. NPUs should establish separate businesses within which it records and tracks the operating and capital costs of its charging operations. These stand alone businesses should be subject to independent audits to ensure there is adequate separation from its monopoly business and that the management and other inter operational charges are reasonable for the business.

3. *(c) What are the implications of each of these regulatory models?*

Most EVs will be charged at home and work. The actual charging process is no different in these private settings than in public charging stations – plug in the EV. The amount and type of electricity drawn is similar. The only difference is the payment required by the latter. Recovering the electrical costs through a separate tariff makes no sense to me.

The separate business unit needs to be controlled. If NPUs want to enter into competition with their customers, which exist in a non-monopolistic environment, the NPUs should be held to the same constraints the EU exist under. The NPUs should manage their charging business through a separate, independent business unit.

Tracking costs and ensuring there is a clear separation between the EV charging business and their existing monopoly business will require more work. EUs have to manage their EV business as a business. So should NPUs.

4. *(a) 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?*

The main beneficiaries of public EV charging are EV users. They should pay for the service, unsubsidized by other customer classes. The Province wants to expand EV use as part of a larger strategy related to Climate Change. Non-EV owners may benefit from this in long run, but they should not be asked to support this Provincial initiative through hidden costs that affect their hydro rates.

I do not support using the NPUs as a vehicle to promote a Provincial political initiative. If the Province wants to implement a public policy to increase EV use for environmental reasons, the costs of this initiative should be isolated and transparent in Provincial budgets.

The Province offers purchase rebates for EVs. The total cost of this rebate program is outlined in Provincial financial statements. If the Province wants the NPUs to kick start the EV charging market, there should be a plan developed, costed and shared with tax

payers so the citizens know how much they are being asked to contribute through their taxes, not their electrical rates.

Since NPUs are entering a competitive market they should have to compete on a fair basis with EUs that will not be receiving any subsidies or assistance from NPUs ratepayers. Tesla received no public financial support when it rolled out its charging network. It is unfair to expect Tesla to compete with subsidized NPUs operations.

4. (b) How much of the cost is it appropriate for them to subsidize – should there be a cap?

EV charging is an identifiable service delivered to specific customers. Those customers should pay for all costs of that service. How can EUs fairly compete with NPUs if part of the NPUs operating costs are being subsidized through financial support that is not available to EUs?

If subsidization is allowed there should definitely be a cap. This limit should be publicized so that the public and EUs know the level of contribution by non-EV users.

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 stated above, I don't think any part of the EV charging business should be included in the NPUs' rate base. If NPUs want to enter a competitive market, they should accept the financial risks of that market. They should have to compete on an even basis with EUs.

If the NPUs are directed to enter this market through a Provincial initiative to kick start under-served markets, then the Province should subsidize any stranded assets as part of this initiative. The Province and BCUC can't expect EUs to enter and compete in a market where there are public subsidies being provided to their NPUs competitors/supplier. If public funding becomes entrenched in the EV charging market, competition will slow and this market will be controlled by the existing monopolies. A potentially competitive market will shrink as the monopoly market expands.

6. (a) In the context of BCUC economic regulation, what regulatory justification is required to allow existing utilities to cross subsidize EV charging services?

I'm not fully familiar with BCUC regulations. As stated above, I think EV charging operations of NPUs should be managed as an independent, separate business, divorced from any cross subsidization

6. (b) If EV charging services add incremental load, does that justify cross-subsidization?

If EV charging services add an incremental load, the associated costs should be passed onto the EV chargers who produce the additional load.

6. (c) *Would the incremental load appear without the subsidization?*

See comments above about rate subsidization.

APPENDIX A

to Order G-231-18

7. (a) *What are the implications of the province's energy objectives, as stated in the Clean Energy Act, with respect to non-exempt public utilities providing potentially subsidized EV charging services?*

Delayed or diminished establishment of a competitive charging market because EUs will have to compete with a publicly funded monopoly and subsidized charging operations

7. (b) *Are there non-economic justifications such as environmental benefits or meeting greenhouse gas reduction targets?*

There certainly may be non-economic justifications supporting a government initiative to increase the use of EVs. This does not necessarily equate with the requirement of hidden financial subsidizations from NPU's existing ratepayers.

Tesla is developing a BC-wide EV charging network without financial support from NPU's ratepayers or taxpayers. NPU's have an existing economic advantage as the sole provider of electricity in their markets. Allowing financial subsidization will only increase the strength of their monopolistic position. If the BCUC wants to encourage a competitive EV charging market, NPU's should not have access to financial support from non-EV ratepayers, support that is not available to EUs

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

The key word here is 'market'. If NPU's enter the emerging EV charging market they need to respond to this market in the same manner other market participants do. Without financial support, NPU's will be more inclined to better serve this market because it will be their sole source of income. There is a direct link between service levels and use levels. The better the use levels, the better financial income to the provider. NPU's will have to learn to compete.

9. *Should non-exempt public utilities be provided the same exemptions in regard to EV charging services as are other EV charging market participants? This includes exemption from Part 3 of the UCA, with similar retentions of certain sections by the BCUC.*

NPU and EU should compete in a fair market where all participants have the same opportunities and are subject to the same constraints. NPUs' independent EV charging business operations should receive the same exemptions.

10. Any other comments that may be helpful to the Panel.

No other comments at this time.

Wholesale rate (p. 49 of the Phase 1 Report)

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

Most EV charging is and will be done at home and/or work. I don't think this use of electricity is any different whether it's consumed at home/work or at a charging station open for public use. Electricity is a commodity. Unless there are some specific requirements and costs of Level 3 charging which can not be passed through to EV owners, there should be no need for a special tariff.

12. (a) If so, how should this wholesale tariff be designed? Is a time of use rate appropriate?

I think we should make better use of the 'Smart Meters' installed across BC by developing time-of-use rates. With home charging, the system load can be leveled if EV owners are encouraged to charge their vehicles during lower demand periods. The rates would not necessarily be just for EVs. Many of today's appliances are sold with 'smart' features allowing consumers to program operation times. Dishwashers, washing machines and other major appliances could be set run during low demand periods, allowing ratepayers an opportunity to better manage their electrical bills. I thought this was one of the original justifications for installing these smart meters.

EVs will be a new revenue source for the NPUs. This new income will increase the NPUs overall financial health and should be used to finance a move to time-based usage. The loss of income from lower rates during low demand periods can be offset by the overall revenue increase attributable to EV charging.

12. (b) Should there be any differences depending on the type of EV charging – Level 1, Level 2, and/or DCFC stations?

There doesn't seem to be any differences between Level 1 and Level 2. I don't know the specific operating requirements of Level 3. There may be additional installation costs above those of Levels 1 & 2 and unique to Level 3. If so, these costs should be a capitalized cost of a charging station, recovered over the service life of the station, not through an incremental rate charge.

Safety (pp. 38 and 48 of the Phase 1 Report)

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.

In responding, Interveners are requested to consider the status of the provider – for example, is the interpretation different for a non-exempt public utility than it would be for an exempt utility or a provider excluded from the definition of a public utility?

When the Act was originally enacted, I doubt that the crafters considered the potential impact of EVs on the Provincial electrical system. It seems reasonable that the Act was meant to provide ratepayers with protection from the monopolies that managed all aspects of this system from source to the utility-owned electrical meter, installed at the customers’ premises. It was this meter that ended the extent of the monopoly. The legislation was not required beyond the meter because there was no monopoly beyond the meter. There are other regulations, standards, etc. (e.g.: CSA, UL) which protect the ratepayers in the use of “THEIR” electricity.

I believe the BCUC should not overly interpret the specific wording of “distribution equipment”. This definition seems intended and focused on the macro aspects of electrical distribution –from generation to customers’ meters. For instance, electrical users have ‘wires’ (a term included in the definition) that deliver the electricity throughout their premises. These wires are not subject to monopoly control.

I believe this section should be interpreted as stopping at the customer meter. Distribution beyond the meter, whether to an EV or clothes dryer should not be considered as being covered by the Act.

The BCUC should ask the Province to amend the Act to clarify its wording such that it is clear that the Act only applies to monopolies from the source to the utility-owned electrical meters, and not beyond. EV charging is a use beyond the meter. Therefore, all aspects of EV charging should be exempt from the legislation.

I charge our EV at home using a Level 2 charger. I could offer its use to other EV owners to charge their EV at my place. I could charge for this service. Others are already offering the use of their private chargers now. This form of sharing will continue.

Are all these individuals and organizations, because they provide EV charging services, deemed to be “public utilities”? If so, this is nonsensical. Applying legislation, drafted prior to the idea of EVs existing, is a misuse of the legislation’s intended purpose.

Greenhouse Gas Reduction Regulation (p. 52 of the Phase 1 Report)

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.

I believe it is appropriate if

There are controls on the rates charged for NPU’s own charging stations and those rates are consistent with the rates charged to EUs

There are controls on the level of market penetration in any one area by NPUs.

The installation locations are strategically located throughout BC to support long-distance travel versus local market coverage. Most EVs will be charged at home and should be capable of providing sufficient local market driving ranges between charges. Focus should be on transportation corridors particularly in more remote areas and DCFC units.

There are no financial subsidies from non-EV users provided to NPUs

Any Provincial government EV charging station operational/capital financial support is transparent and disclosed on Government books associated with political initiative.

If Provincial government financial support is available, it should be available to all EUs, not just NPUs.