Nova Scotia Utility and Review Board

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April 16, 2021

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Nicole Godbout
Senior Director, Enterprise Asset Management
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)

In its letter of October 25, 2018 in matter M08059, the Board directed Nova Scotia Power to undertake certain studies considered to be necessary prior to proceeding with the core analysis of an Integrated Resource Plan (IRP). Those pre-IRP studies were required in order to address recommendations presented in the Generation Utilization and Optimization Report completed by the Board's consultant, Synapse Energy Economics, Inc. (Synapse), and recommendations contained in Bates White Economic Consulting's (Bates White) 2016-2017 Fuel Adjustment Mechanism Audit Report. The Final Pre-IRP Report, consisting of the following studies, was issued to stakeholders on October 17, 2019 (updated November 1, 2019):

- Planning Reserve Margin and Capacity Value Study;
- Resource Options Study;
- Stability Study for Renewable Integration;
- and a Demand Response Options Study.

The primary purpose of the IRP is to identify the lowest cost long term plan to serve customers over a 25-year planning horizon by evaluating a range of alternative supply-side and demand-side resource options with consideration to safety, reliability, rate stability, and legislative requirements regarding air emissions, decarbonization, and renewable energy. The IRP process serves to inform ongoing utility investment, asset retirement, and operating decisions.

On December 16, 2019, Nova Scotia Power requested Board approval of the draft Terms of Reference for its 2020 Integrated Resource Plan. The Terms of Reference document provides a framework for the IRP process, including objectives, a high-level overview of approach, and major milestones. Many of the comments received from interested parties focused on specific considerations for scenario development, evaluation criteria, and modeling approach. The Board approved the Terms of Reference document on January 21, 2020.

The results of NS Power's IRP analysis were contained in a report filed on November 30, 2020. Throughout the duration of the IRP process, in addition to computer modeling and analysis undertaken by NS Power, the Company drew upon the modeling and analytical expertise provided by its consultant Energy and Environmental Economics (E3). Also throughout the process, Board staff, Synapse, and Bates White frequently participated in collaborative working group discussions with NS Power and E3 regarding various aspects of the analysis. Synapse reviewed many of NS Power's computer modeling runs and also undertook numerous additional scenario modeling runs which were shared throughout this process.

In its report, NS Power stated that it:

> …incorporated extensive stakeholder engagement into the process, including input from nine public workshops, six rounds of formal submissions from stakeholders, independent expert analyses, and ongoing consultation with participants. This engagement generated critical insights at each stage of the IRP process.
>
> [Nova Scotia Power 2020 IRP, p.5]

In addition, NS Power stated:

> To build on the findings of the IRP, Nova Scotia Power has developed an Action Plan and Roadmap to advance next steps. The Action Plan serves as a near-term guide for changes to the system and informs the planning initiatives that Nova Scotia Power will undertake. The Roadmap details a strategy for monitoring signposts that confirm or indicate a need to alter the near-term strategy.
>
> The publication of the IRP report does not mark the end of planning efforts. As highlighted in the Action Plan, Nova Scotia Power will continue to perform planning analyses on a regular basis to ensure that it continues to identify resource options and strategies that are beneficial to customers.
>
> [Nova Scotia Power 2020 IRP, p.11]
>
> …
>
> In addition to the core set of scenarios, Nova Scotia Power evaluated numerous sensitivities, many of which were requested through or informed by stakeholder feedback, to ensure the findings are robust.
>
> [Nova Scotia Power 2020 IRP, p.14]
>
> …
>
> Nova Scotia Power will continue to update and advance this work as part of an evergreen IRP process going forward.
>
> [Nova Scotia Power 2020 IRP, p.29]

Per the Terms of Reference, NS Power was required to designate one of the modeled optimized resource plans as the IRP Reference Plan. Scenario 2.0C (Low Electrification / Base DSM / Net-Zero 2050 / Regional Integration) was determined to have the lowest 25-year Net Present Value Revenue Requirement, incorporating end effects and accounting for Distributed Energy Resource costs, and therefore was designated as the Reference Plan. That scenario was seen to be representative of many of the other modeled low-cost resource plans, particularly in the first ten years of the plan, and that commonality informs NS Power's "no regrets" IRP Action Plan and Roadmap.

Subsequent to NS Power's filing of the 2020 IRP report, comments were filed by the Board's consultants, Synapse and Bates White, on December 23, 2020. This was followed by comments submitted on January 20, 2021 by the Consumer Advocate's consultant Resource Insight Inc, Small Business Advocate, Heritage Gas, Counsel for Port Hawkesbury Paper LP, EfficiencyOne, and Sierra Club Canada Foundation. NS Power filed its response to those comments on February 16, 2021. All of those submissions are included in the record of the complete IRP proceeding.

The Board recognizes that the 2020 IRP analysis was significantly more complex than previous versions due to the rapidly evolving transformation brought on by factors such as grid modernization, new technologies, additional renewable energy resources, tighter emissions requirements, electrification, and decarbonization. The Board also notes NS Power's recognition of the enhanced contributions attributed to various stakeholders in this process:

> The approach to stakeholder engagement on this project was unprecedented for a Nova Scotia Power IRP process. The participation and depth of collaboration with interested parties surpasses that experienced in any other regulatory process. The expertise and input that stakeholders offered throughout the exercise has substantially contributed to the overall quality of the work and the outcomes reported upon in this Final Report.
>
> [Nova Scotia Power 2020 IRP, p.37]

The extent of consultation and collaboration in this 2020 IRP process was also highlighted by Board consultants:

> Overall, we found NSPI's IRP work to be done in a largely transparent, collaborative way that produced important information that can be used to strategically plan NSPI's resource mix going forward.
>
> [Bates White Comments, December 23, 2020, p.4]

> In our opinion the process itself allowed for a full vetting of the myriad of technical issues that have the greatest impact on finding a least-cost resource plan. NSPI's approach, which allowed for more extensive stakeholder input to the discussions than Synapse has seen in past IRP processes, was transparent, professional, and led to a reasonable set of possible resource plans. We identify and explain a few core technical disagreements which lead to our suggestions for modifications to certain Action Plan and Roadmap elements.
>
> [Synapse Comments, December 23, 2020, p.1]

In its Action Plan, NS Power described several key tasks that need to be undertaken within the next five years to implement the long-term electricity strategy. The final bullet point in the Roadmap highlighted the requirement to continuously refine the Action Plan and Roadmap items via an evergreen IRP process which should facilitate annual updates as conditions change and technology or market options develop.

The Board commends NS Power and all participants who contributed to the robust analysis in the 2020 IRP process and looks forward to regular updates and potential new modeling as government policy and technologies evolve.

This matter was reviewed by Peter Gurnham, Q.C., Board Chair, Roland Deveau, Q.C., Board Vice-Chair, and Steven Murphy, MBA, P.Eng., Board Member.

Yours truly,

Crystal Henwood

Crystal Henwood
Regulatory Affairs Officer/Clerk

c: S. Bruce Outhouse, Q.C., Board Counsel
Brian Curry, Director Regulatory Affairs, NS Power
2020 IRP Interested Parties

Document: 282916