Office of the Consumer Advocate

PO Box 23135
Terrace on the Square
St. John's, NL Canada
A1B 4J9

Tel: 709-724-3800
Fax: 709-754-3800

November 15, 2024

Board of Commissions of Public Utilities
120 Torbay Road, P.O. Box 2140
St. John's, NL A1A 5B2

Attention: Jo Galarneau
Executive Director and Board Secretary

Dear Ms. Galarneau:

Re: Newfoundland and Labrador Hydro –
Reliability and Resource Adequacy Study Review
- Requests for Information

Further to the above-captioned, enclosed are the Consumer Advocate's Requests for Information numbered CA-NLH-061 to CA-NLH-067.

If you have any questions regarding the enclosed, please contact the undersigned at your convenience.

Yours truly,

Stephen Fitzgerald, KC
Counsel for the Consumer Advocate

Encl.
/bb

cc **Newfoundland & Labrador Hydro**
Shirley Walsh (ShirleyWalsh@nlh.nl.ca)
NLH Regulatory (Regulatory@nlh.nl.ca)

Newfoundland Power Inc.
Dominic J. Foley (dfoley@newfoundlandpower.com)
NP Regulatory (regulatory@newfoundlandpower.com)

Board of Commissioners of Public Utilities
Board General (board@pub.nl.ca)
Jacqui Glynn (jglynn@pub.nl.ca)
Maureen Greene (mgeene@pub.nl.ca)
Colleen Jones (cjones@pub.nl.ca)
Katie Philpott (kphilpott@pub.nl.ca)

Industrial Customers Group
Paul Coxworthy (pcoxworthy@stewartmckelvey.com)
Dean Porter (dporter@poolealthouse.ca)
Denis Fleming (dfleming@coxandpalmer.com)

Labrador Interconnected Group
Senwung Luk (sluk@oktlaw.com)
Nick Kennedy (nkennedy@oktlaw.com)

IN THE MATTER OF
the *Electrical Power Control Act*, 1994,
SNL, 1994, Chapter E-5.1 ((the "*EPCA*")
and the *Public Utilities Act,* RSNL 1990,
Chapter P-47 (the "Act"), as amended,
and regulations thereunder;

IN THE MATTER OF Newfoundland and
Labrador Hydro's Reliability and Supply
Adequacy Study.

CONSUMER ADVOCATE
REQUESTS FOR INFORMATION
CA-NLH-061 to CA-NLH-067

Issued: November 15, 2024

CA-NLH-061 (Reference Technical Conference 3 Presentation, slide 47) The graph shows available LIL capacity for Island use vs. Island load.

a) Is the installed generating capacity at Muskrat Falls 824 MW?

b) How much of the Muskrat Falls generating capacity (ignoring LIL limitations) is available to meet Island load requirements after accounting for other commitments such as those to Nova Scotia?

c) Does the graph show that at Island loads of 1800 MW, the Muskrat Falls generating capacity available to supply Island needs is about 450 MW?

d) In light of LIL limitations, what is the maximum Muskrat Falls capacity available to the Island? In other words, at what load level in the chart does the graph become horizontal?

e) In the chart, as Island load increases from 1600MW to 1800MW, the net LIL amount available appears to increase from approximately 400MW to 450MW, which implies that only an extra 50MW is available via the LIL to meet the 200MW increase in island load. (i) Please explain why the relationship is not closer to one-to-one. (ii) For the figures given, where would the additional needed capacity of 150MW come from and at what cost? (iii) In light of the relationship between Island load and net LIL availability, what are the implications for the calculation of the marginal cost of capacity and the marginal cost of energy? (iv) Has Hydro's most recent marginal cost update taken the relationship in the chart into account?

f) Is the amount of Muskrat Falls generating capacity available to supply the Island limited by the amount of load available on the Island for load shedding? If so, at an Island load of 1800 MW and a LIL transfer capacity of 450 MW, how much load would have to be available for shedding?

g) Please describe Hydro's load shedding scheme. What is the total amount of load available for shedding on the Island, how does the NL System Operator know how much load is available for shedding at a given point in time and how is load shedding rotated among customers?

h) Is load shedding considered to be a smart grid application? Would the management, allocation and efficiency of the load shedding regime be improved if Newfoundland Power had smart meters? Why or why not?

i) What options are available to Hydro to increase reliable transfers of Muskrat Falls generation to the Island besides making reliability improvements to the existing line? For example: i) Could Hydro and Newfoundland Power increase the amount of load available for shedding? ii) Could Hydro build an additional transmission line between Muskrat Falls and the Island using the existing, or new converter stations? iii) Could Hydro split the poles of the existing LIL HVDC line onto separate towers with fall-free spacing between the towers? iv) Other options?

j) If Hydro were able to reliably transfer the full 824 MW of Muskrat Falls generating capacity to the Island rather than only 450 MW (assuming 1800 MW demand on the Island), would this delay the need for the CTs and Bay d'Espoir Unit 8 in the Reference Plan until after 2035, and if so, what cost savings would result?

CA-NLH-062 In the resource adequacy study:

a) Is Hydro considering transmission separately from generation?

b) Did Hydro follow an approach that considers: i) enhancements to the existing system such as maintenance/refurbishment, smart grid and behind-the-meter applications (time-varying rates, demand control, conservation, customer-owned generation, customer-owned battery storage such as electric vehicles, etc.), ii) new generation, and iii) new/enhanced transmission?

c) Can transmission be an alternative to generation? For example, instead of building new CTs on the Island, could a new transmission line be built from Muskrat Falls generation to the Island?

d) In the absence of smart meters, can behind-the-meter applications thrive and make a meaningful contribution to the province's energy supply?

CA-NLH-063 With respect to the transmission supply to the Avalon Peninsula:

a) Please describe each transmission line that crosses the isthmus to the Avalon Peninsula including line designation, end points, voltage level, transfer capacity, whether a single of double circuit line (with both circuits sharing a tower), and the distance from the line to the next closest line at the nearest point where it crosses the isthmus to the Avalon Peninsula.

b) Please describe the transmission criteria used to assess the available capacity on the Avalon Peninsula. For example, does Hydro use an n-1 criterion assuming i) the loss of a single transmission line that crosses the isthmus to the Avalon Peninsula, ii) the loss of all transmission lines crossing the isthmus to the Avalon Peninsula, or iii) something else?

c) What types of events does Hydro plan for that might lead to the loss of transmission to the Avalon Peninsula?

CA-NLH-064 (Reference Technical Conference 2 Presentation, slide 36) It is noted that transmission upgrade costs are projected to be $150 million and include a new transmission line from Western Avalon to Soldiers Pond and dynamic line rating technology (LineVision).

a) Please explain why this expenditure is needed including all assumptions, reliability criteria applied, and expected improvement resulting from the $150 million expenditure.

b) Does this expenditure relate to an n-1 or n-2 planning criterion. If n-2, why?

CA-NLH-065 (Reference Technical Conference 1 Presentation, slide 47) It is noted that acquiring firm imports from New Brunswick, Nova Scotia and New England are not feasible in the near term.

a) Why are firm imports not available in the near term? What are the limiting factors?

b) Are firm imports expected to be available in the mid- to long-term, and if so, what is expected to change between the near- and mid-terms?

c) Are there potential transmission reinforcements available in other eastern Canadian provinces or the northeastern United States that would remedy this situation? If so, please identify the possibilities and any actions being taken to pursue such possibilities.

d) It is understood that generating capacity is short on the Island, New Brunswick and Nova Scotia. Studies relating to regionalization of power systems (for example, the formation of Regional Transmission Organizations in the U.S.) generally show economic benefits because it enables economic dispatch over a broader region, a reduced need for capacity reserves and optimized generation and transmission planning (to name a few). i) Have any such studies been undertaken in Eastern Canada? If so, what were the results? ii) What would it take to get such

a study underway? iii) Is Hydro considering such a study as part of the Resource Adequacy Plan?

CA-NLH-066 In developing the 2024 Resource Adequacy Plan, did Hydro determine that procurement of wind energy is less costly than investing in its own wind generating capacity? Please provide copies of any related in-house analyses or consultant studies.

CA-NLH-067 With respect to LIL unavailability:

a) To what extent is the prospect of LIL unavailability for up to six weeks during the coldest part of the winter a determinant in the Minimum Investment Plan? Has Hydro determined the probability of such a shortfall event? If the LIL were unavailable for up to two weeks, how would the Minimum Investment Plan be affected?

b) What types of events does Hydro plan for that might lead to the loss of a single pole on the LIL?

c) What types of events does Hydro plan for that might lead to the loss of both poles on the LIL?

DATED at St. John's, Newfoundland and Labrador, this 15th day of November, 2024.

Per: _____

Stephen Fitzgerald, KC
Counsel for the Consumer Advocate
Terrace on the Square, Level 2, P.O. Box 23135
St. John's, Newfoundland & Labrador A1B 4J9

Telephone: (709) 724-3800
Telecopier: (709) 754-3800