Q. (Reference CA-NP-073) Is customer-owned battery storage expected to increase with the increasing number of electric vehicles in the province? Is customer-owned battery storage availability expected to increase as EV charging times are reduced?

A. It is likely that customer-owned battery storage will increase as the technology advances and becomes more economical. As part of Newfoundland Power's Net Metering program, the Company tracks applications pertaining to customer-owned generation equipment that is connected to the electrical grid. As of September 2023, Newfoundland Power has record of two net metering installation applications that include customer-owned battery storage.

Certain electric vehicles are also capable of bidirectional charging. If an electric vehicle is capable of bidirectional charging it can be used as a battery providing power to a building or the grid when paired with the appropriate electric vehicle charger.[1] Specialized hardware and software would also be required to access the vehicle's battery storage.[2]

Few electric vehicles and chargers were capable of bidirectional charging prior to 2023. However, between 2021 and 2023, the number of manufacturers in the bidirectional market increased.[3] The bidirectional charging industry is described as in transition to mass market while still facing challenges and barriers to deployment at scale.[4]

As the number of electric vehicles in the province increases, customer-owned battery storage will also likely increase, but not necessarily at the same rate. For electric vehicles capable of bidirectional charging, the battery can be used to provide power to the grid when charged. As a result, as charging times are reduced, grid-tied battery availability is increased.

Newfoundland Power will continue to monitor any increased customer-owned battery storage installations, including those associated with electric vehicle bidirectional charging, through its net metering process. The Company will model system impacts associated with customer-owned battery storage as the data becomes more available.

1 See U.S. Department of Energy (n.d.). *Bidirectional Charging and Electric Vehicles for Mobile Storage*. Retrieved September 29, 2023 from https://www.energy.gov/femp/bidirectional-charging-and-electric-vehicles-mobile-storage

2 See Smart Electric Power Alliance's *The State of Bidirectional Charging in 2023*, pages 10 and 30.

3 Ibid, page 26.

4 Ibid, page 9.