

WHENEVER. WHEREVER.
We'll be there.



November 15, 2024

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

Attention: Jo-Anne Galarneau
Executive Director and Board Secretary

Dear Ms. Galarneau:

**Re: Newfoundland and Labrador Hydro – Reliability and Resource Adequacy Study
Review – 2024 Resource Adequacy Plan – Requests for Information**

Please find enclosed Newfoundland Power's Requests for Information NP-NLH-095 to NP-NLH-104 in relation to the above-noted proceeding.

Pursuant to a review schedule issued by the Board dated September 3, 2024, review of Hydro's *2024 Resource Adequacy Plan* has included a series of four Technical Conferences which concluded on October 29, 2024. Following the conclusion of the Technical Conferences, counsel for the Board, Hydro, Newfoundland Power Inc. ("Newfoundland Power" or the "Company"), the Consumer Advocate and the Island Industrial Customer Group attended a counsel meeting on November 7, 2024. Requests for Information ("RFIs") are due to be filed on today's date with responses due from Hydro on December 12, 2024. The remainder of the review schedule is subject to revision by the Board.

In the coming months, Hydro plans to file a capital build application for the construction of Bay d'Espoir Unit 8 and a combustion turbine at Holyrood. In view of the forthcoming capital application and items discussed at the counsel meeting, Newfoundland Power has narrowed the scope of the enclosed RFIs to focus only on Hydro's Minimum Investment Required Expansion Plan; namely, the construction of Bay d'Espoir Unit 8 and the combustion turbine at Holyrood.

Newfoundland Power has reserved other lines of inquiry on the remaining aspects of Hydro's *2024 Resource Adequacy Plan* which Newfoundland Power views as requiring additional exploration. As the Board establishes additional opportunities to review Hydro's *2024 Resource Adequacy Plan*, Newfoundland Power will assess these remaining aspects including, but not necessarily limited to, Hydro's reliability planning criteria, transmission requirements, additional supply resource options, the Labrador Island Link-Maritime Link relationship, and the appropriateness of Hydro's Reference Case.

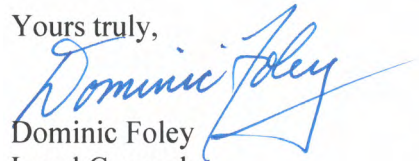
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Board of Commissioners
of Public Utilities
November 15, 2024
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If you have any questions regarding the enclosed, please contact the undersigned.

Yours truly,


Dominic Foley
Legal Counsel

Enclosure

cc. Shirley Walsh
Newfoundland and Labrador Hydro

Paul Coxworthy
Stewart McKelvey

Dennis Browne, KC
Office of the Consumer Advocate

Senwung Luk
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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; and

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

**Requests for Information by
Newfoundland Power Inc.**

NP-NLH-095 to NP-NLH-104

November 15, 2024

Requests for Information

- NP-NLH-095 Please quantify in megawatts the total amount of currently existing generation capacity that Hydro intends to retire by 2032. Please also quantify the total amount of firm generation capacity proposed or expected to be installed as part of the Minimum Investment Required Expansion Plan described in the *2024 Resource Adequacy Plan*.
- NP-NLH-096 Is Hydro aware of other jurisdictions in North America that are constructing or plan to construct new combustion turbines? If so, please provide details including the justification for choosing combustion turbines over other supply alternatives.
- NP-NLH-097 Reference: *2024 Resource Adequacy Plan*; Technical Conference #2: Issue #3: Existing Generation and Transmission, October 1, 2024, Slide 6.
- "Holyrood TGS is required in the near term, as part of the Bridging Plan, until new generation has been reliably integrated into the system."*
- a) Please provide a high-level operational comparison of how Hydro currently operates the Holyrood Thermal Generating Station, which was designed and continues to operate as a baseload power plant, with how Hydro would operate the planned addition to Bay d'Espoir (Unit 8) and the planned 150 MW combustion turbine. In the comparison, please include information on startup capabilities, operating hours, fuel consumption, and greenhouse gas emissions.
 - b) Please quantify the annual capital, operating, and fuel costs associated with the continued operation of the Holyrood Thermal Generating Station throughout the Bridging Plan.
 - c) Please explain and quantify how a one-year delay in the addition of Bay d'Espoir Unit 8 or a new combustion turbine can be expected to postpone the partial or full retirement of the Holyrood Thermal Generating Station and result in higher supply costs to customers.
- NP-NLH-098 Reference: *2024 Resource Adequacy Plan*; Technical Conference #2: Issue #4: Resource Supply Options, October 2, 2024, Slide 9.
- "CDM as a supply option would not be effective during a prolonged Labrador-Island Link outage in winter."*
- Please elaborate on the above statement and explain why CDM initiatives would not be effective during a prolonged Labrador-Island Link outage. In the response, please consider specific CDM initiatives including direct load control, dynamic rate structures, insulation, energy efficient lighting, and other forms of CDM.

NP-NLH-099

Reference: *2024 Resource Adequacy Plan*; Technical Conference #2: Issue #3: Existing Generation and Transmission, October 1, 2024, Slide 36.

"Transmission upgrade costs are projected to be \$150 million and include:

- New Transmission Line: Western Avalon to Soldiers Pond; and*
- Dynamic Line Rating Technology (LineVision)."*

Please quantify and explain the benefits of both: (i) the new transmission line, and (ii) dynamic line rating as they relate to supplying the Avalon Peninsula during a LIL bipole outage.

NP-NLH-100

Reference: *2024 Resource Adequacy Plan*; Technical Conference #2: Issue #4: Resource Supply Options, October 2, 2024, Slide 25.

<i>Risk</i>	<i>Mitigation</i>
<i>Quantity of trucks required to fuel CTs is unsustainable (greater than 5 days with both CT Plants at full capacity requires approx. 44 trucks per day).</i>	<ul style="list-style-type: none"> <i>- Upgrade Holyrood Marine Terminal for diesel delivery.</i> <i>- Expansion plan diversity."</i>

In absence of an upgraded Holyrood Marine Terminal, has Hydro assessed: (i) the availability of the necessary fuel; (ii) the availability of fuel trucks; and (iii) the ability to offload 44 fuel trucks a day in order to maintain fuel for the existing Holyrood combustion turbine and planned 150 MW combustion turbine? If not, why not?

NP-NLH-101

Reference: *2024 Resource Adequacy Plan*; Technical Conference #3: Scenarios and Sensitivities/Modelling Approach and Considerations, October 16, 2024, Slide 98.

"Hydro's Scenario 4 (Minimum Investment Required Expansion Plan) is driven by meeting three resource planning criteria:

- 1. Probabilistic Capacity*
 - The Island Interconnected System should have sufficient generating capacity to satisfy a LOLH expectation target of not more than 2.8 hours per year.*
- 2. Firm Energy Requirement*
 - The Island Interconnected System should have sufficient generating capability to supply all its firm energy requirements with firm system capability.*
- 3. LIL Shortfall Assessment*
 - The Island Interconnected System should have sufficient generating capacity to limit the loss of load to a manageable level in the case of a LIL-shortfall event."*

- a) Please explain how a 150 MW battery would compare to a 150 MW combustion turbine in terms of meeting Hydro's Probabilistic Capacity criteria and LIL Shortfall Assessment criteria. In the response, please consider factors including: (i) battery storage duration; (ii) the ability to recharge the battery; and (iii) the potential for customer outages.
- b) In the event of an extended outage to the LIL (i.e. six weeks or more) during the coldest period of the year (i.e. January and February), please explain whether a 150 MW battery would be limited in its ability to supply customers compared to a 150 MW combustion turbine. In the response, please explain any limitations associated with recharging the battery under such an outage.
- c) Please estimate the cost of a battery that would provide the same reliability benefits as the 150 MW combustion turbine proposed by Hydro in its Minimum Investment Required Expansion Plan. In estimating the cost of the battery, please quantify the storage capability of the battery that would be equivalent to the planned 150 MW combustion turbine and associated fuel storage.

NP-NLH-102

Reference: *2024 Resource Adequacy Plan*; Technical Conference #4: Expansion Plan, Insights and Next Steps, October 29, 2024, Slide 60.

"Hydro has issued an EOI for fuel supply to better inform our strategy and the supply risk including the fuel degradation issue.

The fuel burn-off issue will not be resolved in time for the build applications."

- a) Please provide a copy of the EOI for fuel supply.
- b) When does Hydro expect to be able to communicate the results of the EOI for the fuel supply?
- c) Did Hydro's EOI for fuel supply include the potential that Hydro may upgrade the Holyrood Marine Terminal to accept No. 2 Diesel? If not, why not?
- d) Please explain how Hydro's application for a new 150 MW combustion turbine will address the fuel burn-off issue and the results of the fuel EOI.

NP-NLH-103

Reference: *2024 Resource Adequacy Plan*, Revision 2, August 28, 2024, Appendix C: 2024 Expansion Plans – Development Process and Recommendation, Page 72 of 163.

"As Chart 11 demonstrates, it is evident that the estimated annual emissions decrease dramatically in all cases upon retirement of the existing thermal assets (Holyrood TGS, Hardwoods GT, and Stephenville GT). Emissions up to 2029 are estimated to be approximately 350 kt per year, dropping to no more than 70 kt (which corresponds to Scenario 1AD that builds the most CTs and assumes an annual fuel burn-off requirement). This is an approximately 80% reduction in fuel emissions that may be achieved within the study period, once the Holyrood TGS is retired. Should system conditions differ from that assumed in this analysis, annual emissions could be more than presented."

Hydro estimates that it would achieve an approximate 80% reduction in fuel emissions once the Holyrood TGS is retired and assumes an annual fuel burn-off requirement.

- a) Please confirm that Hydro's estimated fuel emissions reduction of 80% includes the retirement of the Holyrood TGS coupled with the addition of a new 150 MW combustion turbine.
- b) Please estimate the approximate reduction in fuel emissions that could be achieved if the annual fuel burn-off associated with the planned 150 MW combustion turbine could be avoided.
- c) Please summarize possible alternatives that would avoid an annual fuel burn-off.

NP-NLH-104

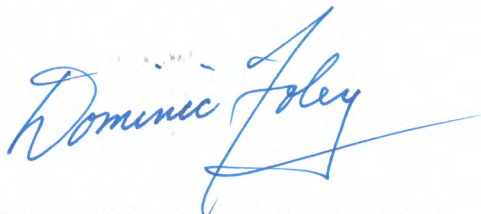
Reference: *2024 Resource Adequacy Plan*, Revision 2, August 28, 2024; Appendix C: 2024 Expansion Plans – Development Process and Recommendation, Page 63 of 163, lines 7-11.

"At this time, Hydro is assuming that ten days of fuel storage associated with the CT as a resource option has to be burned off annually. While further study is required to assess extending the shelf life of the fuel in storage, and/or determining if there is a way to cycle unused fuel via contractual means, the Expansion Model is being forced to burn off the fuel annually as a worst-case scenario to ensure Hydro is fully capturing the associated costs."

- a) Please explain how Hydro determined that ten days of fuel storage was appropriate for the planned 150 MW combustion turbine. In the response, please explain whether the decision to maintain ten days of fuel storage was based on fuel availability and logistical constraints versus the operating requirements of the combustion turbine during potential reliability events such as an extended outage to the LIL.
- b) Is Hydro planning to propose ten days of fuel storage in its application for the planned 150 MW combustion turbine?

- c) Does Hydro's reliability modelling assume that the new 150 MW combustion turbine will have a sufficient supply of fuel to operate when needed in all circumstances including an extended outage to the LIL? Or does Hydro's reliability modelling recognize that fuel may be limited due to storage, the availability of fuel, and the availability of fuel trucks?

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



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