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September 22, 2023

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

Re: *Reliability and Resource Adequacy Study Review* – Planned Reports, Studies and Analyses – Response to Directions from Board of Commissioners of Public Utilities

In correspondence dated July 14, 2023, Newfoundland and Labrador Hydro ("Hydro") filed its comments on the issues and additional studies proposed by Newfoundland Power Inc., the Island Industrial Customer Group, and the Labrador Interconnected Group for the ongoing *Reliability and Resource Adequacy Study Review*.[1]

On August 28, 2023, the Board of Commissioners of Public Utilities ("Board") provided additional correspondence[2] acknowledging Hydro's correspondence and that Hydro had outlined a comprehensive list of additional work and analyses; however, the Board stated that it did not feel that Hydro was clear regarding whether or not it plans to address all the issues and concerns of the Board and the parties. The Board, in that correspondence, provided a number of directions to Hydro on actions to be taken and reports completed. Hydro's response to those directions follows.

1. **The Board directs Hydro to fully address the need for additional capacity in the next update to the RRAS, including: (i) the amount of capacity required; (ii) the options for new capacity additions; (iii) the timeline for new capacity additions; and (iv) the costs and reliability benefits of an earlier replacement of Holyrood and Hardwoods**

   Hydro will consider and address all of the above issues in the expansion plan contained within the Resource Adequacy Plan in the spring of 2024.

2. **The Board directs Hydro to ensure adequate resources are dedicated so that there is no further slippage in the schedule and also to seek and implement opportunities to advance the schedule for the completion of the identified studies, the filing of an application and the implementation of new generation.**

[1] The submissions from the parties were in response to Hydro's May 19, 2023 filing, which provided a comprehensive list of all reports, studies, and analyses planned or currently underway with respect to the reliability of the Labrador-Island Link ("LIL"), potential alternative generation resources, the load forecast, and any other issues raised in the "Reliability and Resource Adequacy Study – 2022 Update" as directed by the Board of Commissioners of Public Utilities ("Board").
[2] "Newfoundland and Labrador Hydro - Reliability and Resource Adequacy Study Review Planned Reports, Studies and Analyses," Board of Commissioners of Public Utilities, August 28, 2023.

Hydro appreciates the Board's recognition of the level of resources required to accomplish this important work. Hydro is utilizing all internal and external resources available to it to ensure all necessary analysis is done as expediently as possible while also ensuring the work is complete and provides all of the data needed to inform decisions regarding reliability and resource adequacy. Like many organizations today, recruitment and retention is an ongoing concern for Hydro. Given the province's changing energy landscape, there will no doubt be additional requirements for staffing to support ongoing sustaining capital work, new major capital work, and ongoing operational and support requirements. Considering those constraints, Hydro is assessing these needs and taking steps for prudent adjustments to its workforce complement as best it can.

Hydro further notes that while Hatch Ltd. noted in its assessment[3] that the Holyrood Thermal Generating Station ("Holyrood TGS") is a technically viable option under various scenarios through to 2030, Hydro committed to have the units at Holyrood TGS available until 2030, **or until such time that sufficient alternative generation is commissioned, adequate performance of the LIL is proven, and generation reserves are met.**[4] Hydro will work as expeditiously as possible, at the pace that engineering analysis requires, to ensure that any application for new generation is the correct one that can be justified after a review of all viable alternatives.

3. **The Board directs Hydro to consider and report in the next update to the RRAS on supply options available on a short-term basis, including consideration of the expedited placement of a combustion turbine as a near-term and a potential long-term option, given the potential to reduce the impact of LIL outages and the potential to reduce the costs associated with maintaining and replacing Holyrood and Hardwoods. This analysis should include (1) consideration of options to expedite procurement as [sic] occurred with the last combustion turbine in the 2014-2015 period and (2) an evaluation of the environmental implications of a combustion turbine, including a comparison to the environmental consequences of operating Holyrood that would be replaced by a combustion turbine.**

   Hydro is reviewing these issues and will provide its findings in the Resource Adequacy Plan in the spring of 2024. The Resource Adequacy Plan will be informed by the Combustion Turbine Feasibility Study, which will be filed with the Board in September 2023. Hydro notes that the historical example cited by the Board was a unique circumstance wherein a solution was chosen for expediency but was not necessarily the most appropriate long-term solution for the Island Interconnected System. Hydro feels strongly that the appropriate work must be done to gather all evidence necessary to make well-informed and prudent decisions that benefit all electricity customers of this province. Hydro believes that it is important to ensure all viable options are considered before proceeding with an application for a solution or solutions that is the least-cost option to provide safe, reliable service, in an environmentally responsible manner, including the consideration of resource options and the draft Clean Electricity Regulations that were released on August 19, 2023.[5]

[3] "Reliability and Resource Adequacy Study Review – Assessment to Determine the Potential Long-Term Viability of the Holyrood Thermal Generating Station," Newfoundland and Labrador Hydro, March 31, 2022, att. 1, 2, and 3.
[4] "Reliability and Resource Adequacy Study – 2022 Update," Newfoundland and Labrador Hydro, October 3, 2022, Executive Summary, p. 3/17–20.
[5] "Draft Clean Electricity Regulations," Environment and Climate Change Canada, August 10. 2023. <https://www.canada.ca/en/environment-climate-change/news/2023/08/draft-clean-electricity-regulations.html>.

4. **The Board directs Hydro to (i) file a report in the next RRAS Update on the options available to mitigate the duration of LIL outages, including the LIL reinforcements and enhancements that are feasible, their costs and what the resulting risk of outages and their consequences remain after the reinforcement or enhancement and (ii) file a report in the first half of 2024 on the actions and activities it has undertaken or plans to undertake in response to the recommendations in the Haldar reports.**

   Hydro has completed its investigations on the LIL failures and is continuing its efforts to address the items listed. It is suggested that a discussion of these items and their reliability implications be included in the spring 2024 Resource Adequacy Plan as opposed to in a separate filing.

5. **The Board directs Hydro to undertake a review of the appropriateness of probabilistic analysis and to provide an update in the next RRAS update.**

   Calculated planning reserve margins, coupled with probabilistic analysis, have been an industry standard used by planners for decades as a relative indication of supply adequacy. Hydro has been using probabilistic analysis as the basis for generation expansion since the 1980s, both when the Island was an isolated system and now that it is interconnected, consistent with the industry standard. Hydro is committed to ensuring, at a minimum, the same level of reliability criteria on the Island Interconnected System that has been experienced post-2014.

   Hydro recognizes the limitations of probabilistic analysis, specifically when addressing the reliability of an asset such as the LIL, which supplies a large portion of the Island Interconnected System peak demand. To address this, in the "Reliability and Resource Adequacy Study – 2022 Update,"[6] Hydro provided a deterministic analysis of an extended LIL outage in the form of the six-week LIL shortfall analysis. In the next update to the Resource Adequacy Plan, Hydro commits to providing an update of this analysis. It is important to note that the six-week LIL shortfall analysis does not have an associated industry standard or historical criteria against which this analysis could be compared. Hydro will propose additional planning criteria, associated with the shortfall analysis, in the spring 2024 Resource Adequacy Plan.

   Hydro will also continue to include the analysis as if the LIL was treated as an energy-only line. In that case, the probabilistic nature of the LIL is not accounted for, resulting in a deterministic outcome of fully backing up the LIL.

6. **The Board directs Hydro to include a range of electrification scenarios in the sensitivities to be completed on the load forecast in the next update to the RRAS.**

   In addition to the high case and reference (base) case load forecast for the Island Interconnected System and a high industrial case and reference (base) case for the Labrador Interconnected System, Hydro will also be including a low case for the Island Interconnected System and a medium industrial growth case for the Labrador Interconnected System in its Resource Adequacy Plan. The high load forecast scenario for the Island Interconnected System includes an aggressive electrification scenario, thus providing a broad range of load forecast scenarios to assess against the reference cases for both the Labrador Interconnected System and the Island Interconnected System. If there

[6] "Reliability and Resource Adequacy Study – 2022 Update," Newfoundland and Labrador Hydro, October 3, 2022.

are other specific scenarios the Board wishes to see, Hydro requests that the Board provide more specific details regarding these scenarios.

7. **The Board directs Hydro to include analysis of the rate impacts with and without rate mitigation in the next update to the RRAS.**

   Hydro will provide the directed analysis based on the available information.

8. **The Board directs Hydro to report in the next RRAS update on whether any other parts of its transmission system have existing or potential constraints that could affect supply from new generation sources and whether any studies have been completed for other than Avalon supply.**

   Hydro will report on all known constraints in the spring 2024 Resource Adequacy Plan.

9. **The Board directs Hydro to include information in the next update to the RRAS on the potential for short-term sales to Quebec.**

   Hydro notes that any potential sales to Quebec, or any other external market, do not have any implication for Hydro's expansion plan or requirements. Additionally, information on potential sales to an external market in a document that is open to the public for review could have commercial sensitivity implications. Hydro requests that the Board reconsider this direction at this time.

Hydro is working diligently on a number of fronts to ensure that all relevant information is gathered, analyzed, and incorporated into the larger examination of the viable and prudent solutions necessary to ensure safe, reliable, least-cost, environmentally responsible service to the province. Hydro is cognizant and very sensitive to the time constraints and concerns of the Board, parties, and Hydro's customers; however, Hydro is also acutely aware of the need to ensure that the decisions and proposals made are the right ones for the circumstances.

Should you have any questions, please contact the undersigned.

Yours truly,

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