

BRITISH COLUMBIA UTILITIES COMMISSION
INQUIRY INTO THE REGULATION OF ELECTRIC VEHICLE CHARGING SERVICES

ChargePoint Inc. (“ChargePoint”) Response to IR No. 1 from
Commercial Energy Consumers Association of British Columbia (“CEC”)

June 6, 2018

1.0 Reference: Exhibit C25-2, Page 3

(a) “The provision of EV charging services and EVCS, both “Level 2” and DC Fast Charging (“DCFC”), does not display the characteristics of a public utility defined by natural monopolies, barriers to entry, and captive markets. EVCS and charging services are provided in a competitive market, which both protects consumers and offer them innovation and choice.”

1.1 Does ChargePoint provide DCFC services in BC at this time and if so how many stations?

1.1.1. If ChargePoint is not providing DCFC services on BC highway connections at this time please provide the reason for this and whether or not ChargePoint will want to compete for this market?

1.2 Does ChargePoint provide DCFC services in the US at this time and if so how many stations?

1.3 Does ChargePoint intend to provide DCFC services on BC highway connections in BC in the future and if so how would it compete with the BC electrical utilities if they were offering the DCFC services along the BC highway connections at the expense of electricity ratepayers?

1.4 Does ChargePoint receive, directly or indirectly, BC government or BC electrical utility financial support for providing EVCS in BC and in particular does it receive, directly or indirectly BC government or BC electrical utility support for providing DCFC services in BC?

1.5 When BC's electrical utilities have implemented DCFC stations in BC, owning the stations and engaging host operators, has ChargePoint been a party to any of the BC electrical utility DCFC station set ups?

Response:

1.1 Yes, ChargePoint currently competes to provide DC fast chargers in BC. At present, there are 10 publicly accessible DCFC ports on ChargePoint’s network.¹ ChargePoint has also sold DCFC stations and network services to a number of site hosts who operate private or semi-public charging services in BC and across Canada.

1.1.1 Please see ChargePoint’s response to 1.1. Several of these stations are located near highways in BC, as indicated by NRCan’s Electric Charging and Alternative Fuelling Stations Locator (https://www.nrcan.gc.ca/energy/transportation/personal/20487#/analyze?fuel=ELEC®ion=BC&ev_levels=dc_fast&ev_networks=ChargePoint%20Network&show_map=true).

¹ NRCan, 2018, Electric Charging and Alternative Fuelling Stations Locator, https://www.nrcan.gc.ca/energy/transportation/personal/20487#/analyze?fuel=ELEC®ion=BC&ev_levels=dc_fast&ev_networks=ChargePoint%20Network&show_map=true

1.2 Yes. ChargePoint has sold approximately 600 publicly accessible DCFC ports to station owner/operators across the US, and provides the network services necessary to operate those stations.²

1.3 ChargePoint intends to continue to supply DCFC stations and network services to site hosts, including utility and third party site hosts, which may be located on BC highway connections.

ChargePoint's business model is to sell charging stations and network services to site hosts, who then provide charging services to EV drivers. Utility provision of DCFC services along BC's highway connections could negatively affect and discourage private investment if DCFC stations are offered to site hosts for free or highly subsidized rates, or if charging services are offered to EV drivers at artificially low rates, that make it difficult to maintain a competitive market.

To support private investment in DCFC alongside utility investment, ChargePoint recommends that key barriers to DCFC installation be addressed in ways that do not distinguish between utility and non-utility investment, including the cost of installing a station, the ability for site hosts to charge EV drivers fees for charging services, and a reduction of demand charges or change in electricity rate structures imposed on site hosts.

1.4 At this time, ChargePoint has not received public utility financial support in BC for Level 2 or DCFC services, but has partnered with utilities in other jurisdictions. Please see ChargePoint's responses to CEC IRs 1.2 and 1.3. ChargePoint has received financial support from the BC provincial government for Level 2 stations, and investments from other levels of government have supported the installation of Level 2 and DCFC in BC.

1.5 No.

² US Department of Energy, 2018, Alternative Fueling Station Locator, https://www.afdc.energy.gov/stations/#/analyze?fuel=ELEC&ev_levels=dc_fast&ev_networks=ChargePoint%20Network

2.0 Reference: Exhibit C25-2, Page 6

“In addition, we have designed the network to allow other parties, such as electric utilities, the ability to access charging data and conduct load management to enable the most efficient load integration with the grid.”

- 2.1 Do any of the BC electrical utilities obtain EV charging data from ChargePoint for the purposes of understanding how the charging network is affecting and using their electricity supply?

Response:

- 2.1 At present, none of the electric utilities in BC use ChargePoint point data for the purposes of understanding how the charging network is affecting electricity supply. However, ChargePoint recognizes the importance of charging data to utilities for assessing grid impacts, load management, and forecasting. ChargePoint has, and is currently, providing a number of utilities and research institutions with charging data. For example, ChargePoint is proud to have participated in the VADER project at Stanford University’s SLAC National Accelerator Laboratory, and the CyDER project at Lawrence Berkeley National Laboratory, which are developing grid impact and forecasting models with its charging data and experience.

3. Reference: Exhibit C25-2, Page 7

“Failing to do so risks inefficient regulation, absurd results, and harm to an existing competitive market. For example, the above rationale applies equally well to paid airport smart phone battery-charging kiosks.”

- 3.1 Does ChargePoint recognize that the smartphone charging example is like examples of EVCS charging where there is no fee charged, which is not covered by the definition of "public utility" in either case?

Response:

- 3.1 ChargePoint does not understand the question. To be clear, ChargePoint's example was "paid airport smart phone battery-charging kiosks". [emphasis added]

4. Reference: Exhibit C25-2, Page 8

"The Commission confirmed that its interpretation and application of the *UCA* should take into account the market context, specifically the "degree to which natural monopoly characteristics are present and whether the consumer requires protection."

- 4.1 Do potential consumers of DCFC services along BC highways require protection or would competitive market forces allow for appropriate pricing for such services and if so please explain how this might take place?
- 4.2 Would it be fair to say that ChargePoint's potential DCFC station owners along BC highways could never compete against a BC electrical utility with pricing subsidized by the BC electricity utility ratepayers?

Response:

- 4.1 Potential DCFC consumers will not require protection because no natural monopoly characteristics will be present. This is because potential consumers will be able to drive to other DCFC charging locations, as well as other Level 2 or Level 1 charging locations, i.e., EV drivers rely on the overall charging market and not one DCFC location.

Some of the material on the record appears to incorrectly equate an economic barrier to entry for DCFC services, due to high capital costs and limited initial customers, leading to limited DCFC supply, with a need for consumer protection. As noted above, this is a false premise, given EV drivers' ability to use other DCFC or Level 2 and Level 1 charging locations.

Accelerating the development of DCFC infrastructure by subsidizing the installation of DCFC may lead to an increased number of EV drivers, support customer choice and help achieve public policy and climate goals. Subsidies, however, can come from both taxpayers and ratepayers, and do not need to rely on a consumer protection rationale. An increase in DCFC investment can be supported by enabling site hosts to charge EV drivers fees for charging services, reducing demand charges paid by site host, introducing EV-specific rates for site hosts, and ensuring that there is a level playing field for competition between utility and non-utility infrastructure.

- 4.2 Yes, if utilities were to subsidize pricing to drivers below market rates, it may make it difficult for other site hosts to compete to attract drivers. A better model for utility programs would be to allow the site host to always set the pricing to drivers, regardless of whether the utility or the site host ultimately owns the charging equipment.

5. Reference: Exhibit C25-2, Page 8

“EVCS owners and operators do not possess the characteristics of the electric utilities targeted by the *UCA* because they neither sell power alone, nor possess the barriers to entry / captive market characteristics of a natural monopoly.”

- 5.1 Once BC's electric utilities own the DCFC charging infrastructure along the BC highways would their monopoly status confer on these locations an effective locational monopoly providing a barrier to entry against another competitor, effectively creating a captive market?

Response:

- 5.1 Please see ChargePoint's responses to IRs 4.1 and 4.2. It depends on the design of the utility program, including which entity owns the stations and which entity chooses pricing to drivers for charging service. Utilities can and should have a role in supporting installation of DCFC, as well as helping to reduce barriers to DCFC investment, such as reducing demand charges. All utility investments, whether they include ownership of stations or not, should seek to support competition, customer choice and innovation.

6. Reference: Exhibit C25-2, Page 9

“Explicit recognition that EVCS site hosts and EV charging services are excluded from the definition of “public utility” would be consistent with the current state of competitive EV charging markets elsewhere that ChargePoint participates in. Those markets, in turn, are driving innovation, customer choice, and private investment.”

- 6.1 Please comment on the California Public Utilities Commission order enabling a California electric utility to supply, own, manage and operate up to 2510 charging stations to help achieve California's goals.

Response:

6.1

In 2014, the California Public Utilities Commission (CPUC) determined that investor-owned utilities can have a role in the EV charging market in the state. In its decision, which came three years after the state determined that EV charging stations were not subject to being regulated as public utilities under Assembly Bill 631 (2011), the CPUC included a requirement that all utility investments, including ownership/operation of EVCS, be subject to a balancing test that assesses impacts to competition and ratepayers.³ Since the 2014 Commission decision, EV charging programs from Pacific Gas & Electric (PG&E), San Diego Gas & Electric (SDG&E), and Southern California Edison (SCE) have been approved by the Commission to move forward using a mix of investment models, including rebates, make-ready and utility ownership/operation. Included in these programs was the PG&E case referenced above, in which the Commission determined that a small scope of ownership/operation investment was appropriate, approving PG&E to only own and operate up to 35% of the stations in its program, and only on sites located in disadvantaged communities. In addition to the stations it will own, PG&E is providing make readies for Level 2 charging stations, bringing the total number of stations being deployed in this program to 7,500.

After these initial three utility programs were approved in California, the state implemented a new law, Senate Bill 350, that includes additional requirements for the CPUC to consider when reviewing utility proposals to support transportation electrification, specifically minimize cost and maximize benefits to ratepayers, promote customer choice in EV charging equipment and services, support competition, increase EV adoption for medium and low income drivers, and enable grid benefits.

Based on our experience in these markets, we would recommend that utility investment in EVCS consider the range of investment models available (as noted on page 22 of Exhibit C25-2), apply a balancing test to all investment proposals including utility ownership (as noted in 8.1), and protect customer choice in hardware and network services.

³ <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M143/K682/143682372.PDF>.

7. Reference: Exhibit C25-2, Page 13

24. This approach would reflect the following principles from the AES Inquiry, which the Commission identified for determining whether to regulate (pp. 6-7):

- Only regulate when required.
- Regulation should not impede competitive markets.
- Regulation is required when natural monopoly characteristics are present and there is a need to protect the public interest and/or legislation requires an activity to be regulated.

7.1 The need in this case for BC electric utilities to become involved in providing DCFC stations along BC highway corridors is posited upon the need for extended range for ZEVs and for them to have favourable pricing, for a time, based on subsidy from the BC electric utilities until such time as the market develops (ie. A need to create a market and expand the adoption of EVs in the market). Please comment on how ChargePoint sees this public interest argument and whether or not it would compete similarly if it had the same ability as a monopoly electrical utility does to have a regulator require all other users of electricity to pay for this service for a time period.

Response:

7.1 The public interest argument identified is one in favour of a subsidy to achieve public policy (climate) goals. A subsidy can come from taxpayers or ratepayers. For optimal efficiency (i.e., take best advantage of market dynamics), and to avoid discriminatory effects (i.e., picking winners and losers), any subsidies offered by government or utilities should support site host choice in charging equipment and network services, should require “skin in the game” and leverage private capital if available, and should provide site hosts with flexibility in setting pricing to drivers for charging services.

In line with ChargePoint's business model, ChargePoint sells charging stations and network services to utility and third party (i.e., via private investment) site hosts who provide charging services to EV drivers. Private investment in DCFC could be competitive with utility investment in DCFC stations provided that site hosts have the flexibility to set and charge fees for charging services, and provided that if utilities own stations in the same market, they are not setting pricing to drivers below market rates.

8. Reference: Exhibit C25-2, Page 15

“The Commission should support utility investment in smart EV charging to accelerate the deployment of technologies that enable utilities to access time aligned charging utilization data and dynamic load control.”

- 8.1 Does ChargePoint support utility investment in DCFC stations along BC highway corridors on a subsidized basis until such time as the stations can become a profitable service, because it would help develop the EV market in BC?
- 8.2 Please explain ChargePoint's concept of Smart EV charging and explain whether or not this concept would preclude support for BC's electric utilities as investors and owners of EVC's in general and DCFC stations along BC's highway corridors in particular.

Response:

- 8.1 ChargePoint is generally supportive of utility investment in DCFC stations along BC's highway corridors provided it supports site host choice in charging equipment and network services, and supports a long-term, scalable competitive market. As noted on page 22 of Exhibit C25-2, there are a number of models utilities can apply to investments in DCFC stations, including rebates, make-ready, and ownership, and all investment models can be supported by rate-based investment. ChargePoint has partnered with utilities in other jurisdictions to accelerate the development of charging stations under all three models.

ChargePoint does note, however, that some forms of utility investment could impact competition, innovation and ultimately the supply of DCFC along BC highway corridors. This could be avoided by applying a balancing test to any utility investment, which includes analysis of the investment's impact on competition and impact on ratepayers, for example, when utility investment includes ownership and long term operation of stations. As indicated on page 23 of Exhibit 25-2, ChargePoint recommends that the Commission review proposed investments on a utility-specific basis, taking into account ratepayer costs and benefits, current market conditions and future needs.

- 8.2 ChargePoint's concept of "Smart EV Charging" relates to the network capabilities associated with charging services that connect EV drivers, site hosts and utilities to charging stations to support positive driver experience, efficient site host station management and utility load management and planning (via data collection of charging activity). This is in contrast to stations without network services, which do not enable any of this connectivity. ChargePoint's smart EV charging network has a number of capabilities, which are described on page 6 of Exhibit 25-2, and ChargePoint's response to Commission's IR 1.10.3.

BC electric utilities should be involved with the development of EV charging stations. Irrespective of whether or how they invest in charging networks, data collected from smart EV charging network capabilities will prove to be important information for grid planning and management purposes. Smart EV charging therefore neither precludes, nor requires, BC electric utilities investing in EV charging stations.

9. Reference: Exhibit C25-2, Page 22

11. Any rate based investment directed at helping accelerate EV acceptance and deployment of charging infrastructure should maintain customer choice in charging equipment and services, and support a long-term, scalable *competitive* market for EVCS. While program designs for utility investment in EV charging stations can take many forms, the Commission should clarify what new utility rate based investment is appropriate to help accelerate the competitive EVCS market.
- 9.1 Would ChargePoint provide EVC and specifically DCFC services along BC highway corridors with a contribution from a BC electric utility similar to a Power Smart contribution to an energy efficiency and conservation project, enabling a potentially profitable operation?
- 9.2 Would ChargePoint provide EVC and specifically DCFC services along BC Highway corridors without a contribution where it was able to find a suitable host owner/operator?

Response:

- 9.1 Yes. Rebates for DCFC stations and/or make-ready (i.e., the infrastructure needed to make a parking space ready to install a charging station) could enable more charging stations to be installed on highway corridors. For example, AEP Ohio's recently approved \$10 million rebate program for 375 smart charging stations includes rebates for 75 public DCFC stations, which cover a significant portion of the DCFC station as well as the make-ready infrastructure costs.
- 9.2 Yes. To date, ChargePoint has not received utility funding for any of the DCFC stations on its network in BC. However, ChargePoint acknowledges that subsidies will make DCFC station investment more attractive to a wider range of site hosts.

10. Reference: Exhibit C25-2, Page 22

“Drawing on our experience across the United States and Canada, we have observed three primary models of utility investment in EV charging: utility ownership of charging equipment, investment in make-ready infrastructure (i.e. the infrastructure needed to make a parking space ready to install a charging station), and rebates. ChargePoint has partnered with utilities and EVCS owners and operators across North America to implement each of these types of investments.”

10.1 ChargePoint has recommended that if the Commission is to approve BC electrical utility investment in EVC then it should examine targeting this investment where it will create the most benefit for expansion and adoption of EV's. Does ChargePoint from its experience in BC have any specific recommendations with regard to where the most impact from utility investment in EVC infrastructure would provide the most impact?

10.2 Does ChargePoint agree with the Ministry of Energy Mines and Petroleum Resources that DCFC stations along BC highway corridors should be a priority?

Response:

10.1 Based on its experience in BC and across North America, ChargePoint recommends that utility investment focus on the following DCFC applications to have the greatest impact:

- Highway corridors across BC
- Communities with low EV penetration (e.g. remote communities)
- Low-income communities

ChargePoint recommends that utility investment focus on the following Level 2 charging applications to have the greatest impact:

- Multi-unit residential buildings
- Low-income communities
- Communities with low EV penetration (e.g. remote communities)
- Curb-side charging for garage orphans

Experience from other jurisdictions suggests that utility investment can be supported by a range of investment models, and can be designed to protect consumer choice.

10.2 Yes. Although the majority of EV charging occurs at home or at work, DCFC highway charging infrastructure is essential for facilitating long-distance travel across the province, and for providing range confidence to prospective EV drivers.