



Nova Scotia Utility and Review Board

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January 21, 2020

Nicole.godbout@nspower.ca

Nicole Godbout
Director, Regulatory Affairs
Nova Scotia Power Inc.
PO Box 910
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Dear Ms. Godbout:

M08929 - Nova Scotia Power Inc. – Integrated Resource Planning and Generation Utilization and Optimization (P-884)

On December 16, 2019, Nova Scotia Power submitted draft Terms of Reference for NS Power's 2020 Integrated Resource Plan and requested Board approval.

The Board panel considering this matter is Peter W. Gurnham, Q.C., Chair, Roland A. Deveau, Q.C., Vice Chair, and Steven M. Murphy, M.B.A., P. Eng., Member.

The Board set a timeline of comments from interested parties by January 9, 2020, and a response from NS Power by January 17, 2020. The Board stated in its December 19, 2019 letter:

Nova Scotia Power Inc. (NS Power) notes that it has worked with Board staff and Board Counsel consultants Synapse Energy Economics and Bates White Economic Consulting in the development of the Terms of Reference. The Board also notes that NS Power has undertaken broad stakeholder consultation and the results of that consultation were provided to the Board. NS Power stated the following in its letter:

The Terms of Reference document provides a framework for the IRP process, including objectives, a high-level overview of approach, and major milestones, but does not specify details that will be brought forward for stakeholder comment throughout the remaining IRP phases.

The Board generally agrees with that description of the Terms of Reference.

Comments were received on behalf of Envigour Policy Consulting Inc., consultant to QUEST and Marine Renewables Canada and Natural Forces Services Inc. In its reply letter dated January 17, 2020, NS Power outlined the comments by each of these interested parties, and provided a response as follows:

Natural Forces states:

We are discouraged to see that NS Power's *primary* decision criterion used for IRP modeling continues to be solely based on minimizing cumulative present value of the annual revenue requirements. We feel that reduction in greenhouse gas emissions should also be acknowledged as part of this criterion. The ToR in its current form, only acknowledges the latter as a secondary consideration.

The proposed TOR states:

The IRP process will seek to identify the least-cost, least-risk portfolio. Traditionally, the primary decision criterion used for IRP modeling has been the minimization of the cumulative present value of the annual revenue requirements over the 25-year planning horizon (adjusted for end-effects).

NS Power will continue to use this primary metric to guide resource planning, and will also assess others of increasing importance, including:

- Magnitude and timing of electricity rate effects;
- Reliability requirements for supply adequacy;
- Provision of essential grid services for system stability and reliability;
- Plan robustness (the ability of a plan to withstand plausible potential changes to key assumptions);
- Reduction of greenhouse gas and/or other emissions; and,
- Flexibility (limitation of constraints on future decisions arising from the selection of a particular path).

An Analysis Plan will establish how these metrics will be used as the evaluation criteria for the IRP modeling. A range of plausible alternative scenarios reflecting the breadth of uncertainty facing the electricity industry will be developed and planning models employed by NS Power and its consultants will be used to evaluate these alternative scenarios. For each scenario, optimal capacity expansion modeling will produce least-cost portfolios in the form of a resource plan (including new generation, transmission, and demand-side options, as well as associated retirements of existing units). These portfolios will be evaluated for operational feasibility using appropriate electricity system modeling tools, and iterative analysis will be conducted as required.

Natural Forces' comment recognizes and reflects that given the changing environment, parties are facing more dynamic supply/demand/grid environments and as a result a focus on broader, more complex criteria is becoming increasingly important to electric utility long term planning. The IRP process provides a forum for considering these matters and the interplay between alternative metrics as NS Power moves forward with this and future IRPs.

NS Power believes its proposed wording reflects this intent, while also confirming that NS Power will continue to use the primary metric of minimization of long-term cumulative revenue requirement.

Envigour stated:

Envigour Policy Consulting Inc. has been retained by QUEST and Marine Renewables Canada as their consultant in this matter. We have reviewed the Draft Terms of Reference Document and are generally satisfied with the wording and approach.

However, we believe it may be useful for this exercise if the Input Assumptions and the resulting Potential Resource Plans include a greater detailed account of the uncertainty with respect to the rate of decline in the price of technologies. This uncertainty applies to a wide range of renewable energy technologies including, solar, offshore wind, tidal, renewable natural gas and hydrogen as well as other elements of Distributed Energy Resources such as EV's, Demand Management and Storage.

We recognize that the Strategy, Roadmap and Action Plan are to include "consideration of "signposts" to monitor, future decision gates, and related triggers of changes to the Strategy". However, we believe it would be useful to go a bit further to run models to determine the price at which these technologies would become economic for ratepayers. This may be implicit in the exercise of creating "signposts", but we believe it would be helpful in making it explicit. Such clarity is particularly important given the lengthy time frame of the Plan – 25 years.

NS Power agrees with this comment generally and confirms that commercial availability and cost curves for emerging technology, and how those assumptions may change over time are examples of the types of 'signposts' to monitor for future decision gates and triggers of changes to Strategy. NS Power does not believe this comment requires amendment to the TOR, but is an element for continued engagement and through the upcoming phases of the IRP.

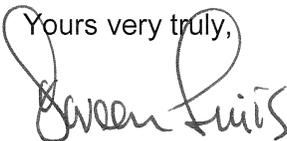
The Board generally agrees with the responses to the interested parties' comments provided by NS Power.

Also, NS Power included, in its December 16, 2019 filing, details of its prior extensive consultation.

Accordingly, the Board approves the Terms of Reference submitted by NS Power for use in the 2020 Integrated Resource Plan. NS Power should be mindful of the comments by Envigour and Natural Forces as it proceeds through the IRP process.

The Board advises NS Power and interested parties that if issues or roadblocks arise that cannot be resolved in the consultation process described in the Terms of Reference, the Board is prepared to adjudicate any substantial disagreements.

Yours very truly,



Doreen Friis
Regulatory Affairs Officer/Clerk

c. S. Bruce Outhouse, Q.C., Board Counsel
Interested Parties