Q. (Reference Application Schedule B, Electric Vehicle Charging Network, page 21) It is stated "*The Electric Vehicle Charging Network project is required to provide a rate mitigating benefit for customers that is consistent with the delivery of reliable service at the lowest possible cost. The project will support increasing the province's adoption of electric vehicles and the successful delivery of customer electrification programs outlined in the 2021 Plan.*"

a) Has this project already received Board approval?

b) (i) Does this project take into consideration charging infrastructure proposed by other public and private sector entities such as the St. John's City Council's decision, made in June 2022, to install 22 level 2 EV charging stations? (ii) With non-utility entities such as the City of St John's installing charging stations, is it necessary for NP to enter this market further?

c) Does this project take into consideration that the charging stations might be supplied by the very dirty and expensive Holyrood oil-fired generating station during 2023 and possibly 2024 owing to continuing problems with the Labrador-Island Link?

d) Please confirm that the proposed 2021 electrification program will result in a near-term rate increase at a time when the province's inflation rate has reached 8.0%, the highest level since 1983.

e) The application seeks funding for three charging sites and "in areas where existing charging stations are experiencing high customer usage rates" p.20. (i) Where are those areas? (ii) Please quantify "high customer usage." (iii) Will NP be able to recover the costs from users of the proposed stations, and if not, who compensates NP?

f) On p.20 of Schedule B, reference is made to the forecast long-run rate-mitigating benefit due to adoption of EVs. (i) Is not that forecast benefit based on the reliable availability of surplus energy from Muskrat Falls? (ii) Is such surplus energy now available? (iii) When does NP expect surplus energy from Muskrat Falls to be reliably available to the island system? (iv) How would existing ratepayers be affected if these proposed EV charging stations were not installed by NP in 2023 but were installed in 2024 or 2025 by a non-utility entity?

g) Please provide a list of publicly available EV charging stations on the island that are owned by non-utility entities, as well as ones to be installed later in 2022 and in 2023.

A. a) No, the 2023 proposed expenditures for three charging stations as part of the *Electric Vehicle ("EV") Charging Network* have not received Board approval.

In December 2020, Newfoundland Power filed an application for supplemental capital expenditures to construct 10 charging stations as part of the *EV Charging Network*. This application was approved by the Board in Order No. P.U. 30 (2021). A proposal to construct an additional 10 charging stations in 2022 is currently under review by the Board.

b) Yes, this project takes into consideration charging infrastructure proposed by other public sector entities, such as the City of St. John's planned Level 2 charging stations.

Newfoundland Power's *EV Charging Network* is substantially different in scope than the charging stations planned by the City of St. John's from two perspectives.

First, the Company's *EV Charging Network* is focused on the installation of Direct Current Fast Charging ("DCFC") infrastructure along major transportation routes. DCFC infrastructure can charge an EV in approximately one hour. Level 2 chargers, as planned by the City of St. John's, require an average of nine hours to charge an EV. While Level 2 chargers are suitable for certain applications, DCFC infrastructure is typically required along highways and other major transportation routes where customers generally stop for only a short period of time.

Second, Newfoundland Power's *EV Charging Network* is designed to establish the minimum infrastructure necessary to permit travel across the Island of Newfoundland in an EV, including reasonable geographic coverage and adequate access to charging services in high usage areas. The establishment of this minimum infrastructure is necessary to address customers' range anxiety related to owning an EV.[1] While investments by entities such as the City of St. John's are helpful to promoting EV adoption, localized investments will not result in adequate geographic coverage of EV charging infrastructure across the Island.

The deployment of EV charging infrastructure in Newfoundland and Labrador continues to lag behind the remainder of Canada. Beyond Newfoundland Power's investment, there has been no private sector investment in publicly available DCFC infrastructure to date. In April 2022, the Provincial Government announced a $1 million EV charging infrastructure investment. While details of the planned investment are not yet available, it is intended to complement the Company's investment in the *EV Charging Network*.[2]

Furthermore, the market potential study completed by Dunsky Energy Consulting (the "Dunsky Study") determined there would be considerable capacity for additional charger deployment in the province beyond the levels planned by the utilities or any commitments currently made by municipal or provincial governments. The Dunsky Study determined that up to 2,000 Level 2 charging ports and 200 DCFC ports may be helpful to promote EV adoption.[3] Based on this market potential, private sector and government investments would need to increase dramatically in order to nullify utility investments in EV charging infrastructure. Such investment levels are not expected to occur in the near term.

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1 See Newfoundland Power's *2021 Electrification, Conservation and Demand Management Application, Volume 1,* Exhibit 2, page 4.

2 See correspondence from Newfoundland Power and Newfoundland and Labrador Hydro to the Board regarding *Response for Market Conditions Update*, dated June 17, 2022, page 5 as part of Newfoundland Power's *2021 Electrification, Conservation and Demand Management Application*.

3 See Newfoundland Power's *2021 Electrification, Conservation and Demand Management Application*, *Volume 2, Schedule C ,* page 139 of 325.

For more information explaining why Newfoundland Power continues to propose investments in the *EV Charging Network*, see the response to Request for Information PUB-NP-011.

c) The customer benefits of accelerating EV adoption are long term in nature. With implementation of the 2021 Plan, EVs are forecast to add approximately 0.5 GWh and 2.4 GWh of load in the first two years of implementation.[4] This would not be expected to have a material impact on near term supply planning or system costs. By contrast, EVs are forecast to add approximately 657 GWh of energy usage over the longer term, providing a rate mitigating benefit for customers.

d) An increase in customer rates due to electrification initiatives would be minimal over the near term, with a forecast increase of 0.006 ¢/kWh in the first year of implementing the 2021 Plan, representing an average annual customer bill increase of approximately $1.17 for a residential customer with electric heating.[5] The long term customer benefit is significantly greater, with a forecast *decrease* of 0.915 ¢/kWh by 2034, equating to an average annual customer bill savings of approximately $178 for a residential customer with electric heating.[6]

e) For information on the location of charging sites proposed for 2023, and how those locations will be determined based on customer usage, see the response to Request for Information PUB-NP-010.

Capital costs associated with Newfoundland Power's *EV Charging Network*, when approved by the Board, are recovered through the Electrification Cost Deferral Account.[7] Operating costs associated with the network are also recovered through this account and the account is credited with revenues received from users who pay a fee to avail of the charging services provided by the network.

f) The rate mitigating benefit of planned electrification programs is based on the most recent marginal cost estimates provided by Newfoundland and Labrador Hydro, which reflect system costs following commissioning of the Muskrat Falls Project. The precise timeline for full commissioning of the Muskrat Falls Project is unknown. However, Hydro has indicated that final commissioning could be achieved by the end of 2022.

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4 See Newfoundland Power's *2021 Electrification, Conservation and Demand Management Application*, *Volume 2, Schedule L*, page 1 of 5, Table L-1.

5 See the response to Request for Information TC-PUB-NP-005 (1st Revision), Attachment B, page 1, Table 1, filed as part of Newfoundland Power's *2021 Electrification, Conservation and Demand Management Application*, which assumes implementation of the 2021 Plan would commence in 2022. The average annual usage of an all-electric residential customer was 16,959 kWh in 2021 (16,959 kWh x 0.006 ¢/kWh x 1.15 HST = $1.17).

6 See the response to Request for Information TC-PUB-NP-005 (1st Revision), Attachment B, page 1, Table 1, filed as part of Newfoundland Power's *2021 Electrification, Conservation and Demand Management Application*. The average annual usage of an all-electric residential customer was 16,959 kWh in 2021 (16,959 kWh x 0.915 ¢/kWh x 1.15 HST = approximately $178).

7 The Board approved the Electrification Cost Deferral Account in Order No. P.U. 3 (2022).

Delaying the installation of the proposed EV charging stations until 2024 or 2025 would also delay the associated rate mitigating benefits for customers.

Aside from utility investment, there has been no other private sector investment in publicly available fast charging infrastructure in Newfoundland and Labrador, as such investment continues to be constrained by a weak business case. As a result, it is not reasonable to rely on private sector investment to establish the minimum charging infrastructure necessary to address barriers to EV adoption. See the response to Request for Information PUB-NP-011.

g) There are currently no publicly available DCFC stations on the island that are owned by non-utility entities. Outside of the $1 million EV charging infrastructure investment announced by the Provincial Government in April 2022, the Company is not aware of any planned DCFC charging stations to be installed later in 2022 or in 2023.

Newfoundland Power does not maintain a database of publicly available Level 2 charging stations. A search of the third party website PlugShare indicates that there are 68 publicly available Level 2 charging stations on the island owned by non-utility entities.[8] The Company is aware of the City of St. John's plans to install 26 Level 2 charging stations. See part b) of this response.

[8] Data obtained from https://www.plugshare.com/ on August 10, 2022.