Nova Scotia Utility and Review Board

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Mark Peachey
Manager, Regulatory System Planning & Innovation
Nova Scotia Power Inc.
1223 Lower Water Street
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Dear Mr. Peachey:

M11764 – Nova Scotia Power Inc. – 2024 10-Year System Outlook Report

Nova Scotia Power Inc. (NS Power) filed its 2024 10-Year System Outlook (SO) Report on behalf of the Nova Scotia Power System Operator (NSPSO) on June 27, 2024. That filing is required under the Nova Scotia Wholesale and Renewable to Retail Electricity Market Rules.

Market Rule 3.4.2 states:

> The NSPSO system plan will address: (a) transmission investment planning; (b) DSM programs operated by EfficiencyOne or others; (c) NS Power generation planning for existing Facilities, including retirements as well as investments in upgrades, refurbishment or life extension; (d) new Generating Facilities committed in accordance with previous approved NSPSO system plans; (e) new Generating Facilities planned by Market Participants or Connection Applicants other than NS Power; and (f) requirements for additional DSM programs and / or generating capability (for energy or ancillary services).

The annual 10-Year SO Report represents NSPSO's assessment of NS Power's generation resource capacity and adequacy, as well as transmission system adequacy and expansion plans. These SO reports are largely based on the previously filed Load Forecast report, Demand Side Management forecast, Northeast Power Coordinating Council (NPCC) compliance requirements, and environmental compliance requirements related to air emissions and renewable resources.

The Board notes that these reports are filed for information purposes only, based on the best information available at the time they were prepared.

This matter was reviewed by Stephen T. McGrath, K.C., Chair, Roland A. Deveau, K.C., Vice Chair, and Steven M. Murphy, MBA, P.Eng., Member.

On August 27 and 28, 2024, Information Requests (IRs) were submitted to NS Power by Board Staff, the Consumer Advocate (CA), the Small Business Advocate (SBA), and SWEB Development (SWEB). NS Power's replies were received on September 19, 2024. Submissions by the CA and SBA were filed on October 4, 2024, and NS Power's Rebuttal Evidence was filed on October 21, 2024.

The 2024 10-Year SO Report noted that several changes occurred in the planning environment since the previous report was filed.

- In August 2023, NS Power concluded its Evergreen IRP update and produced the Evergreen IRP Updated Action Plan and Roadmap report.
- In October 2023, the Province of Nova Scotia released the 2030 Clean Power Plan, providing a comprehensive path forward for the province, including NS Power, to meet the 2030 decarbonization goals of achieving 80 percent electricity sales from renewable resources and the phase-out of coal-fired generation.
- In December 2023, in compliance with the Board's 2023 ACE Plan Decision (M11017), NS Power filed The Path to 2030 report, providing detailed and specific information on how the Company will achieve its 2030 obligations.

NS Power stated that Evergreen IRP scenario CE1-E1-R2, in conjunction with specific projects with known timelines outlined in the 2030 Clean Power Plan and The Path to 2030 report, has been used as the basis for the 2024 10-Year SO Report. Scenario CE1-E1-R2 was also the basis for the 2023 report. That scenario represents current policy and trends for electrification, a net-zero emission electricity system by 2035, and no Atlantic Loop. Also planned is a second 345 kV intertie between Onslow, NS and Salisbury, NB (referenced as the Reliability Tie), with a targeted in-service date of 2028. That tie line will enable integration of additional variable renewable generation on the Nova Scotia system but is not anticipated to provide incremental access to firm capacity or energy.

A summary of the anticipated system additions and retirements is provided in Figure 6 of the SO report. That Figure updates the timing of retirements from The Path to 2030 report to account for increased firm peak demand in the near term, due to an increase in heating intensity. Over the 10-year forecast period, the system peak is expected to increase at an average annual rate of 1.4%, but the energy forecast, net system requirement (NSR), is expected to increase at an average annual rate of 0.2%.

On page 1 of its submission, the SBA stated the following:

> In general, NSPI's System Outlook is consistent with NSPI's planning processes, as documented in the *Evergreen IRP* and the *Path to 2030* report. The System Outlook presents a reasonable forecast of loads and resources to meet system needs in the near-term, considering known policies and constraints.
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> …
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> There are a few areas in which the System Outlook highlights potential risks to NSPI's planning. While these risks do not require immediate changes to the System Outlook, the SBA has summarized these areas in order to flag the issues for additional consideration by NSPI and the Board.

Those four topics are: Delays in Resource Development; Load Growth; Peaking Plant Regulations; and Reserve Margin Deficiency Beginning in 2031.

In its Rebuttal Evidence, NS Power responded to each of those issues. The Board accepts those responses but takes specific note of the response regarding peaking plant regulations:

> Given the content in the update published by ECCC on February 16, 2024, including changes being considered by ECCC to give provinces, utilities and other electricity regulators and providers more flexibility, and given that ECCC has not subsequently indicated a desire to move back to a more restrictive framework, NS Power views the risk that final regulations will not allow for the use of emitting resources in a peaking capacity to be low.

On December 18, 2024, the finalized *Clean Energy Regulations* were published in the *Canada Gazette*, Part II. The *Regulations* provide a mix of compliance flexibilities, enabling a more gradual transition to net zero emissions by 2050.

The CA's submission noted the scale of changes described in the 2024 SO Report and raised the following issues for the Board's attention: Progress on Evergreen IRP; Reliability Tie Risks; and Geothermal System Resources.

Each of those issues were addressed in NS Power's Rebuttal Evidence. Regarding the Evergreen IRP, the CA said two aspects do not appear to progress at a pace consistent with meeting the 2030 targets: 1) hybrid peak scenario study; and 2) regional joint dispatch study.

On the hybrid peak issue, NS Power stated that the Province was accountable for development of a Hybrid Peak program, with NS Power participating in a broader sector study. Furthermore, Net Zero Atlantic confirmed their plan to initiate a study to examine Hybrid Peak options in the fall of 2024 on behalf of the Department of Natural Resources and Renewables.

With respect to a study of regional joint dispatch by a single system operator, NS Power stated that its efforts were focused on the legislative requirement to transition to the Nova Scotia Independent Energy System Operator (NSIESO) structure, rather than on engaging neighbouring jurisdictions on joint dispatch through a single system operator. NS Power considers the two objectives to be contradictory, and suggested the joint dispatch option should be paused until the NSIESO is operating successfully as an independent entity, and then encouraging the NSIESO to engage with neighbouring utilities.

Regarding Reliability Tie risks, the CA raised a concern about outages due to icing that may be experienced on both 345 kV tie lines since they will be essentially on the same right-of-way. NS Power noted key studies and optimizations being considered in the design of the Reliability Tie to mitigate the icing potential and that it intends to install Dynamic Line Rating (DLR) devices on segments of the L8006 transmission intertie which would provide real-time situational awareness of icing conditions.

The Board has reviewed the information filed in this matter and accepts the 2024 10-Year System Outlook Report as filed. The Board anticipates the next SO Report will provide further updates about progress on various initiatives leading to enhanced system reliability and achieving the 2030 decarbonization goals.

Market Rule 3.4.5.1 requires the Nova Scotia Power System Operator to publish the System Outlook Report at the same time as it is submitted to the Board. Please ensure that this latest version, the 2024 10-Year System Outlook Report, is posted to the OASIS site.

Finally, on April 5, 2024, the Legislature passed the *Energy Reform (2024) Act*. Schedule B of this statute implements the *More Access to Energy Act*, which establishes a new NSIESO. While parts of this *Act* have been proclaimed in force other parts related to the full implementation of the NSIESO are expected to be proclaimed in the future. The objects of the NSIESO include, but are not limited to, the following:

- maintain the adequacy and reliability of the bulk electricity system;
- undertake and coordinate power system planning and development responsibilities to maintain and ensure the adequacy and reliability of the bulk electricity system for present and future needs and for the efficient operation of a competitive market;
- forecast electricity demand and the adequacy and reliability of electricity resources for the Province for the short, medium and long terms; and
- conduct independent planning for energy resources, demand-side management and transmission.

As the Board noted in its decision letter about the Evergreen IRP Updated Action Plan and Roadmap Update (M11307), the timeline to 2030 is relatively short, especially considering the significant capital projects that will be required to meet the 2030 targets. It is also important that NS Power continue to engage with federal and provincial government agencies to monitor and implement policy developments. Further, NS Power must not delay or defer any part of the Evergreen IRP process or any activities related to the 10-year system outlook and load forecasting processes, in anticipation that these responsibilities will be assumed by the new NSIESO at some point in the future. It is essential that these various activities continue uninterrupted until they are transitioned to the NSIESO.

Yours very truly,

Crystal Henwood

Crystal Henwood
Regulatory Affairs Officer/Clerk

c. William Mahody, Board Counsel
Participants and Interested Parties