Nova Scotia POWER
An Emera Company

PO Box 910 ● Halifax, Nova Scotia ● Canada ● B3J 2W5

January 17, 2020

Doreen Friis
Regulatory Affairs Officer/Clerk
Nova Scotia Utility and Review Board
1601 Lower Water Street, 3rd Floor
P.O. Box 1692, Unit "M"
Halifax, NS B3J 3S3

Re: M08929 - Integrated Resource Planning (IRP)

Dear Ms. Friis:

On December 16, 2019, NS Power submitted draft Terms of Reference (TOR)[1] for Nova Scotia Power's (NS Power) 2020 Integrated Resource Plan for the Nova Scotia Utility and Review Board's (NSUARB, Board) approval. Prior to filing the draft with the NSUARB, NS Power had previously solicited comments from interested parties on an earlier version that had been prepared in collaboration with Board staff and the Board's consultants. The filing on December 16 therefore considered the feedback received and provided copies of the comments received for the Board's review as well as a matrix describing how each comment received was addressed.

The Board requested comments from parties by January 9, 2020.

Comments were provided to the Board from the Small Business Advocate (SBA), Natural Forces, and QUEST and Marine Renewables Canada jointly through their consultant, Envigour Policy Consulting Inc. (Envigour). The comments provided were generally positive and NS Power believes them to be generally supportive of the Board's approval of the TOR, as filed. Both the SBA and Envigour had provided comments to NS Power's earlier version of the draft TOR before NS Power filed on December 16.

The SBA stated that comments it had previously provided had been acknowledged and referenced in NS Power's December 16 filing and that it had no further comments on the proposed TOR.

Similarly, Envigour, on behalf of its clients, stated that it had reviewed the proposed Terms of Reference and is generally satisfied with the wording and approach and

[1] Exhibit N-4.

provided a few additional comments for consideration, which are addressed below. NS Power is also pleased with Natural Forces' expressed support and general endorsement for NS Power's draft TOR, with one exception, also addressed below.

No other party that had previously provided comments on the draft TOR that was circulated prior to filing provided any additional comments expressing concern to the Board respecting the manner in which NS Power has proposed to address their comments in the TOR and through the IRP process.

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.

NS Power appreciates the comments received by interested parties on the proposed TOR. In the summer of 2019, NS Power and its consultant Energy and Environmental Economics Inc. (E3) began engaging with interested parties on the pre-IRP study work. NS Power remains committed to this engagement approach through the 2020 IRP process and believes that its approach to work with parties in advance of filing to address their areas of interest respecting the draft TOR resulted in comments to the Board being minimal and those that were provided were positive and uncontroversial. NS Power looks forward to continuing this engagement as it moves forward with the formal IRP process in 2020.

Yours truly,

Niccole Godbout
Director, Regulatory Affairs

c. 2020 IRP Stakeholders