

Appendix O

Email to NCC and Legal Council - April 3, 2023

Southern Labrador Integrated Resource Plan April 2023



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Cc: Jennifer Williams/NLHydro@NLHYDRO, Robert Collett/NLHydro@NLHydro
Date: 04/03/2023 03:54 PM
Subject: Midgard Consulting's report and Summary Powerpoint

Hello President Russell and others,

Thanks for taking the time to meet with us this morning . As promised, attached is a copy of the final PUB filing for your information, as well as a copy of Hydro's powerpoint summarizing Midgard's findings as requested.

Please let us know if we can be of assistance with another meeting to walk through the findings in more detail. We're happy to do so.

Thanks
Deanne



Southern Labrador Integrated Resource Plan April 2023.pptx



2023-03-31_NLH_LT Supply for S. Lab_Midgard Report.pdf

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Long Term Supply for Southern Labrador

Overview of Midgard Consulting's Report



Background

- July 2021 - Hydro files capital application with the PUB for construction of a regional plant with interconnection of communities in southern Labrador as the proposed option to supply southern Labrador.
- April 2022 - the PUB requested that Hydro complete additional analysis assessing “all reasonable options” for the provision of service in the region.
- Hydro engaged Midgard Consulting Inc. to complete that additional, independent analysis. Over many months, they evaluated:
 - the viability of using battery energy storage systems
 - alternatives considered ranged from refurbishing existing stations; maintaining isolated community services; constructing new regional generating stations (thermal or hydraulic); full interconnections or interconnection with the Labrador Interconnected System.



Midgard's Assessment

- Midgard considered a wide variety of alternatives for long-term supply for Charlottetown and Pinsent's Arm, including but not limited to:
 - Construction of a diesel plant in Charlottetown
 - Renewable Energy (wind, solar, hydro) with Battery Storage
 - Regional Plant
 - Phased Interconnection
 - Full Interconnection now
- Midgard considered cost, reliability, economics, and environment in its assessment.



Midgard's Overall Recommendation

- Hydro should **proceed with the interconnection of the communities of southern Labrador with a regional plant with the full interconnection immediately rather than a phased implementation.**
- The most cost-effective and reliable solution:
 - Operational savings due to reduced fuel consumption
 - Improved system reliability
 - Reduced capital costs
 - Greater potential for renewable penetration
- Hydro is considering Midgard's recommendations as it prepares to update its application to the PUB no later than the end of April 2023.



Next Steps

- Hydro intends to file an update with the PUB before the end of April 2023
- Hydro will request that the PUB resume the regulatory review process
- Hydro anticipates that the PUB will set a review schedule
 - May include any combination of additional rounds of requests for information (“RFI”), technical conferences, or a formal hearing.
 - Generally as the final step, intervenors, are provided with the opportunity to file a written submission outlining their position on any outstanding issues, provide any additional context for consideration by the PUB, and indicate their support or opposition to the project.
 - Hydro is then afforded the opportunity to file a written submission addressing any outstanding issues or concerns.



Regulatory Review Process

- The PUB then considers all available information and evidence to come to a decision regarding project approval.
- After deliberation, the PUB will then issue a “Board Order” outlining its decision.
- Once approved, Hydro will work to construct the proposed project as expeditiously as possible.

An update on the schedule and status will be provided to the towns once the regulatory process has resumed.



Summary of Midgard's Independent Assessment



Analysis of Alternatives

Midgard evaluated numerous alternative long-term supply solutions for southern Labrador.

- **Viability of using battery energy storage systems**

- Range of alternatives considered
 - Refurbishing existing stations and maintaining isolated community services
 - Constructing new regional generating stations (thermal or hydraulic) with full interconnections or interconnection with the Labrador Interconnected System.
- Regarding the future cost-effectiveness of battery energy storage systems, Midgard concluded that renewable energy sources with sufficient battery storage to provide firm capacity remains cost prohibitive at this time.



Analysis of Alternatives

- **Interconnecting the communities**
 - Report highlighted several benefits:
 - Operational savings due to reduced fuel consumption
 - Improved system reliability
 - Reduced capital costs
 - Greater potential for renewable penetration
 - The interconnected system will enable greater use of renewable energy to offset diesel fuel usage.
 - Proceeding with the full interconnection, rather than phased interconnection, is more cost-effective and may enable greater renewable penetration sooner.



Analysis of Alternatives

- **Use of Diesel Gensets**
 - The use of diesel gensets in Hydro's proposed approach is consistent with practices in other similar jurisdictions across Canada.
 - Diesel generation remains a common solution for remote communities due to its reliability, ease of installation, and cost-effectiveness.
 - Midgard's analysis of similar jurisdictions provides context for the proposed approach and supports its suitability for the southern Labrador system.
- **Cost-Benefit Analysis**
 - Midgard conducted a cost-benefit analysis considering both direct costs, such as capital investments and operational expenses, and indirect costs, such as environmental impacts and potential economic benefits.
 - Midgard's analysis suggests that the upfront capital costs of interconnecting the four systems and six communities will be offset by operational savings over a 25-year period.



Requirement for Diesel Generation

- Midgard's assessment emphasized the importance of maintaining reliable back-up generation to ensure the continuous supply of electricity for southern Labrador communities.
- Regardless of the alternative chosen, Midgard notes that a dependable diesel generation solution is required to provide capacity and energy during emergencies or periods of high demand.



Integration of Renewables

- Midgard recommends that Hydro pursue Power Purchase Agreements (“PPA”), particularly through partnerships with Indigenous stakeholders, to integrate renewable energy sources into the system.
 - Help offset diesel fuel usage
 - Reduce greenhouse gas emissions
 - Provide potential economic benefits to the communities
- Midgard emphasizes the importance of Indigenous involvement in renewable energy projects and recommends that Hydro actively support and engage Indigenous groups in the procurement of renewable energy supplies.
 - Aligns with federal policies that favor Indigenous-led development of renewable energy projects, contributing to the growth of Indigenous communities and fostering a more inclusive energy sector.



Provision of Reliable Service in the Interim Period



Current Power Solution and Capacity

- All residents and their businesses have a reliable supply of power today and until a permanent solution is in place
- Hydro is ensuring that multiple redundant units, i.e. backups to backups, are available to minimize the risk of customer impact.

There is sufficient excess capacity on site in Charlottetown to meet peak community load forecasts even if multiple units are unavailable.



Next Steps



Regulatory Review Process

- Hydro intends to file an update with the PUB before the end of April 2023
- Hydro will request that the PUB resume the regulatory review process and will express the need for urgency in proceeding with the review.
- Hydro anticipates that the PUB will set a review schedule
 - May include any combination of additional rounds of requests for information (“RFI”), technical conferences, or a formal hearing.
 - Generally as the final step, intervenors, such as Newfoundland Power Inc. and the Consumer Advocate, are provided with the opportunity to file a written submission outlining their position on any outstanding issues, provide any additional context for consideration by the PUB, and indicate their support or opposition to the project.
- Hydro is then afforded the opportunity to file a written submission addressing any outstanding issues or concerns.



Regulatory Review Process

- The PUB then considers all available information and evidence to come to a decision regarding project approval.
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