



Alliance for
Transportation
Electrification

January 28, 2019

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

Subject: Project No. 1598941 (Phase Two)
British Columbia Utilities Commission
An Inquiry into the Regulation of Electric Vehicle Charging Service

Dear Secretary Wruck:

Enclosed for filing in the above-referenced matter please find the written comments of the Alliance for Transportation Electrification.

Respectfully submitted,

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Enclosure

Introduction

Since we did not participate in Phase 1 of the Inquiry as an intervener, we will take this opportunity to make some introductory and overall comments before responding to the specific questions.

Background

The Alliance for Transportation Electrification (ATE or the Alliance) was established in December, 2017, as a broadly based non-profit industry association to advocate for balanced policies and regulations for EV infrastructure at the state and provincial level. To date, we have focused our efforts on State Utility Commissions in the United States, and are extending our efforts to certain Provinces in Canada where we believe the economic and political forces are aligned to promote greater electrification of transportation. We believe that British Columbia is such a jurisdiction, and although we were not able to intervene in the Phase 1 Inquiry due to our infancy, we are pleased to be able to intervene and offer comments in this phase of the Inquiry. In just over one year, we have been able to recruit nearly 40 members in to the Alliance across a broad and diverse range of expertise in the EV ecosystem, including regulated utilities, EVSE infrastructure firms, auto OEM's, engineering/consultancies, and affiliated trade associations. Our members have agreed to a series of high-level Principles which can be viewed on our web site (<https://evtransportationalliance.org>), which are entirely consistent with those of the Transportation Electrification Accord; www.theevaccord.com).

Principle 1: There is an Infrastructure Gap

The Alliance has three over-arching goals for which we advocate for better regulatory and policy measures at the state and provincial level. The first is that we have a large existing and rapidly growing infrastructure gap in all of the regulatory jurisdictions in North America. By infrastructure gap, we mean the difference between the amount of publicly available charging stations (reliably available with adequate uptime), and the projected growth in electric vehicles over the next 10 or 15 years. We believe that "hockey stick" type growth will occur in the North American EV market during this period of time, with annual growth rates accelerating rapidly in the near future. Such projections are based both on the publicly announced plans of major auto OEM's and medium and heavy-duty manufacturers, but also on a large number of projections by reputable research groups, analysts, investment banks, and others. Moreover, it is notable as well that such annual projections of EV market growth and size have been increasing, not decreasing, over the past several years. Accordingly, we believe there is an urgency now to accelerate the pace of both planning for EV infrastructure and actual deployments especially with the central involvement of regulated utilities, since the regulatory process for approvals, the request for proposals and selection of vendors, site selection and land acquisition, and siting and permitting for charging stations require a significant amount of time.

Principle 2: Utilities Have an Important Role

Secondly, we believe that regulated utilities can and must play a strong and robust role in early efforts in this nascent market to support the transformation of the EV infrastructure market (what you term “kick starting” in your analysis and questions). Regulated utilities, or non-exempt public utilities in the UCA and regulatory framework in British Columbia, are able to support market transformation activities due to their scale and scope, public interest obligations, expertise in building out infrastructure, and a long-term outlook that promotes sustainable activities such as EV infrastructure.

There is insufficient space in these comments to set forth all of these arguments in more detail, but there exists over a century of building out our common electricity grid infrastructure in North America under a regulated utility model that supports this thesis. But I will cite an important distinction between exempt and non-exempt service providers. The exempt service providers in this space each base their advocacy on a specific business model that is based on a shorter-term outlook (compared to non-exempt public utilities) that are more sensitive to the interests of their shareholders who often share a shorter term outlook on overall returns in start-up ventures such as many EVSE firms. As such, they do not share a broader public interest obligation, and cannot be compelled by regulatory agencies to adhere to the public policy goals of the Province.

While the exempt service providers often target a particular segment of the EVSE or EV infrastructure market with a specific business model, non-exempt public utilities can pool their resources and expertise to develop broader approaches to the EV infrastructure needs of the Province, what is called the portfolio approach. Such an approach has been used successfully in other emerging technologies, such as CFL and LED lighting, by regulated utilities as these products have been deployed in the grid. Since they are often expensive and cost-prohibitive in early stages prior to mass market adoption, the portfolio approach is an accepted regulatory tool that allows utilities to spread these costs, both over time and among different rate classes, using a certain benefit-cost methodology (not necessary to define with specificity at this early stage), instead of measuring each the attributes of each EV infrastructure on an individual measure basis. We will refer to this approach later in answering specific questions.

Principle 3: Standards and Interoperability are Important

Thirdly, the Alliance emphasizes the importance of interoperability and open protocols and standards in this rapidly growing market. We are concerned about the proliferation of multiple network operating systems communicating with charging stations/EVSE providers (we called this the back-end of the overall system), as well as the consumer-facing technical issues that have prevented easy e-roaming for EV owners and have required them to carry multiple membership cards (usually, RFID but QR codes on a smart phone and others), which we call the front end of the system. These are difficult and complex issues, and we believe they are primarily the responsibility of the various industry sectors – auto OEM’s, EVSE vendors, utilities, software developers – to develop these

protocols and standards, and implement them. Meanwhile, certain systems, such as Tesla's charging network, have been built up successfully, but these chargers are not currently compatible with non-Teslas.

The Alliance believes that a certain amount of "chaos and complexity" is inherent in an early stage of market development, but remains concerned about the confusion and potentially unpleasant consumer experience that may cause to consumers in the Province as the industry scales up quickly and approaches mass adoption over the next decade. As utilities petition Commissions for tariffs and rate recovery especially, we believe that Commissions and Tribunals have adequate authority to oversee these interoperability levels to some degree, and at a minimum, require the regulated utilities to use existing open standards and protocols, such as Open Charge Point Protocol (OCPP) and Open ADR, in their requests for information (RFI) or requests for proposals (RFP) as they deploy EV infrastructure.

Public Policy Dictates, and History Supports, Significant Role for Utilities

Finally, after reading the Phase 1 report and the substantial amount of evidence introduced in the record by multiple parties, we would like to make a brief comment at a higher level on the development of the EVSE market, natural monopoly, and the role of the Commission and regulatory oversight (Question 1 addresses this implicitly, but we would like to put this in a broader historical context).

We believe that this transformation of the transportation industry toward broader electrification is fundamental and long-term, and will have significant implications over many years (decades) for society, and indeed those critical infrastructure industries that support modern industrial society. These industries include not only transportation, namely automotive, bus, and off-road vehicles, but also the electric power industry, the software and IT industry, the security (cybersecurity) sector, and the financial/insurance sector. As such, the Alliance believes that there is a strong and broad public policy interest in ensuring that this transformation proceeds as smoothly as possible over the next few decades. Undoubtedly, decarbonization is an important public policy goal for the Province and it has become enshrined in the GGRR, which is addressed below, since EV adoption and infrastructure can greatly assist in attaining such goals. But there should be a recognition of the fundamental nature of this transformation, and as such, the important role that non-exempt public utilities can serve in this process, among many other firms and stakeholders in the EVSE space.

Second, no analyst for utilities, clean energy, or technology – and certainly not the Alliance or its Members – knows for certain what the final shape of this market of EV infrastructure will be in a decade or two. Many forces are at play today, including multiple technology developments in energy storage and batteries, different types of high-voltage charging, vehicle telematics, demand response, and others too numerous to mention. As with any other nascent and rapidly growing market with venture and private equity funding, there will inevitably be changes in market leadership and perhaps mergers, technology

partnerships, and other forms of market consolidation along the path of increasing scale in the EV infrastructure industry. Indeed, one should expect a certain amount of market disruption by certain players, as well as a certain amount of consolidation as one hopes the industry achieves greater scale and standardization and interoperability. But the Alliance believes that the non-exempt public utilities, as stated above, will play a vital and increasingly important role in both the transformation of this market, as well as in ensuring that this critical infrastructure industry (both for transportation and electric power sectors) is built out in the future. Some analysts call this a “hybrid” market model, some call it “coopetition” (mix of disruptive competition and cooperation with regulated utilities), and some call it simply “market transformation” with no specific end point. But the key points for the Phase 2 Inquiry and the questions posed are several: we don’t know exactly what the final shape of the market will be in 2030 or 2040; the nature of this transformation is fundamental to the public interest and public policies in decarbonization, economic development, and the integrity of our common critical infrastructure for the future.

Third, let me offer a few comments on the analysis and conclusions in the Phase One Inquiry that the EV infrastructure is not a “natural monopoly” in its traditional definition, and exhibits more attributes of a “competitive market” for the range of potential charging services. This conclusion is important to discuss further not only as a matter of law (the UCA) and regulations in the Province, but also as a matter of economics of public utilities and regulatory practice and theory over the past 100 years. This discussion and debate has been raging among experts in regulatory economics and antitrust/competition policy for many years, and I will refer to one of the leading experts James C. Bonbright in his path-breaking book the “Principles of Public Utility Rates” (Columbia University, 1961).

In that treatise, Bonbright posits that it has always been difficult to discern a clear distinction for regulatory purposes between “perfect competition” and “natural monopolies”, and that often the economist and regulator must assess the specific market conditions in a more nuanced manner without a specific bright-line test. Dr. Bonbright authored his treatise in the days of full-scale economic (with all the associated terms and conditions) regulation of not only the electric utility industry, but also railroads, telecommunications, and what he termed “transmission or transmission agencies.” As an economist, he was approaching this analysis from assessing increasing economies of scale with larger units and extensive networks, which should result in lower marginal unit costs with increased scale, which may have some relevance for the EV infrastructure as it scales up for the mass market. To quote:

The “natural monopoly” theory of public utility regulation reflects an old and orthodox point of view. Properly qualified, I believe it to be sound. But it must be expressed today with more caution that would have been deemed necessary in earlier years. For, as modern economists have shown, the differences between a competitive industry in a realistic sense of competition and a monopoly, natural or unnatural, are far less sharp and less simple than was once assumed. Close approximation to “pure” or “perfect” competition are thought to be rarely if ever

found in manufacturing or trading industries. On the other hand, even public utilities face severe competition, typically of a substitute-product type, with respect to a large fraction of their services – sometimes with respect to the major fraction. It follows that the traditional distinction between monopolistic public utilities and competitive private enterprises is an oversimplification, since the true distinctions are those of degree rather than of kind. (pp. 10-11).

Bonbright goes on to argue that one other major difference between the two types of industries, both in scale and in types of service, is that the nature of customer service to the public for a public utility is very localized, and includes services to all customers in the service territory of the utility. This compares to the more national, or international, type of commodity delivery or services of competitive enterprises who are also not required by public service obligations to serve diverse customers. He also goes to opine that this distinction is also characterized by: “The technology of electric, gas, or telephonic transmission is such as to require a close connection between the plant on one hand and the consumers’ homes or factories on the other.” (p. 13)

The Alliance concurs with Dr. Bonbright’s analysis and conclusions that the theory of public utility regulation, with appropriate qualification, continues to be sound. Moreover, we believe that the nascent EV infrastructure market displays similar nuances in its current development, and should not be viewed on a black-and-white basis. The Alliance cites to this treatise in this Inquiry for several reasons. First, although EV’s and EV infrastructure are causing fundamental market transformations, we believe that historical lessons are useful and that technologies need to be placed in a proper regulatory framework with shades of grey and important nuances. A bright-line test or sharp distinction between “natural monopoly” (the non-exempt public utility) and “competitive enterprise” should not be a guiding principle in this Inquiry. Accordingly, the Alliance believes that the tools and mechanisms available to regulators, what I call the “regulatory toolbox”, is quite broad and flexible.

The Commission poses many specific questions, some with implicit assumptions, in this phase of the Inquiry. Yet the Commission should remind itself of the historical lessons of past regulatory challenges as both generation plant and critical transmission and distribution systems have evolved over time. Public utilities should file cases for EVSE that incorporate both economic and public interest (referring to public policy preferences of the Province) issues, bear the burden of proof, defend such cases under traditional regulatory principles such as prudence, and move forward. Finally, as Dr. Bonbright points out, there has always been competition, or co-existence, in goods and services (whether it be the structure, pricing, and terms of service) between the monopoly utility and the competitive enterprise, and this will continue to be the case in the future. The Commission’s duty is to ensure that the electric distribution system remains reliable, resilient, and flexible to adapting to new technologies and new types of non-utility service providers which wish to utilize their networks, and develop just and reasonable pricing mechanisms subject to Commission approval.

Question No. 1: Can both regulatory models – little or no regulation for those exempt public utilities and the participation of non-exempt utilities – co-exist? 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 non-exempt public utilities be restricted to participate only in remote geographical locations that are currently uneconomical for exempt EV charging providers to serve?

Yes, both models can co-exist together, and in fact, this has been the case through the history of regulating public utilities with complex and evolving networks, as cited above. Various business models are being developed in the EV infrastructure space between the regulated utilities, vendors, auto OEM’s, and others. It is simply not the case that there is always direct “competition” that has developed between the regulated utility and non-utility enterprise, whether it be on issues of location, type of service, integration of other or ancillary services, or pricing.

The market is in an early stage of development, and many pricing and other strategies have developed, as were cited to in Phase 1 of the inquiry by BC Hydro, Fortis, Tesla, and many others. Some host locations, such as parking lots and retail operators, choose to offer the energy services (kWh) to consumers free-of-charge in the attempt to sell other services and merchandise. Tesla, until recently, offered free charging services for the energy and incorporated that cost (both the EVSE costs, and the cost of energy) in to the price of its vehicles at retail point of sale (although that policy appears to be changing with the introduction of the Model 3 vehicle). For EVSE firms, many are choosing to “partner” with regulated utilities in recently-approved utility cases with State Commissions, mainly through some type of competitive RFP process that the utility manages. Some EVSE vendors choose to focus more on the software and the “back-end of the system” by managing the network management system, or white-listing, for the utilities and not focusing on the hardware. In short, a variety of market development models are being tested in the North American markets now, and usually with a strong role for the regulated utility.

There are many models of market development, and many different tariff designs, that have emerged with regulated Commissions in the United States just over the past 12 to 18 months. Accordingly, many of the States and examples cited in the Phase 1 report are somewhat stale and outdated. Ownership and operation of the charging stations, for example, has been approved for utilities like Avista and Puget Sound Energy in Washington state, Portland General Electric and Pacific Power in Oregon, the Exelon group companies in Maryland, and elsewhere. Southern California Edison (SCE) is proposing certain modifications to its Phase 1 programs in its current Phase 2 application (called “Charge Ready”) that is currently pending before the California Public Utilities Commission, which would allow at least the option of owning and operating assets behind the meter (BTM) in certain cases such as multi-unit dwellings and other difficult use cases. In other

jurisdictions, the regulated utility is pursuing a make-ready model with a rebate to the customers.

For the non-exempt public utilities, there are a variety of cost recovery mechanisms that are being tested as well. For the utilities or Commissions asking for make-ready infrastructure, most State Commissions who have approved such investments to be placed in to utility rates (earning a “return of” as well as a “return on” their capital investment) have used deferred accounting mechanisms that create a regulatory asset (which as the Commission knows, are sanctioned under ASC 980 or FASB 71 accounting rules used in North America). The amortization terms vary according to the utility and State Commission, but usually vary in the 5 to 10-year period, and the return on equity (ROE) is usually the most recently approved return in a rate case. As always, such an investment will be reviewed on prudence grounds in a future rate case before the Commission with the burden of proof on the regulated utility to produce contemporaneous records of its decision-making and Board of Directors approval to justify this investment. Some utilities are seeking, and receiving approval, for cost recovery for the rebates as well, whether they be rebates for residential customers (generally in the range of US\$500), or for school buses or metro transit buses (much higher rebates due to the upfront capital cost disparity between diesel and electric buses). CMS Energy, for example, recently received approval from the Michigan PSC (Case No. U-20134) on January 9, 2019 to recover both a “return of” and a “return on” both the rebates and the EV infrastructure. While not a majority view yet of State Commissions, this may become a trend in the future. The Commission justified this treatment by stating:

The Commission finds that it is appropriate to incentivize the utility, at this stage of EV adoption, to think proactively and innovatively on this issue. Consumers’ proposal is grounded in its desire to avoid reactive and expensive capital infrastructure investments in the future when EV adoption reaches the point where the utility must provide incremental generation, distribution, and transmission support. EV adoption is in its infancy in Michigan, but all indicators point to continued expansion. (p. 8 of Order).

In terms of the regulated utilities “undercutting” pricing, the Alliance believes this concern is unfounded and is not occurring in the jurisdictions where utility investments have been approved by Commissions for early deployment in a variety of use cases – residential, workplace, public Level 2, multi-unit dwelling (strata), and public DC fast charging (DCFC). In fact, the opposite may be occurring in some jurisdictions in which either the charging provider (EVSE) or the host site is offering discounts or cost-free charging services for the energy delivered, according to certain times and conditions. The Commission can easily deal with any such concerns with the non-exempt public utilities by requiring them to work with a multi-party stakeholder group to monitor regional pricing, and to require periodic reporting (annual, quarterly) to the Commission. For example, Duke Energy in its pending petition to the South Carolina PSC is proposing such a mechanism – it will survey public DCFC and Level 2 prices in the state and region on a quarterly basis, pledges to stay “consistent” with such state or regional averages, and requires periodic reporting. The

Commission could adopt similar mechanisms in the Province with BC Hydro and Fortis BC, recognizing the pending tariff proposed by Fortis BC (\$9 per half-hour) for DCFC is already slightly higher than the rate being charged by the exempt city of Vancouver (\$8 per half-hour).

The Alliance suggests that there are many other more important concerns and issues surrounding pricing for publicly available infrastructure (L2 and DCFC), and overall rate design for residential and workplace consumers. We recognize that today it is difficult to develop cost-based pricing schemes that conform to the standards of J&R (just and reasonable) rates, given the newness of this market and the paucity of historical data. Accordingly, the Commission must make certain educated judgment calls on a case-specific basis based on the evidence in the record that is presented, such as by Fortis BC as an investor-owned utility, and BC Hydro as a Crown Corporation. Furthermore, the Alliance suggests that the current lack of transparency (including signage) in pricing schemes by providers, and the complexity of the methods of charging for both energy and dwelling times may constitute an obstacle to accelerated market development. Over time, as both BC Hydro and Fortis suggest, prices between the various non-regulated service providers and the regulated public utilities will likely converge, and the Alliance believes it is in the Commission's interest to further such convergence. For a new EV buyer and owner, the charging experience is difficult enough to begin with just to understand the various types of EVSE providers, membership clubs, energy versus dwell time charging, and other complexities. Pricing systems that are difficult to understand only exacerbate this challenge, and could retard the rapid development of this market, thus undercutting the public policy goals of the Province.

Regarding geographic location and use cases, the Alliance believes it is ill-advised and counter to the public interest to "pigeon-hole" the non-exempt public utilities to only the most difficult use cases, namely, existing strata or multi-unit dwellings, low-moderate income neighborhoods, sparsely populated rural areas, or less travelled intercity corridors. We recognize that certain advocates, both in this Inquiry and in many other jurisdictions, advocate for such an approach. Utilities should have the option to engage in a robust stakeholder process, and fashion comprehensive proposals that cover all possible use cases. Certainly, the universal service obligation will continue to be a requirement for the non-exempt public utilities, while it does not exist for the non-utility service providers. Higher costs may result, in the short term, as market transformation occurs and EV adoption comes to geographies and neighborhoods that may be uneconomic to serve in the short term. Yet, the regulated utilities have an obligation to provide service when a customer requests such service, although the utility (with Commission approval) can require an interconnection study for larger commercial loads (such as a multi-port charging station), and a line extension tariff (with a customer contribution, or CIAC) for certain cases. Moreover, one of the core competencies of the regulated utilities is to design and build transmission and distribution infrastructure that is safe, reliable and resilient. Moreover, as the market scales up in the near future, the non-exempt public utility, with guidance and oversight from the Commission, should be able to achieve lower incremental costs as it builds out this infrastructure, and be able to pass along those lower costs either

to the charging station provider, or the end-use customer in an own and operate model. Refer to the following Question 2 for a discussion of the portfolio approach.

Question No. 2: If the provision of EV charging is exempt from regulation, is there any justification for non-exempt public utilities to provide EV charging services? 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? What is the role of those utilities once that kick start is completed? If there are stranded assets at that time how should they be dealt with?

As stated above, the Alliance believes that non-exempt public utility has a strong and robust role to play in the development and operation of the EV infrastructure, even if the Commission (or through a change in law of Ministerial decision) exempts non-utility providers from direct economic regulation. We are not going to repeat all of the arguments made above about the likelihood of “hybrid” market development, and multiple modalities in business structure. In fact, either the Commission, or another government agency responsible for resolving consumer complaints and undue market power, should consider developing some type of market oversight in order to protect consumers and ensure full development of this market for both exempt and non-exempt providers.

The role of the non-exempt public utility is not just to “kick-start” the market and get it to a certain level of development. The process of market transformation involves the regulated public utility in an overall level of activities of charging infrastructure that is more than a targeted set of chargers that can be initiated, and then terminated at a date certain in the future. As we have seen in other market transformations, in lighting technologies with CFL’s and LED’s in particular, the regulated utility continues to play an essential role in the market, along with non-utility providers, even after the period of “early majority” ends and the market moves in to more of “mature majority” adoption.

The Washington UTC Policy Statement is instructive in its description of market transformation, and in particular, its description of a portfolio approach for the EVSE market. In this Policy Statement, the Commission emphasizes the need for regulated utilities to develop a range of EVSE charging services, in a portfolio approach that does not measure cost-effectiveness on an individual measure basis, in order to meet the regulatory imperative of “universal service” or offering these services to all customers upon request in all geographic localities. The more specific description of that portfolio approach, as well as market transformation, is cited on pages 33-35 of this Policy Statement. The Alliance recognizes that this Policy and Interpretive Statement was occasioned by specific action by the Washington State Legislature in 2015 that called out a primary role for regulated utilities in EVSE, and urged the Commission and the utilities to work to accelerate the deployment of EV infrastructure in Washington State. We recognize that, as of yet, neither the Legislative Assembly of British Columbia has enacted such legislation, nor has the Minister issued a specific order or declaration relating to the role of the regulated utilities in accelerating EVSE deployments. Yet we note that other state Commissions have acted

Comments of the Alliance for Transportation Electrification
Project No. 1598941 (Phase Two)

recently in the United States without specific legislation or statutory direction from the Assembly or legislative body.

Most notably, the Maryland Commission acted in Case No. 9478 in mid-January (2019), as cited earlier, to approved a range of utility-sponsored EVSE programs, including both make-ready infrastructure as well as utility owned and operated programs, in an approach that resembles the portfolio approach in the UTC Policy Statement. In addition, the Michigan PSC's approval of the \$10 million capital investments in a series of pilot programs for CMS Energy included a range of EV charging infrastructures in a portfolio approach. Finally, although the specific Xcel Energy filing is pending before the Minnesota PUC currently, the Commission is mid-December approved a series of "Findings and Recommendations" for the regulated utilities to file programs with the Commission, along the lines of a portfolio approach, as well as encouraging a robust stakeholder process and strong participation from non-utility service providers as well. Again, the Minnesota Commission acted within its own discretion as an independent regulatory authority that is attempting to complement the state's public policy interests in decarbonization, grid modernization, and economic development.

We believe that any discussion of a limitation on non-exempt public utility investment today is premature and not warranted. If the Commission establishes an ongoing stakeholder process, or some type of Inquiry based on annual reports filed, it certainly has ample authority to collect the necessary information and analysis to monitor the development of this nascent market. But establishing some type of numerical or other limit on regulated utility investment in EV infrastructure, which would somehow be benchmarked or compared to non-utility service providers, would be arbitrary and not based on sufficient evidence. Moreover, such a limitation may impede the overall development of the EV infrastructure market and impede not just the activities of non-exempt public utilities, but also of the EVSE providers, municipalities, and other key players in the EV ecosystem in British Columbia. However, a discussion centered on goals, benchmarks, and performance metrics (although we caution against a full-fledged inquiry in PBR, or performance-based ratemaking, at this stage) is certainly warranted, and can be pursued in some sort of planning process related to integrated resource plans, or more specifically on "TE (transportation electrification) plans" as an alternative (as the Oregon PUC is doing now).

For a discussion of stranded assets, refer to Question 5.

Question No. 3: 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? Or should the service be offered in a separate non-regulated business? What are the implications of each of these regulatory models?

The cost of providing EV infrastructure and charging services should be offered on a regulated basis, not an unregulated basis, for many of the reasons cited in the foregoing.

The Alliance believes that the offering these services on a regulated basis, preferably using a portfolio approach, will ensure that the benefits of EV charging services are widely distributed to all classes of customers, and are done so in a transparent and fair manner subject to Commission oversight and regulation. In regulatory economics, proposals for structural separation of utility services (compared to non-utility services) often sound attractive in principle. Yet, in practice, they are often difficult to implement and introduce complexity and costs that do not necessarily translate in to consumer benefits on the ground. Many hours will be spent by the regulated utility, advocates, and interveners in arguments about the optimal structure for such a non-regulated entity, its capital and financial structure compared to the regulated entity, and various affiliated interest rules. Meanwhile, little investments will be made on the ground in EVSE and EV infrastructure and any desired acceleration in the market transformation would be delayed.

As stated earlier, the regulated model offers the most potential benefits, the most transparency to stakeholders, as well as the most benefits over time to an integrated energy distribution grid that will be required to integrate not only EVSE, but a larger number of distributed energy resources (DER's) such as storage, demand response, and microgrids. Most analysts accept the fact that such an important element of the electricity ecosystem has to be built out and overseen on a regulated basis in the public interest. There is no single Commission in the United States (or Governor or legislative body) that is moving in the direction of promoting transportation electrification on a non-regulated basis. Accordingly, the Alliance respectfully suggests that the Commission not pursue this topic further.

Question No. 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?

Again, the Alliance has answered this question in the above responses by saying clearly that: EVSE and charging services should be offered as a regulated service (per the UCA in the Province); utilities should be encouraged or incentivized to participate in this nascent market transformation; and that regulated utilities should pursue a portfolio approach of multiple charging services whose costs can be spread over rate classes with a longer time horizon. We would prefer not to focus on the term “subsidy” in such a discussion, since the setting of just and reasonable rates for a public utility obligated to serve all customers and rate classes has always involved a certain level of redistribution of costs and benefits.

In fact, referring back to Dr. Bonbright's treatise, the “income distribution function” has always been a fundamental and essential part of ratemaking and setting just and reasonable rates, and will continue to be in the future. Such programs have usually been justified on the arguments that utility services should be offered to all classes of ratepayers, including low and moderate income consumers, on a fair basis, and should not be limited by an ability to pay for such services. The Alliance believes that such principles apply certainly in the case of EV infrastructure and charging services, and we have advocated in

every jurisdiction for the regulated utility to offer a robust program for disadvantaged communities (disadvantaged both by pollution from diesel and particulate emissions over the decades) as well as access to these services from an income perspective. Moreover, such income distribution factors in the setting of tariffs may also be justified, according to Dr. Bonbright and others, under a diffusion of benefits standard as well. Namely, that the benefits of the utility services – in this case EVSE and EV infrastructure charging services – offer a broad range of potential benefits to customers in the localized service territory of the utility. The Alliance believes that to be the case here, and that instead of pointing to EVSE services as a unique case of ratemaking for regulated utilities, the Commission should recognize that this principle has been enshrined in ratemaking for decades, and it is appropriate to continue this type of principled rate-making in the future as EVSE is deployed in the Province.

Accordingly, any discussion of a cap or limitation on such “transfers” or redistribution of benefits and costs in the regulatory context are premature and misguided. Indeed, we believe that rates should continue to be set under the traditional principles in the “regulatory toolbox” that have been used for decades, such as the principles of capital attraction, economic efficiencies, and demand control principles as enunciated by Dr. Bonbright and many other regulatory economists. The Commission has ample and adequate mechanisms by which to both assess the development of this nascent market, as well as to approve programs and tariffs that further the public policy goals of the Province. We realize that that regulated utilities are quite different in organization and governance with BCH being a Crown Corporation, while Fortis BC is an investor-owned utility. However, we believe that the structure and organized of a regulated utility in the Province remain the same, and that the goal of setting just and reasonable rates under a consistent and principled method are vital to both non-exempt public utilities.

Question No. 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?

The issue of stranded assets is certainly not a new one to regulators, and Commissions have grappled with these difficult and complex issues for many years, whether they be for generation, transmission or distribution investments. Usually, Commissions must deal with stranded assets in the context of a prudence determination in a general rate case, in which the utility attempts to justify its investment in a wholesale power transaction or investment in a capital investment, while other parties and interveners protest and file evidence to dispute the utility’s decision.

For new and emerging technologies, the risk of making the wrong decision on utility resources and capital investments will continue to be real, and can never be eliminated. Simply put, the regulated utility must bear the burden of this risk in large part, while developing various mechanisms to try to mitigate or lessen the potential financial risk to its capital structure and debt service rating.

The Alliance believes that the interoperability and open standards can mitigate such risks in capital investments in EV infrastructure, especially in the back end of network management systems and communications protocols between the network and the charging station providers. As stated above, that is one reason why we advocate strongly for open protocols, since they can lessen the risk of stranded assets to the regulated utility, and ultimately the Commission, in the future.

While we would be happy to provide additional information on relevant stranded asset decisions by Commissions in the future, we would offer the following analysis for now:

- Issues related to stranded assets should be approached on case-specific basis, and on the specific evidence introduced. A utility-wide standard is not appropriate here;
- Stranded assets usually will be related to factors related to a prudence determination by a Commission, either in a rate case or a separate proceeding;
- If stranded assets are recognized, the Commission has a number of regulatory tools and accounting mechanisms available to recognize these costs in rates;
- If EV infrastructure is offered as a regulated service in an approved tariff, and to all classes of customers including low and moderate income consumers as well as higher and more economically advantaged consumers, it seems fair that any costs of a stranded asset should be spread across most or all customer classes;
- The Commission has discretion to mitigate the impact of the cost of stranded assets by spreading those costs out over a number of years in amortization;
- As such, this may be similar to the concept of accelerated depreciation of fossil generation plants (older, uneconomic coal plants today compared to other resources), and the methods by which Commissions spread those undepreciated amounts of plant-in-service to all rate classes who have benefited from those resources;
- As stated above, the Commission can mitigate this risk by various means. The most important is to focus on interoperability and open protocols (such as Open Charge Point Protocol, or OCPP), and requiring utilities to include such protocols in their RFP's and RFI's. This is especially true for the more expensive types of charging infrastructure, such as DCFC; and
- In addition, the Commission can require utilities to engage in ongoing TE planning process, as well as a robust stakeholder process, so that the regulated utilities stay abreast of the most current information, technologies, and market trends. The Commission staff should be a part of this ongoing process as well.

Question No. 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?

We have answered most of this question above, and we do not believe this to be a case of undue cross subsidization. For the increased load associated with EVSE, we believe that is

not a goal in and of itself for the regulated utility, and is not directly implicated in the ratemaking issues mentioned above. In short, the increased load associated with transportation electrification will likely occur in the future, but it is critical that we analyze the type of customers incurring such load, the location of such customers, the types of tariffs (TOU and others) to encourage off-peak charging, and so on.

Question No. 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.

No, the Alliance believes that non-exempt public utilities – such as BC Hydro and Fortis BC – should be subject to the customary oversight of EV charging services, and not have exemptions similar to the non-utility service providers. Essentially, we believe that the types of services for EV infrastructure and charging to be offered by the regulated utilities to be similar to other types of services they already offer. Moreover, as we cited above in our points on cost recovery, the Alliance believes that the regulated utilities should be able to recover the capital and operating costs of such EVSE investments on a timely basis. The regulated utility bears the burden of proof, as always, to justify and prove the consumer benefits and ultimately the prudence of such investments, and the market development model that it chooses – whether it be own and operate, make-ready with or without a rebate, or some type of partnership or hybrid type agreement. The Commission should review such applications on a case-specific basis, recognizing the differences in capital structure and governance among the regulated utilities in the Province.

Question No. 14: 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.

The Alliance concurs with arguments raised in Phase 1 that the Greenhouse Gas Reduction Regulation (GGRR), which singles out expenditures to enable utility customers “to use electricity instead of other sources of energy that produce more greenhouse gas emissions” already allows this. Because of this explicit provision, classifying EV charging stations as a “prescribed undertaking” is not only appropriate, but exactly the type of measure the authors contemplated.

It is said that when the infamous American bank robber Willie Sutton was asked why he robbed banks, Sutton responded “Because that’s where the money is.” To paraphrase what has become known as “Sutton’s Law,” public utilities should be allowed to own and operate EV charging stations as a prescribed undertaking “because that’s there the greenhouse gas emissions are.” According to Natural Resources Canada, in 2016 more than four-fifths (81 percent!) of electricity in Canada came from non-greenhouse gas emitting sources. Yet just as greenhouse gas emissions indexed by person, per unit of GDP, ad per unit of energy consumed have decreased dramatically since 2000, Natural Resources Canada reports that

transportation greenhouse gas emissions have increased 19 percent over the same time frame.

Because the power sector is already becoming less carbon intensive, the transportation sector must be a central focus of our efforts to transition to a lower carbon future and including EV charging as a prescribed undertaking will send the signals critical to achieving success.

Conclusion

The Alliance for Transportation Electrification appreciates the opportunity to participate in this proceeding and urges the Commission to develop a regulatory framework designed to facilitate transportation electrification by (1) closing the infrastructure gap, (2) providing a strong and appropriate role for utilities, and (3) supporting open standards and interoperability.

Respectfully submitted,

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