Q. (2021 Electrification, Conservation and Demand Management Application, Volume 1, page 25, Footnote 56) It is stated "*access to charging and concerns about reliability of range*" are among the highest barriers to EV ownership in the Province.
(a) How will the concern about reliability of range be overcome?
(b) What other concerns are there and how does NP intend to overcome these concerns; i.e., vehicle model availability and maintenance as discussed in the Dunsky report, page 30 of 325?
(c) Please file the risk assessment undertaken by NP with respect to its electrification program, and more specifically, its proposed expenditures for the charging stations. How is the fact that 86% of electric vehicle owners primarily charge at home taken into consideration (Volume 2, Schedule D, page 3 of 5) in the risk assessment?

A. (a) Newfoundland Power will address concerns about the reliability of electric vehicle ("EV") range through a number of initiatives outlined in the *Electrification, Conservation and Demand Management Plan: 2021-2025* (the "2021 Plan").

Customers' concerns about the reliability of range will primarily be addressed through investments in fast charging infrastructure. A market potential study determined that access to this infrastructure is the single largest factor influencing adoption of EVs.[1] Fast charging infrastructure will be supported through 2 investment models:

(i) A make-ready model that includes the installation of electrical infrastructure at a reduced cost to enable commercial customers to purchase and install a fast charger[2]; and
(ii) A utility investment model that includes the construction of a utility-owned EV charging network, as proposed in the Application.[3]

Customers' concerns about the reliability of range will also be addressed through the provision of incentives for residential and commercial customers to install Level 2 chargers. Level 2 chargers reduce range anxiety by providing a faster rate of charge than Level 1 charging, which uses a standard 120-volt outlet.[4]

Customer education will also address concerns with respect to reliability of range. The range that an electric vehicle can travel in a single charge has been increasing in recent years. The average range has grown from 219 kilometres in 2013, to

[1] The market potential study states: *"The current lack of a solid business case for DCFC charging stations for third party market actors suggests that DCFC deployment in the province will be limited in the absence of utility or government intervention."* See the *2021 Electrification, Conservation and Demand Management Application* Volume 2, Schedule C, page 111.
[2] See the *2021 Electrification, Conservation and Demand Management Application,* Volume 2, 2021 Plan, page 15.
[3] See the *2021 Electrification, Conservation and Demand Management Application,* Volume 1, Exhibit 2.
[4] See the *2021 Electrification, Conservation and Demand Management Application,* Volume 2, 2021 Plan, page 7, footnote 13.

386 kilometres in 2019.[5] Educational initiatives under the 2021 Plan will ensure customers have up-to-date information on EVs.

(b) The 2021 Plan addresses barriers to electric vehicle adoption for residential and commercial customers.

The primary barriers to electric vehicle adoption reported by Newfoundland and Labrador residents are access to charging and concerns about reliability of range and vehicle cost.[6] Initiatives included in the 2021 Plan to address concerns about access to charging and reliability of range are outlined in part (a).

While electric vehicles have lower operating and maintenance costs, they also have higher upfront purchase costs. The 2021 Plan includes vehicle incentives for both residential and commercial customers to address this cost barrier.[7] Incentives are also included for residential and commercial customers to address the upfront cost of purchasing a Level 2 charger.

For commercial customers with medium and heavy-duty vehicles[8] upfront purchase cost and model availability are the primary barriers to EV adoption.[9] The Custom Fleet Pilot Program included in the 2021 Plan will investigate how to address barriers associated with medium and heavy-duty fleet vehicles.[10] Implementation of the pilot program will include incentives to offset incremental upfront vehicle purchase costs. The Company will engage fleet managers and provide information on fleet electrification opportunities based on available models. Support will also be provided through technical advice and financial support for feasibility studies.

(c) A risk assessment was not undertaken with respect to customer electrification programs.

[5] See Canada Energy Regulator, *Market Snapshot: Average electric vehicle range almost doubled in the last six years*, June 2019.

[6] Based on a 2019 survey completed by MQO Research.

[7] See the *2021 Electrification, Conservation and Demand Management Application,* Volume 2, 2021 Plan, page 22.

[8] Examples of medium-duty vehicles include delivery vans, box trucks and utility bucket trucks. Examples of heavy-duty vehicles include long-haul and short-haul semi tractors, garbage trucks and dump trucks.

[9] See the *2021 Electrification, Conservation and Demand Management Application,* Volume 2, Schedule C, page 30.

[10] See the *2021 Electrification, Conservation and Demand Management Application,* Volume 2, 2021 Plan, page 15.