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April 26, 2022

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

Attention: Ms. Cheryl Blundon
Director of Corporate Services & Board Secretary

Dear Ms. Blundon:

Re: Long-Term Supply for Southern Labrador – Phase 1 – Correspondence Regarding Requirement for Further Information

On April 7, 2022, the Board of Commissioners of Public Utilities (“Board”) provided correspondence¹ to Newfoundland and Labrador Hydro (“Hydro”) with respect to Hydro’s application for the approval of construction of Phase 1 of Hydro’s long-term supply plan for southern Labrador (“Application”).² In its correspondence, the Board requested that Hydro provide additional information and analysis to supplement the information on the record and that Hydro should engage an independent expert to assist in the analysis of the options and approach for the provision of service in southern Labrador.

Hydro maintains that its proposal is, in keeping with its legislative obligations, the solution that is the lowest possible cost consistent with reliable service. Additionally, the solution proposed in the Application is the best alternative to address many of the concerns that were highlighted through requests for information and the stakeholder consultation process. Recognizing that climate policy and technologies are evolving and will continue to do so, Hydro’s proposed solution allows for more integration of renewables than other alternatives, and it will also have the capability to use alternate, non-emitting fuel sources as they become available, without major modifications. Further, even in advance of integrating new renewables or non-emitting fuel sources, Hydro expects that emissions would be reduced due to efficiencies associated with a single, larger facility rather than four smaller diesel generating stations. Although current load growth projections do not indicate a substantial increase in load in the region, the proposed solution also provides the capability to serve a substantial amount of new load (i.e., 5 MW in addition to the approximately 3.7 MW forecast for 2039) while limiting additional capital investment. This ability to accommodate a generous amount of unanticipated load growth supports economic development in the region. Further, Hydro has commenced discussions with Indigenous governments on how to provide for increased participation in the renewable energy sector in their communities.

Respectfully, Hydro believes that the information and depth of analysis required to enable the Board to render a decision regarding the Application has been provided throughout this proceeding. Recognizing

¹ “Newfoundland and Labrador Hydro - 2021 Capital Budget Supplemental Application Approval of the Construction of Phase 1 of Hydro’s Long-term Supply Plan for Southern Labrador - To NLH - Further Information Required Before Schedule is Resumed,” Board of Commissioners of Public Utilities, April 7, 2022.

² “Long-Term Supply for Southern Labrador – Phase 1,” Newfoundland and Labrador Hydro, July 16, 2021.

the substantial volume of documentation that has been placed on the record, Hydro has addressed the areas the Board identified as gaps or requiring further analysis in Attachment 1 to this correspondence.

Hydro is cognizant that the magnitude of the capital investment warrants a great deal of consideration and diligent review to ensure it is in customers' best interests. Hydro believes that, in this specific circumstance, it has the first-hand experience and expertise required to form fully-developed conclusions as to the most appropriate approach for the region. As such, it is Hydro's position that the additional time and cost associated with additional third-party analysis, beyond what has already been included in the alternatives considered, would not be in customers' best interests as it would be duplicative and further extend Charlottetown's reliance on mobile generation for supply.

Hydro has completed all work that can reasonably be undertaken to reinforce the mobile generating units that have been acting as the interim solution for electrical service in Charlottetown since 2019. A long-term supply solution must be implemented to address the remaining concerns associated with the continued use of mobile generation in Charlottetown. Hydro believes it is critical to conclude this proceeding and advance a long-term solution as soon as possible.

The proposed solution meets the reliability needs of its customers, has the lowest lifecycle cost, is adaptable to future system requirements in its ability to accommodate load growth and economic development in the region, allows for the integration of renewable energy sources, and will be able to utilize renewable fuel in the future.

Hydro respectfully requests that the Board review the attached summary and reconsider its request for additional analysis and third-party expert reports in favour of an approach that allows for a real-time exchange of information, such as a technical conference or hearing.

Should you have any questions, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO



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Encl.

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Attachment 1

Hydro's Response to Board-Identified Gaps

Long-Term Supply for Southern Labrador – Phase 1



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1.0 Summary of Newfoundland and Labrador Hydro's Proposal

As stated in Hydro's "Long-Term Supply for Southern Labrador – Phase 1" ("Application"),¹ Newfoundland and Labrador Hydro ("Hydro") has studied the interconnection of the communities of southern Labrador since the early 2000s, due to its potential to reduce operating and maintenance costs while improving reliability in the region. Hydro's analysis, completed by experts within the organization and based on information provided by external experts,² indicates that the southern Labrador interconnection will allow Hydro to meet its obligation of providing reliable service at the lowest possible cost. As Hydro noted in Attachment 1 to its response to PUB-NLH-001, filed as part of this proceeding, Hydro's analysis demonstrates that the interconnection of the southern Labrador communities is a lower-cost alternative than continued reliance on individual community-based, isolated diesel systems on a long-term basis, due to the decreased operating, maintenance, fuel, and overhaul costs associated with maintaining one larger diesel generating station instead of four separate diesel generating stations.

Hydro notes that, although it is clear that its proposal is fully justified based on decreased operating, maintenance, fuel, and overhaul costs as noted above, there are numerous additional benefits that, while not legislatively required, meet other interests of stakeholders and further support moving forward with this option.

First, the proposed solution will allow Hydro to maximize the use of renewable energy³ and reduce emissions from diesel systems through partnerships with Indigenous and other local developers. Hydro's recommended option also provides the potential for the integration of more renewables throughout the region than if the status quo was maintained. Additionally, the proposed project will result in a reduction in diesel usage given the efficiency of a larger system, and there would be further reductions as renewable alternatives are constructed and commissioned.⁴ Increased purchases of renewable

¹ "Long-Term Supply for Southern Labrador – Phase 1," Newfoundland and Labrador Hydro, July 16, 2021.

² Hydro retained Hatch Ltd. to complete two studies, the "Labrador Interconnection Option Study 2022" and the "Coastal Labrador Wind Monitoring Program," as detailed in Revision 1 of Hydro's response to LAB-NLH-015, filed as part of this proceeding.

³ "Long-Term Supply for Southern Labrador – Phase 1," Newfoundland and Labrador Hydro, July 16, 2021, sch. 1, att. 1, app. B; and Attachment 1 of Hydro's response to PUB-NLH-001, filed as part of this proceeding.

⁴ "Long-Term Supply for Southern Labrador – Phase 1 – Stakeholder Engagement Summary Report," Newfoundland and Labrador Hydro, January 31, 2022, s 4.1.5.

1 energy alternatives would also contribute to limiting growth in the rural deficit as the purchase price of
2 renewable generation has been, and would continue to be, established at a cost lower than diesel fuel.⁵
3 Hydro has confirmed that the design of the regional diesel generating station in Port Hope Simpson can
4 be provisioned for renewable fuels use without major modification,⁶ further indicating the adaptability
5 of Hydro's proposed solution while meeting its mandate for least-cost, reliable service. Hydro notes that
6 the transition from an isolated diesel system to the proposed regional generating facility would not
7 reduce the average unit cost of supplying customers to the point where a modification would be
8 appropriate from the existing inclining block rate structure (reflecting a lifeline block of energy)⁷ in place
9 for isolated diesel system customers.

10 Hydro's long-term load forecast indicates that load growth is expected to grow or remain stable and
11 substantial load growth is not expected or supported by firm requests. The load forecasts provided in
12 Hydro's Application show a combined demand of 3,681 kW in 2039 with the proposed system design
13 having an ability to accommodate more than 5 MW of new load growth that is not currently reflected in
14 the forecast.⁸ This flexibility allows for significant load increase within the current approach if required
15 in the future while minimizing the required additional capital investment.

16 Finally, Hydro's analysis has shown that large-scale interconnected alternatives are not currently
17 economically feasible and do not satisfy Hydro's mandate for reliable service with the lowest possible
18 cost. However, Hydro did consider the alternative where funding solutions for large-scale
19 interconnection were sourced in the coming term and notes that the proposed regional interconnection
20 would still be required to provide the backup necessary to ensure reliability.⁹

⁵ Please refer to Attachment 1 of Hydro's response to PUB-NLH-001, filed as part of this proceeding.

⁶ "Long-Term Supply for Southern Labrador – Phase 1 - Supplemental Information," Newfoundland and Labrador Hydro, March 17, 2022.

⁷ The lifeline block of energy is priced at the same rate as Island customers with additional usage priced higher to better reflect the unit cost of diesel fuel. Hydro notes that average cost recovery based on existing rates is approximately 25% for the Labrador Isolated systems. Please refer to Hydro's response to PUB-NLH-015, filed as part of this proceeding.

⁸ Please refer to Hydro's response to LAB-NLH-013, filed as part of this proceeding.

⁹ "Long-Term Supply for Southern Labrador – Phase 1 – Stakeholder Engagement Summary Report," Newfoundland and Labrador Hydro, January 31, 2022, s 4.1.1.

2.0 Suspension of the Application by the Board of Commissioners of Public Utilities

On April 7, 2022, the Board of Commissioners of Public Utilities (“Board”) provided correspondence to Hydro with respect to the Application. The Board advised, “having reviewed the record the Board does not believe there has been sufficient analysis of alternatives . . .” and that “the information that was provided reflects gaps in the analysis . . .”¹⁰ The Board detailed other aspects of the Application that they viewed as incomplete or inadequate and advised of their determination that the review process should remain paused until Hydro provides further information, as described in the correspondence.

Further delay in the approval of a solution for southern Labrador, and the Town of Charlottetown in particular, is of concern to Hydro. As noted throughout Hydro’s Application, the existing system for supply to Charlottetown was implemented as an interim solution and, although Hydro undertook capital work in 2019 and 2020 to ensure the temporary solution was as safe and reliable as possible, ongoing use has numerous safety, reliability, environmental, and operating concerns. However, until there is an approved long-term solution for supply in southern Labrador, Charlottetown will remain reliant on the existing mobile generation.

Respectfully, Hydro asserts that the information that the Board has identified as missing from the record has been provided by Hydro through its initial application package, as well as the responses to requests for information (“RFI”) and the subsequent correspondence and reports filed with the Board.

Hydro’s responses to specific Board comments follow.

3.0 Information Provided by Hydro in Support of the Application

Hydro filed its Application on July 16, 2021. RFIs were issued on August 12, 2021, with Hydro’s responses filed on September 9, 2021. The second round of RFIs was scheduled for October 1, 2021, and responses were provided by Hydro on October 15, 2021. The schedule for the filing of party submissions was set for November 4, 2021, with Hydro’s reply set to follow on November 12, 2021. Subsequently, the Board

¹⁰ “Newfoundland and Labrador Hydro - 2021 Capital Budget Supplemental Application Approval of the Construction of Phase 1 of Hydro’s Long-term Supply Plan for Southern Labrador - To NLH - Further Information Required Before Schedule is Resumed,” Board of Commissioners of Public Utilities, April 7, 2022, p. 1, para. 3.

1 delayed submissions to allow for submissions from a third party that had not been involved as an
2 intervenor in the Application. On November 10, 2021, Hydro requested a cessation in the review
3 schedule on the Application to allow for continued stakeholder engagement and consultation.¹¹ On
4 January 31, 2022, Hydro provided the Board and parties with a further update on stakeholder
5 consultations, including Hydro's position on the concerns and questions raised by stakeholders.¹²

6 On March 17, 2022, Hydro provided the Board with additional analyses completed on alternatives for
7 reliable power supply to the southern Labrador region that were variations on the alternatives analyzed
8 and discussed in the Application.¹³ Although these additional alternatives were discussed early in
9 Hydro's analysis, they were excluded from further analysis as they were determined not to be the least
10 cost. However, through Hydro's discussions with Newfoundland Power Inc. ("Newfoundland Power")
11 and Hydro's desire to provide the Board and parties with the most comprehensive information possible,
12 Hydro proceeded with the additional analysis of these alternatives. The objective of these analyses,
13 requested by Newfoundland Power, was to assess technical viability and to compare life cycle costs to
14 those of the alternatives presented previously as part of Hydro's "Long-Term Supply Study for Southern
15 Labrador: Economical & Technical Assessment" ("Long-Term Supply Study").¹⁴ The detailed analysis
16 showed that although there are benefits to the alternatives suggested by Newfoundland Power, such as
17 reduced up-front capital cost and the deferral of the construction of a new diesel generating station,
18 Hydro's original recommendation for phased interconnection of the southern Labrador communities
19 and construction of a regional diesel generating station remains the least-cost alternative. These
20 additional alternatives provided limited opportunity for integration of renewables and resulted in
21 minimal available capacity to accommodate load growth in the near or medium term. These limitations
22 have been identified by the Board, within this process, as concerns.

23 Hydro's March 17, 2022 correspondence also detailed Hydro's actions to address previous queries
24 regarding the reduction of greenhouse gas emissions.¹⁵ As Hydro noted above, and in its Application and
25 supporting documents, Hydro's proposal considered the utilization of renewable energy and provides

¹¹ "Long-Term Supply for Southern Labrador – Phase 1," Newfoundland and Labrador Hydro, November 21, 2021.

¹² "Long-Term Supply for Southern Labrador – Phase 1 – Stakeholder Consultations – Further Update," Newfoundland and Labrador Hydro, January 31, 2022.

¹³ "Long-Term Supply for Southern Labrador – Phase 1 - Supplemental Information," Newfoundland and Labrador Hydro, March 17, 2022, Attachments 1 and 2.

¹⁴ "Long-Term Supply for Southern Labrador – Phase 1," Newfoundland and Labrador Hydro, July 16, 2021, sch. 1, att. 1.

¹⁵ "Long-Term Supply for Southern Labrador – Phase 1 - Supplemental Information," Newfoundland and Labrador Hydro, March 17, 2022, p. 2.

1 the potential for the integration of more renewables in all communities along with collaboration with
2 Indigenous and other local governments. As described by Hydro in its correspondence, these initiatives
3 and investigations do not impact Hydro's conclusion that the proposed interconnection is the least-cost
4 solution. These ongoing initiatives are intended to explore the avenues where the inclusion of
5 renewable energy solutions can be incorporated to a greater extent than are currently progressing.

6 Hydro's March 17, 2022 correspondence confirmed that the solution proposed within its Application
7 would meet the immediate reliability needs of its customers, would have the lowest life cycle cost,
8 would be adaptable to future system requirements in its ability to accommodate load growth and
9 economic development in the region, and would allow for increased use of renewable energy.

10 **4.0 Board-Perceived Gaps in Information**

11 As noted above, Hydro believes the information provided and forming the record in this proceeding
12 addresses the perceived gaps in information noted by the Board.

13 **4.1 Lack of Comprehensive Planning Study for the Region**

14 The Board stated that Hydro's application does not include a comprehensive planning study for the
15 region.¹⁶ Further, the Board noted the following:

The process will be restarted after Hydro has completed a comprehensive analysis, in the nature of a planning study including an integrated resource plan, assessing all reasonable options for the provision of service in the region, including how the long-term supply for each of the communities should be addressed in the context of issues related to supply in Labrador generally. The information to be provided should include analysis with respect to reliability, including the potential need for back-up generation, and the timing and costs of replacing or removing the existing diesel generating stations. Exploration of Industrial customer expansion plans in Labrador may also be required to identify the potential impacts on the long-term supply for southern Labrador. Further assessment of the impact of the proposals with respect to the rates and rate structures in Labrador, including the rural deficit, may also be appropriate.¹⁷

16 Hydro provided its Long-Term Supply Study and supplemented it with subsequent filings. The Long-Term
17 Supply Study included an economic and technical assessment of the various supply alternatives and

¹⁶ Newfoundland and Labrador Hydro - 2021 Capital Budget Supplemental Application Approval of the Construction of Phase 1 of Hydro's Long-term Supply Plan for Southern Labrador - To NLH - Further Information Required Before Schedule is Resumed," Board of Commissioners of Public Utilities, April 7, 2022, p. 1, para. 3.

¹⁷ Ibid.

1 detailed the review Hydro had completed, including the potential role of renewable energy resources in
2 its isolated systems. Also discussed were options that had been ruled out during the screening process,
3 including modular diesel plants,¹⁸ and clean energy solutions.¹⁹ The Long-Term Supply Study detailed the
4 sensitivity and cost-benefit analyses that were completed, as well as the reliability assessment that was
5 performed to determine the system reliability impacts of a southern Labrador interconnection scenario.
6 Hydro's Application was supplemented by two additional technical notes,²⁰ in which alternatives that
7 were slight variations of alternatives discussed in the Long-Term Supply Study were reviewed in greater
8 detail to address questions raised by Newfoundland Power. These additional documents further
9 supported Hydro's proposal, indicating that its original recommendation for phased interconnection of
10 the southern Labrador communities and construction of a regional diesel generating station remains the
11 least-cost alternative. The Long-Term Supply Study addressed reliability,²¹ the need for backup
12 generation, and the timing and costs of replacing or removing the existing diesels.²² Hydro's position is
13 that the analyses detailed in these documents capture and examine all reasonable options for supply in
14 the region.

15 As noted above, Hydro's long-term load forecast indicates that, while load growth is expected to grow
16 or remain stable, substantial load growth is not expected. However, an increase in forecasted electricity
17 consumption in southern Labrador was considered through a sensitivity analysis calculation, as
18 discussed in the Long-Term Supply Study.²³ While Hydro does not build generation facilities to serve
19 future industrial load growth that is speculative in nature, as this would be inconsistent with good utility
20 practice, Hydro notes that the proposed solution could accommodate more than 5 MW of load above
21 that currently reflected in the forecast while minimizing the required additional capital investment.

22 **4.2 Gaps in Analysis**

23 The Board stated, "the information that was provided reflects gaps in the analysis with respect to diesel
24 generating station replacement, backup generation and climate policy and technological change."²⁴ As

¹⁸ "Long-Term Supply for Southern Labrador – Phase 1," Newfoundland and Labrador Hydro, July 16, 2021, sch. 1, att. 1, s 3.3.

¹⁹ "Long-Term Supply for Southern Labrador – Phase 1," Newfoundland and Labrador Hydro, July 16, 2021, sch. 1, att. 1, s 3.6.

²⁰ "Long-Term Supply for Southern Labrador – Phase 1 - Supplemental Information," Newfoundland and Labrador Hydro, March 17, 2022, Attachments 1 and 2.

²¹ "Long-Term Supply for Southern Labrador – Phase 1," Newfoundland and Labrador Hydro, July 16, 2021, sch. 1, att. 1, app. C.

²² "Long-Term Supply for Southern Labrador – Phase 1," Newfoundland and Labrador Hydro, July 16, 2021, sch. 1, att. 1, s 3.4.

²³ "Long-Term Supply for Southern Labrador – Phase 1," Newfoundland and Labrador Hydro, July 16, 2021, sch. 1, att. 1, s 6.4.

²⁴ "Newfoundland and Labrador Hydro - 2021 Capital Budget Supplemental Application Approval of the Construction of Phase 1 of Hydro's Long-term Supply Plan for Southern Labrador - To NLH - Further Information Required Before Schedule is Resumed," Board of Commissioners of Public Utilities, April 7, 2022, p. 1, para. 3.

1 the Board did not provide specifics as to the nature of these perceived gaps, it is difficult for Hydro to
2 specifically address the Board's issues. However, Hydro is confident that, in the areas identified by the
3 Board, comprehensive information has been provided through the Application and the subsequent RFI
4 responses, as referenced below.

5 **4.2.1 Diesel Generating Station Replacement**

6 Details of diesel generating station replacements were discussed in Hydro's Long-Term Supply Study,²⁵
7 with further information provided in a number of RFI responses.²⁶ The sensitivity analysis for a scenario
8 where diesel generating station replacements were reduced in cost by 80% or deferred by more than
9 20 years is discussed in Hydro's Long-Term Supply Study.²⁷ All information provided indicates that
10 Hydro's proposed solution is the least-cost alternative to provide reliable service.

11 **4.2.2 Backup Generation**

12 Hydro's Long-Term Supply Study²⁸ included a reliability assessment. Additionally, Hydro's response to
13 NP-NLH-053, filed as part of this proceeding, provides detail on how reliability would be improved
14 through a southern Labrador interconnection. Other RFI responses discuss the use and costs associated
15 with N-2 redundancy.²⁹ The proposed regional diesel generating station will perform the role of the
16 backup supply to the region in the event a larger scale transmission interconnection can be funded and
17 justified in future. This is similar to backup facilities seen at the end of long radial transmission lines,
18 such as those supplying Happy Valley-Goose Bay and Port aux Basques. As noted previously in this
19 response, it is Hydro's position that backup generation has been thoroughly reviewed, and the record
20 demonstrates that Hydro's proposed solution remains the preferred alternative in each scenario.

21 **4.2.3 Climate Policy and Technological Change**

22 Hydro considered wind, solar, and energy storage solutions, and, as noted in the Long-Term Supply
23 Study³⁰ as well as the Stakeholder Engagement Summary Report,³¹ Hydro does not consider wind, solar,

²⁵ "Long-Term Supply for Southern Labrador – Phase 1," Newfoundland and Labrador Hydro, July 16, 2021, sch. 1, att. 1, s 3.4.
²⁶ Please refer to Hydro's responses to PUB-NLH-001, PUB-NLH-020, PUB-NLH-023, PUB-NLH-024, PUB-NLH-035, PUB-NLH-045, LAB-NLH-005, NP-NLH-020, and NP-NLH-060, filed as part of this proceeding.
²⁷ "Long-Term Supply for Southern Labrador – Phase 1," Newfoundland and Labrador Hydro, July 16, 2021, sch. 1, att. 1, s 6.1.
²⁸ "Long-Term Supply for Southern Labrador – Phase 1," Newfoundland and Labrador Hydro, July 16, 2021, sch. 1, att. 1.
²⁹ Please refer to Hydro's responses to NP-NLH-046 and PUB-NLH-030, filed as part of this proceeding.
³⁰ "Long-Term Supply for Southern Labrador – Phase 1," Newfoundland and Labrador Hydro, July 16, 2021, sch. 1, att. 1, s 3.6, and app. B.
³¹ "Long-Term Supply for Southern Labrador – Phase 1 – Stakeholder Engagement Summary Report," Newfoundland and Labrador Hydro, January 31, 2022.

1 storage, or run-of-river hydro generation as viable firm supply solutions for the region. Renewable
2 energy sources, such as wind and solar, installed in isolated systems are considered by the industry to be
3 “non-dispatchable” sources as they are intermittent and the level of supply that can be provided by
4 these sources varies throughout the days, seasons, and years. The renewable sources identified cannot
5 be relied upon to meet the firm supply needs of customers in southern Labrador, especially in
6 consideration of the harsh conditions the area experiences during its extended winter season. There is a
7 role for non-dispatchable solutions in the communities in southern Labrador and it is to provide
8 electricity in conjunction with the firm supply source. This is the role that Hydro envisions and has
9 proposed as part of this project.

10 Similar to the purpose of Hydro's Reliability and Resource Adequacy Study to determine solutions that
11 will ensure reliable firm service to customers on the Island, Hydro's proposed solution for southern
12 Labrador is intended to ensure a reliable supply of electricity for isolated communities and their
13 residents to operate safely. As the large-scale Labrador transmission interconnection is not economically
14 feasible, Hydro must continue to rely on diesel generation for reliable firm electricity supply in isolated
15 communities until renewable storage options are available, reliable, and economically viable. Hydro is
16 already advancing the integration of renewables through an arrangement with a private proponent in
17 the community of Mary's Harbour. This is the model that Hydro intends to advance with the
18 interconnection currently under consideration. Hydro's proposed interconnection will allow for the
19 maximization of the construction of renewable options because of the larger size of the microgrid.
20 Smaller community-based grids permit only minimal renewable solutions. In Hydro's view, its approach
21 considers climate change in that Hydro is seeking to have a system that will maximize the amount of
22 renewables that can be integrated and have the most positive impact possible on climate change while
23 also not compromising firm supply.

24 Hydro detailed the flexibility in its proposed alternative as it allows for the adoption of future changes
25 resulting from climate policies and technological advances in its Long-Term Supply Study, as well as in a
26 number of RFI responses. Additionally, as Hydro stated in its response to PUB-NLH-033, filed as part of
27 this proceeding, “Hydro has a statutory obligation to deliver power to consumers in the province at the
28 lowest possible cost consistent with reliable service.”³² As the Board is required to implement the power

³² *Electrical Power Control Act, 1994*, SNL 1994, c E-5.1.

1 policy of the province³³ and ensure that all facilities are operated in a manner that, among other things,
2 results in “. . . power being delivered to consumers in the province at the lowest possible cost consistent
3 with reliable service,”³⁴ Hydro must bring to the Board, for approval, only those proposals that meet
4 that obligation. As a result of these statutory obligations, Hydro can only consider and propose for
5 approval any technologies that are currently proven to meet the system needs of a rural isolated area,
6 and Hydro can only consider the use of renewable power as firm power if it is demonstrated to be
7 reliable for dispatchable utility purposes and consistent with the provision of least-cost, reliable
8 service.³⁵ Similarly, if Hydro needs to meet firm load on the Island system in a certain period, Hydro
9 must ensure the proposed solution can meet the firm requirements. Hydro agrees with the Board that,
10 “. . . there is a clear shift towards clean renewable energy and reduction in the use of fossil fuel . . .”,³⁶
11 however, the evidence does not currently exist to demonstrate that solutions are currently available
12 that make the use of renewable power a dispatchable, least-cost solution. Hydro's proposed alternative
13 is the least-cost alternative and its projected benefits are realized approximately 15 years into the study
14 period—relatively early when considering the overall study period of 50 years.³⁷ A solution for the area
15 is needed now and Hydro submits its proposed solution would provide the region with firm power and
16 the ability to integrate renewables that will minimize the use of fossil fuel, to an eventual point where
17 no fossil fuel is burned.

18 It is Hydro's position that making assumptions regarding future technologies would be speculative and it
19 would not be appropriate for a regulated utility to consider them in its system planning, even more so in
20 an isolated region, until such technologies are proven reliable and least-cost.³⁸ However, in
21 consideration of potential future technological and policy advances, Hydro has provided substantial
22 information throughout the evidence provided in this matter to illustrate how Hydro's proposed least-
23 cost solution is also one that will allow for the use of renewable energy and technological advances as
24 they develop and as they can further contribute to least-cost, reliable service to its customers. As Hydro
25 noted in its Stakeholder Engagement Summary Report,³⁹ the southern Labrador Interconnection results

³³ *Electrical Power Control Act, 1994*, SNL 1994, c E-5.1, s 4.

³⁴ *Electrical Power Control Act, 1994*, SNL 1994, c E-5.1, s 3(b)(iii).

³⁵ Please refer to Hydro's responses to PUB-NLH-032 and PUB-NLH-033, filed as part of this proceeding.

³⁶ “Newfoundland and Labrador Hydro - 2021 Capital Budget Supplemental Application Approval of the Construction of Phase 1 of Hydro's Long-term Supply Plan for Southern Labrador - To NLH - Further Information Required Before Schedule is Resumed,” Board of Commissioners of Public Utilities, April 7, 2022, p. 2, para. 1.

³⁷ Please refer to Hydro's responses to PUB-NLH-001, PUB-NLH-032, and PUB-NLH-033, filed as part of this proceeding.

³⁸ Please refer to Hydro's responses to LAB-NLH-009 and PUB-NLH-001, filed as part of this proceeding.

³⁹ “Long-Term Supply for Southern Labrador – Phase 1 – Stakeholder Engagement Summary Report,” Newfoundland and Labrador Hydro, January 31, 2022.

1 in a reduction in diesel usage simply by having a larger system that can run more efficiently. This
2 reduction will grow materially larger when renewables projects are constructed and commissioned.
3 Hydro further confirmed, as noted previously, that the design of the regional diesel generating station in
4 Port Hope Simpson can be provisioned for renewable fuels use without any major modifications and
5 Hydro has begun the exploration of the application of renewable fuels in its remote systems. Renewable
6 fuels, such as a biodiesel mix, could be a potential alternative to the current diesel fuel consumed by
7 Hydro's diesel generating units.

8 **4.3 Least-Cost Analysis Conflicting with Conclusions of Hydro's Consultant**

9 The Board expressed concern that Hydro's analysis and proposed alternative do not align with the
10 conclusions of a consultant retained by Hydro, stating that

In addition Hydro's least-cost analysis is not reconciled with the recent conclusions of Hydro's own consultant that, based on a preliminary analysis, the least-cost option for supply in Labrador is not interconnection but rather the continued operation of the diesel generating stations in each of the communities, whether renewables are introduced or not.⁴⁰

11 This issue has been addressed in Hydro's responses to LAB-NLH-015 and PUB-NLH-031, filed as part of
12 this proceeding. The "Labrador Interconnection Options Study – Final Report," completed by Hatch Ltd.
13 ("Hatch") for Hydro, noted that it

. . . was limited in scope in consideration of the detailed optimization of interconnection solutions of the four southern Labrador communities. Rather, the analysis considered a more general assessment of solutions for all Labrador communities. On this basis, the Hatch report should only be used for determinations of the viability of larger-scale interconnections as compared to continue isolated operation with renewable generation.⁴¹

14 **4.4 Unresolved Issues and Ongoing Work**

15 The Board references Hydro's correspondence dated January 31, 2022, as documenting, ". . .
16 unresolved issues and ongoing work relating to the role of renewable energy resources and demand-
17 side management strategies, and the exploration of Indigenous participation models in electric utility

⁴⁰ "Newfoundland and Labrador Hydro - 2021 Capital Budget Supplemental Application Approval of the Construction of Phase 1 of Hydro's Long-term Supply Plan for Southern Labrador - To NLH - Further Information Required Before Schedule is Resumed," Board of Commissioners of Public Utilities, April 7, 2022, p. 1, para. 3 and p. 2, para. 1.

⁴¹ Please refer to Hydro's response to PUB-NLH-031, filed as part of this proceeding.

1 infrastructure and funding opportunities.”⁴² The Board also noted, “. . . the Application proposes the
2 construction of a new diesel plant with an expected life of 50 years, at a time when there is a clear shift
3 toward clean renewable energy and the reduction of the use of fossil fuel.”⁴³

4 As Hydro noted in its response to PUB-NLH-001, filed as part of this proceeding, a long-term study
5 period is required to ensure a complete analysis of all viable alternatives. Although there is an
6 immediate requirement for capital investment to address reliable supply for the Town of Charlottetown,
7 there are also significant operational and sustaining capital costs required for the reliable supply of
8 neighbouring communities that would be impacted by the immediate investment decision. Due to these
9 complexities, Hydro chose a 50-year planning horizon for its analysis. However, it is important to note
10 that Hydro's analysis indicates that its proposed alternative is the least-cost alternative and its benefits
11 are realized approximately 15 years into the study period. It is further important to note that Hydro's
12 analysis and recommendations take into account the movement towards clean, renewable energy and
13 reduction in fossil fuel use. Hydro's position is that the proposed southern Labrador interconnection is
14 the solution that meets Hydro's mandate of least-cost, reliable service and maximizes Hydro's ability to
15 avail of renewable energy sources, as they become economically and technically viable options for the
16 region.

17 Hydro's correspondence provided a summary of the continued stakeholder engagement and
18 consultation; this correspondence was intended to provide details of the feedback Hydro had received
19 and how that information was processed, incorporated, and responded to.⁴⁴ Throughout the
20 Stakeholder Engagement Summary Report,⁴⁵ Hydro reiterated the analysis that had been completed
21 indicates that Hydro's proposal was the least-cost option for reliable service in southern Labrador. Any
22 ongoing work is intended to supplement the proposed interconnection but does not change Hydro's
23 analysis or recommendation. As Hydro noted in its conclusion of that report, “The issues raised in
24 stakeholder sessions have been assessed against the supply options and, as cited in Section 4.1,

⁴² “Newfoundland and Labrador Hydro - 2021 Capital Budget Supplemental Application Approval of the Construction of Phase 1 of Hydro's Long-term Supply Plan for Southern Labrador - To NLH - Further Information Required Before Schedule is Resumed,” Board of Commissioners of Public Utilities, April 7, 2022, p. 2, para. 2

⁴³ “Newfoundland and Labrador Hydro - 2021 Capital Budget Supplemental Application Approval of the Construction of Phase 1 of Hydro's Long-term Supply Plan for Southern Labrador - To NLH - Further Information Required Before Schedule is Resumed,” Board of Commissioners of Public Utilities, April 7, 2022, p. 2, para. 1.

⁴⁴ “Long-Term Supply for Southern Labrador – Phase 1 – Stakeholder Consultations – Further Update,” Newfoundland and Labrador Hydro, January 31, 2022.

⁴⁵ “Long-Term Supply for Southern Labrador – Phase 1 – Stakeholder Engagement Summary Report,” Newfoundland and Labrador Hydro, January 31, 2022.

1 southern Labrador interconnection remains the most economically viable, least-cost option for
2 supplying the communities with reliable power.”⁴⁶ It is also important to note that the utilization of
3 renewable energy solutions with the proposed southern Labrador interconnection, such as the
4 development of renewable sources of generation to assist in the maximization of diesel fuel
5 displacement, also supports the provision of least-cost, reliable service. The model for integration of
6 such solutions is to enter into power purchase agreements with private proponents at a cost less than
7 the cost of diesel fuel supply. This model, already successfully implemented in Hydro's isolated systems
8 such as Mary's Harbour and Ramea, provides savings to Hydro's customers and allows for the
9 integration of renewables.

10 As noted above, the additional technical notes⁴⁷ were to supplement the analysis already provided in
11 Hydro's Application but were not indicative of gaps in Hydro's analysis. The technical notes do not
12 indicate ongoing analysis in that area. Hydro's commitment to review and advance initiatives to
13 decrease potential emissions from the proposed diesel generating station is likewise intended to
14 supplement Hydro's proposal but is not necessary to support the conclusion that the proposal is the
15 least-cost option.

16 **5.0 Board-Suggested Requirement for External Expertise**

17 **5.1 Lack of Engineering or Other Reports from Outside Experts**

18 The Board has noted in its correspondence that Hydro did not include engineering or other reports from
19 outside experts, and states that Hydro should engage an independent expert to assist in the analysis of
20 the options for the provision of service in southern Labrador. As support for this position, the Board
21 references the recommendations of Mr. Justice Leblanc in the Muskrat Falls Project inquiry, as well as
22 the Board's own capital budget application guidelines.

23 Mr. Justice Leblanc's recommendation was for any large project of over \$50 million, the Government of
24 Newfoundland and Labrador and its Crown corporations and agencies should never undertake the
25 planning, approval, or construction of such a project without engaging independent experts to provide a
26 robust review, assessment, and analysis of the project, and without providing well-defined oversight.
27 Hydro believes that the oversight for the proposed project is intended to be fulfilled by the Board in its

⁴⁶ Ibid, s. 5.0, p. 15/11–14.

⁴⁷ “Long-Term Supply for Southern Labrador – Phase 1 - Supplemental Information,” Newfoundland and Labrador Hydro, March 17, 2022, Attachments 1 and 2.

1 review pursuant to the *Public Utilities Act*, and contributed to through the ability of intervenors and
2 their experts to review, question, and provide submissions. Hydro's Application was provided to the
3 Board and the parties for review and comprehensive discussion, questioning, and testing of Hydro's
4 analyses. Throughout the process of studying and evaluating options for supply in southern Labrador,
5 Hydro retained Hatch to complete certain studies, as described in the Application and its response to
6 LAB-NLH-015, filed as part of this proceeding. Hydro used its internal expertise to interpret the findings
7 of those experts and refine its analysis to develop appropriate conclusions for the long-term solution to
8 supplying the southern Labrador communities.

9 The Board's Capital Budget Application Guidelines ("Guidelines") state, "Where appropriate, the utility is
10 expected to provide additional information such as a report/analysis by a qualified engineer,
11 independent consultant, or other appropriate expert, to justify the project and/or program. For projects
12 greater than \$5 million the utility should provide this additional information."⁴⁸

13 As there is no requirement for an external expert, Hydro has the first-hand experience and expertise
14 required to produce the calibre of analysis required for this particular system. Hydro's analyses and the
15 information provided to the Board were prepared by Hydro's internal qualified professional engineers
16 who are experts in their fields. The Guidelines require a utility to support its application with
17 comprehensive information and supporting documentation to enable the Board and interested persons
18 to understand the nature, scope, and justification of the proposed project.

19 **6.0 Reliability in Charlottetown**

20 Hydro's position, as detailed herein, is that it has provided substantial information and that the
21 perceived gaps referenced by the Board were addressed thoroughly in the evidence provided to date.
22 Hydro believes it has fulfilled the requirements of the Guidelines and provided substantive and
23 comprehensive information that supports its proposal. The Board requested that Hydro confirm, by
24 May 6, 2022, that all reasonable steps have been taken to ensure that Charlottetown continues to have
25 access to a safe, reliable power supply while this matter is ongoing. As discussed earlier, and in previous
26 submissions in this matter, the extended use of mobile generators to provide service to Charlottetown is
27 associated with numerous safety, reliability, environmental, and operating concerns. Hydro has
28 completed all the work it can to reasonably address these issues and will continue to perform any

⁴⁸ "Capital Budget Application Guidelines (Provisional) – Effective January 2022," Board of Commissioners of Public Utilities, December 20, 2021, p. 17 of 18.

1 reasonable work or maintenance necessary until the permanent solution is constructed and in service.
2 There is no further reasonable work that Hydro can do to resolve these issues prior to a determination
3 of a long-term solution for the area.

4 **7.0 Conclusion**

5 Hydro maintains that its proposal is, in keeping with its legislative obligations, the solution that is the
6 lowest possible cost consistent with reliable service. Additionally, the Application is the best alternative
7 to address many of the concerns that were highlighted through RFIs and the stakeholder consultation
8 process. Recognizing that climate policy and technologies are evolving and will continue to do so,
9 Hydro's proposed solution allows for more integration of renewables than other alternatives and it may
10 also have the capability to use alternate, non-emitting fuel sources. Further, even in advance of
11 integrating new renewables, Hydro expects that emissions would be reduced due to the efficiencies
12 associated with a single, larger facility rather than four smaller diesel generating stations. Although
13 current load growth projections do not indicate a substantial increase in load in the region, the
14 proposed solution also provides the capability to serve a substantial amount of new load (i.e., 5 MW in
15 addition to the approximately 3.7 MW forecast for 2039) while limiting new investment. This ability to
16 accommodate a generous amount of unanticipated load growth supports economic development in the
17 region.