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September 12, 2025

Via Email

The Board of Commissioners of Public Utilities
Prince Charles Building
120 Torbay Road, P.O. Box 21040
St. John's, NL A1A 5B2

Attention: Jo Galarneau
Executive Director and Board Secretary

Dear Ms. Galarneau:

Re: NLH - Application for the Construction and Installation of Ultra-Fast Electric Vehicle Charging Stations – Phase 2

On August 8, 2025 Newfoundland and Labrador Hydro ("Hydro") submitted to the Public Utilities Board (the "Board") an Application for the Construction and Installation of Ultra-Fast Electric Vehicle Charging Stations (the "Application"). In its Application (Application, para. 12) Hydro "*requests that the Board make an Order, pursuant to Section 41(3) of the Act, approving the Project and Hydro's capital expenditure of approximately $4,263,000 as more particularly described in this Application and in the report attached as Schedule 1.*"

The "project" is defined as:

a) (Application, para. 6) the install of "*five 400 kW ultra-fast chargers at five sites on the Island Interconnected System. Each charger has two charging connections, allowing two vehicles to be charged simultaneously at up to 200 kW each, or a single vehicle at up to 400 kW*".

b) (Application, para. 7) the install of "*two 120 kW chargers at two sites (L'Anse-au-Loup and Port Hope Simpson) in Labrador. Each unit has two charging connections, with the capability of charging two cars simultaneously. Each site will also include a backup charger for a total of three plugs per site for Southern Labrador*".

c) (Application, para. 8) with respect to the chargers proposed for Southern Labrador "*To address the service gap while minimizing impact on the electrical system and rural deficit, Hydro intends to pair each of the proposed chargers in this region with solar generation and battery storage. This configuration is designed to allow charging to over 100 vehicle charges annually with minimal grid demand, necessary only for reliability.*".

d) (Application, para. 12) "*The estimated capital cost of this Project is $4,263,000. Hydro anticipates receiving the majority of the Project costs, up to $3.8 million, from Government funding. Hydro will contribute the remaining funds necessary for the Project; however, the capital funds Hydro expends on this Project are not proposed for inclusion in its regulated rate base for recovery from customers* ***at this time***." (emphasis added).

The Board has directed the parties to submit comments on the Application by September 8, 2025. This submission documents the Consumer Advocate's comments on Hydro's Application.

COMMENTS OF THE CONSUMER ADVOCATE

The Consumer Advocate has a number of comments on the Application, as follows.

1) In Hydro's 2026 Capital Budget Application ("2026 CBA"), it is stated (Reference Application, 2026 Capital Budget Overview, page 9):

> "*Hydro's average capital expenditure from 2015 through 2024 was approximately $154.1 million annually, which was driven primarily by expenditures on asset renewal; from 2025 to 2030 the anticipated average expenditure increases to approximately $525.5 million annually. Accordingly, Hydro's primary investment driver also changes from asset renewal to system growth. Hydro recognizes that these expenditures are significant, and feedback from customers has been very clear. The cost of living, including electricity rates, is a concern. Hydro is diligently reviewing its proposed capital expenditures and is continuing to recommend only the work scopes that absolutely and urgently must be completed to support reliability and begin to prepare for load growth.*"

Spending an estimated $4,263,000 in capital cost on electric vehicle chargers is ***not*** consistent with Hydro's claim that it is recommending "*only the work scopes that absolutely and urgently must be completed to support reliability and begin to prepare for load growth*". There is no evidence that the proposed project will "support reliability", or that it is "absolutely and urgently" needed to prepare for load growth.

In fact, the project is likely to increase load at a time when Hydro is facing severe capacity and energy problems. As the RRAS (Reliability and Resource Adequacy Study) has proceeded, we have learned that the amount of energy that can be delivered to the island system is less than originally anticipated because of stability issues. Moreover, the reliability of the LIL is such that Hydro must plan for prolonged outages during the winter months. To address these challenges, Hydro is extending the service life of the Holyrood TGS, possibly into the 2030s. In addition, Hydro has a $2 billion Build Application before the Board and is forecasting that rates will increase from about 15 cents/kWh currently to about 25 cents/kWh in 2035 (Hydro Build Application, Schedule 3, Attachment 1, Table 5). Building EV charging stations for all-electric EVs hardly seems absolutely and urgently needed when considered in this context.

When asked (CA-NLH-002) how encouraging EV adoption helps to reduce the island system's capacity shortfall, Hydro did not answer the question. It simply stated that EV "*adoption and penetration rates have been accounted for in Newfoundland and Labrador Hydro's load forecast*".

2) On December 16, 2020 Newfoundland Power ("NP") submitted to the Public Utilities Board its 2021 Electrification, Conservation and Demand Management Application. In the cover letter to that application it is stated (page 2 of 3) *"The Application proposes that the Board approve approximately $1.5 million in supplemental capital expenditures for 2021 to commence construction of an Electric Vehicle Charging Network."* The application stated (cover letter, page 2 of 3) *"Approval of these proposals will enable the delivery of customer electrification programs in 2021. This, in turn, will enable the earliest feasible realization of the associated rate mitigating benefits for customers."* Further, Order No. P.U. 30(2021) Reasons for Decision stated the following with respect to the installation and promotion of EV charging infrastructure on the interconnected system (PUB-NLH-006): "*The Board is satisfied that investment by the utilities in EV charging infrastructure is the best currently available tool to contribute to increased EV uptake in the province which will ultimately contribute to increased sales of electricity, increased revenues and, with appropriate load management measures, reduced costs for customers.*" To summarize, the earlier electric vehicle charger application was justified on the basis that customer costs would decrease over time due to higher electricity sales. Hydro invokes that notion in its response to (PUB-NLH-006) as just quoted. Yet, this Application makes no explicit claim that this project would reduce customer costs, presumably because it would not.

   Circumstances are very different since P.U. 30(2021) was issued: the LIL is less reliable than expected, stability issues limit how much Muskrat Falls energy can be fed into the island system, and Holyrood must be relied upon for winter generation for several more years. Increased electricity sales whether through EV adoption or electrification generally no longer offer the prospect of reduced costs for customers. Therefore, it is not surprising that in the current Application, Hydro has not filed documentation showing that customer costs will be reduced as a result of the installation of additional electric vehicle charging stations. In fact, as already noted, Hydro's Build Application forecasts that rates will increase from current levels of about 15 cents/kWh to about 25 cents/kWh by 2035.

3) According to NP-NLH-003 Tables 1 and 2, over the 2027 to 2031 period, the chargers on the interconnected system will lead to financial losses for Hydro itself. Its losses would be, on the average about $84,000 annually (Table 1), and chargers on the isolated system will lose on the average about $20,000 annually (Table 2). Clearly, the revenues generated by the proposed EV chargers will not cover Hydro costs, which occur after allowing for the substantial taxpayer-funded subsidy from the provincial government. Who pays for Hydro's losses?

   It is stated (PUB-003(b)) "*Hydro is proposing to record the capital costs, operating costs, revenues, and government funding associated with the proposed EV chargers in non-regulated operations. This will ensure that no recovery occurs from ratepayers. Hydro may,*

at a future date, make a new application to the Board of Commissioners of Public Utilities for recovery of these costs from ratepayers."

Hydro's losses must be covered somehow. Hydro's response suggests the likelihood that, at a future date, the remaining losses will be covered by ratepayers through their rates, presumably via the Electrification Cost Deferral Account. Even prior to such future use of the ECDA, Hydro's losses would have to be covered somehow. Would not the funds for doing so reduce Hydro's ability to pay for rate mitigation or affect its financial position in a way that has implications for ratepayers?

4) Regarding the Southern Labrador sites, in CA-NLH-005(g), Hydro was asked to provide an analysis that compares the cost of the proposed solar/battery storage system to the alternative of running these stations with electricity generated by diesel. Hydro responded "*Hydro does not consider this to be a viable alternative. Increasing the quantity of fuel consumed at its diesel plants to serve EV chargers would increase the rural deficit and result in recovery from ratepayers (primarily on the Island).*"

This begs the question: if a combined solar/battery storage system eliminates impacts on the rural deficit, why is Hydro not employing such systems on all of its isolated systems?

5) Regarding the Southern Labrador sites, Hydro states (PUB-NLH-002) "*The proposed site design is deliberate in its intent to limit the impact on Hydro's isolated systems and avoid impacts to the rural deficits*" and (PUB-NLH-001) "*In the event that Electric Vehicle ("EV") charging requires less energy than solar production, excess solar generation will be supplied to the grid thereby lowering the rural deficit through decreased diesel generation requirements.*"

The scope to lower the rural deficit in this case is negligible. The two sites would each produce 8,760 kWh annually, (CA-NLH-005a). That is a total of 17,520 kWh. If 80% of the electricity went to charging all-electric EVs there would be a 20% surplus for the diesel system amounting to 3,504 kWh (= 0.2 x 17,520 kWh). 3,504 kWh per year is barely enough to keep <u>two</u> frost-free refrigerators operating.[1]

6) Hydro was asked (CA-NLH-011) "*Please cite the reference in legislation stating that promoting higher charging acceptance rates and lowering GHG emissions in the transportation sector are part of Hydro's mandate.*" Hydro responded "*Newfoundland and Labrador Hydro ("Hydro") has an obligation to manage impacts on the electrical system in order to meet its obligation for least cost, environmentally responsible, reliable service to customers. By working with Government, Hydro is ensuring that the transition to electric vehicles occurs with the least impact on the electrical system.*"

As stated in its response to PUB-NLH-007 (page 2 of 3) "*If another operator were to request service and place a DCFC on Hydro's isolated system, Hydro would be legislatively*

[1] According to Burlington Hydro, a frost-free refrigerator consumes 150 kWh per month, which is 1,800 kWh annually. https://www.burlingtonhydro.com/powertoconserve/residential/appliance-usage.html.

obligated to provide service and could not require that operator to incur the additional cost associated with batteries or renewable generation." More specifically, Hydro has an obligation to connect new customers. It does not dictate a customer's location. Why should it control the location of electric vehicle chargers? Should the location of electric vehicle charging stations not be determined by demand and a sound business case; e.g., at an existing gas station or a commercial location such as Canadian Tire to support customer service?

As for the possibility of Hydro having to supply another operator, whether that would have a detrimental impact is a matter of rate design. For instance, a new General Service rate class could be added to the isolated system schedule of rates for customers with large maximum demands.

7) In the Application (Schedule 1, page 5) Hydro states "*Southern Labrador currently represents a large gap in Hydro's charging network, with over 675 km between the DCFCs in Flowers Cove and Happy Valley-Goose Bay. This distance is well beyond the effective range of most EVs, making EV travel in this region of the province very difficult.*" Yet, in Hydro's 2021-2025 Electrification, Conservation and Demand Management Plan "*no electrification programs will be offered to customers in Hydro's isolated systems.*" Hydro (PUB-NLH-007) justifies its departure from the ECDM plan in part by noting the subsequent finalization of the federal government's Electric Vehicle Availability Standard requiring that all vehicles sold in Canada be classified as zero-emissions vehicles by 2035 and "*As a result, EV ownership is likely to increase in Hydro's isolated systems in the medium to long term.*" That rationale is not convincing for three reasons.

First, whether the distance is well beyond the range of most EVs is not readily apparent. Under the federal Electric Vehicle Availability Standard, plug-in hybrid electric vehicles are accepted as zero-emissions vehicles.[2] Plug-in hybrids could make this 675 km trip. Also, as technology advances, the range of all-electric EVs could increase substantially.

Second, the Electric Vehicle Availability Standard had a transition period to 2035, which does not necessitate installing charging stations in Labrador in the near term. There is no urgency.

Third, Hydro's suggestion that EV ownership is likely to increase in isolated systems in the medium to long term is not supported by evidence. There are no data in the Application on ownership of EVs in the Labrador isolated systems. In addition, people in those areas might prefer plug-in hybrid EVs to all-electric ones.

In short, there is no evidence that this project is absolutely and urgently needed to support reliability and prepare for load growth in the isolated Southern Labrador systems.

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[2] https://natural-resources.canada.ca/energy-efficiency/transportation-energy-efficiency/zero-emission-vehicles/types-zero-emission-vehicles

8) One benefit that Hydro has identified for this project is a reduction in GHG emissions from the transport sector (Schedule 1, page 4). Yet, Hydro (CA-NLH-007a) states that it was "*unable to provide an estimate of the greenhouse gas ("GHG") reductions from this project.*" This is surprising in light of the fact that Hydro was able to estimate that the "*life-to-date reduction in GHG emissions from Hydro's existing EV chargers is estimated at nearly 1,200 tonnes.*"(Schedule 1, pages i and ii).

For the interconnected island system, without the requessted estimate from Hydro, the reduction in GHG associated with the proposed ultra-fact chargers is largely a matter of guesswork, which is attempted below.

It is important to recognize that reduction in emissions in the transport sector does not mean an equivalent overall reduction in emissions. The interconnected system remains very dependent on burning bunker C oil at Holyrood during the winter months. Incremental growth in electricity demand, whether due to more EVs or other causes, will increase requirements from Holyrood on the margin and as a result there will be more GHG emissions. Holyrood is a large source of emissions. Hydro declined a request for the average daily emissions from Holyrood for 2024 (CA-NLH-008c) but our understanding is that the 2023 figure is roughly 1,650 tonnes a day.[3]

Since Holyrood operates almost exclusively in the winter months, its GHG emissions per day during that period are much higher than in the rest of year. Incremental demand during the winter months, in this case from EV charging both from home and EV charging stations, can be expected to add to those emissions. Therefore, the net reduction in GHG emissions from all-electric EVs may be very small. Yet, a core rationale for the Application's proposed expenditure on the ultra-fast EV chargers is the reduction in GHG emissions.

9) Hydro's approach to EVs has largely been discriminatory between types of EVs. The provision of charging stations favours all-electric EVs over plug-in hybrid EVs that also meet the Electric Vehicle Availability Standard. Yet, plug-in hybrid EVs do not add as much pressure on Hydro generating capacity as all-electrics nor do they require any expenditure on new charging infrastructure. [4] Plug-in hybrid EVs do emit GHG, although less than ICE vehicles. There is clearly a trade-off here and Hydro should investigate it thoroughly before making more investments that favour all-electric EVs over plug-in hybrid EVs.

10) Very recently, and after Hydro submitted the Application, the federal government paused the Electric Vehicle Availability Standard for reconsideration.[5] This could involve an easing of the standard itself or the length of the transition period before which all new vehicle sales

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[3] Based on 600,000 tonnes of GHG emissions from Holyrood reported for 2023, https://www.cbc.ca/news/canada/newfoundland-labrador/holyrood-generating-station-post-2030-hundreds-millions-1.7485789#:~:text=Province's%202nd%20largest%20industrial%20polluter,this%20time%20of%20global%20uncertainty.%22

[4] CA-NLH-007b indicates with respect to plug-in hybrid EVs that *"very few can avail of fast charging."*

[5] https://www.cbc.ca/news/politics/carney-ev-mandate-pause-1.7625992

must be zero-emissions vehicles. That would have implications for expected load growth from encouraging adoption of all-electric EVs over plug-in hybrid EVs and ICE vehicles.

11) For the Southern Labrador sites, the benefit value of the potential reduction in GHG emissions is miniscule.

Those two sites would produce 17,520 kWh of stored solar energy annually, (CA-NLH-005a). A key question then is how much GHG emissions are displaced by this amount of renewable energy. The answer was not provided by Hydro when asked in CA-NLH-007. The following provides an estimate and uses it to provide a monetary estimate value of the reduced emissions.

In 2023 Holyrood emitted 600,000 tonnes of GHG (footnote 3) and produced approximately 700,000 MWh.[6] This implies an emissions rate of 0.85 (=600,000/700,000) tonnes per MWh. So, if 17,520 kWh could be used to offset Holyrood generation, the reduction in GHG emissions would be approximately 15 tonnes (=17.520 * 0.85). However, this 17,520 kWh would not be displacing Holyrood energy. It would be displacing largely the burning of gasoline by ICE vehicles and, to a lesser extent, the burning of diesel at the isolated sites. The reduction in GHG emissions due to the two solar/battery sites would likely be less than had the power been used to displace Holyrood generation because Holyrood is less efficient in converting bunker C fuel into energy than ICE vehicles can convert gasoline into energy. Thus, 7.5 tonnes might be a better estimate of the reduction in emissions.

In CA-NLH-008a, Hydro cites $80 as a candidate for the value of a reducing a tonne of GHG emissions. If the 17,520 kWh displaces 15 tonnes of GHG a year (the Holyrood based estimate) then the annual benefit is $1,200. Allowing for the fact that the solar/battery sites are displacing ICE vehicle emissions, not Holyrood energy, perhaps $700 is a better estimate.

It is reasonable to conclude that the value of the reduction in GHG emissions from the Southern Labrador sites would be significantly less than $1,200 per year.

12) The two proposed Southern Labrador sites produce electricity at a cost of **$7,250 per MWh.** That is astronomically expensive!

That $7,250 estimate is derived as follows. For the years 2028 to 2031, the annual cost of the Isolated System chargers is $127,000 composed of $10,000 O&M and $117,000 in depreciation (NP-NLH-003, Table 2). The amount of energy produced annually is 17,520 kWh (CA-NLH-005a) or 17.5 MWh. Dividing the cost of $127,000 by 17.5 MWh gives approximately $7,250 per MWh. That is in no way compatible with producing electricity at least cost.

Hydro may point out that its ratepayers do not bear most of this cost through their electricity rates because the provincial government is using provincial taxpayers' money to fund

[6] NLH Generation, Monthly Quantities Tables.

$104,300 of the $127,000 annual cost. Even then, this "cost" is approximately $1,300 per MWh.[7] This is still a very high cost for electricity and is many times higher than the cost of producing electricity at Holyrood and the typical rate paid by residential electricity consumers in Canada (Can$164 per MWh[8]). Also, it understates the true cost borne by ratepayers and provincial taxpayers, which is $7,250 per MWh.

This project is in "Partnership with the Government of Newfoundland and Labrador" (Schedule 1, page i). By participating in this partnership, Hydro is endorsing the production of electricity at a cost of $7,250 per MWh.

RECOMMENDATION

Based on the preceding comments, the Consumer Advocate recommends that the Board reject the Application.

Please contact the undersigned if you have any questions on this submission.

Yours truly,

Dennis Browne, KC
Consumer Advocate

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[7] $127,000 in cost minus $104,300 in government funding equals $22,700. $22,700 divided by 17.5 MWh yields $1,297 a MWh.

[8] The typical rate paid by residential electricity consumers in Canada in 2024 was $164 a MWh, https://www.globalpetrolprices.com/Canada/electricity_prices/#:~:text=The%20residential%20electricity%20price%20in,0.025%200.050%200.075%200.100%200.125