

Our File: 119490

September 26, 2023

Crystal Henwood
Regulatory Affairs Officer/Clerk
Nova Scotia Utility and Review Board
3rd Floor, 1601 Lower Water Street
Halifax, Nova Scotia B3J 3S3

Dear Ms. Henwood:

**Re: Nova Scotia Power Inc. 2023 Evergreen Integrated Resources Plan ("IRP")
Updated Action Plan and Roadmap**

Eastward Energy Inc. ("Eastward") has had the opportunity to review:

1. Nova Scotia Power Inc.'s ("NSPI") August 8, 2023 report entitled Powering a Green Nova Scotia, Together, 2023 Evergreen Integrated Resource Plan, Updated Action Plan and Roadmap;
2. NSPI's responses to stakeholder comments, including Eastward's, on the final Evergreen IRP modelling results;
3. Synapse's comments on NSPI's Updated Action Plan and Roadmap dated September 2023; and
4. Bates White Economic Consulting's ("Bates White") comments on NSPI's Evergreen IRP Action Plan and Roadmap dated September 8, 2023.

Please accept the following as Eastward's submissions on the above.

The IRP Evergreen Update has been a substantive undertaking which has captured many revisions to assumptions since the prior IRP. Eastward has been pleased to be able to participate and provide comments throughout the Update process. At this final stage of the process, Eastward would like to comment on a few specific items, namely: hybrid peak mitigation; fast acting generation and coal to gas conversions; the Atlantic Loop; and hydrogen.

Hybrid Peak Mitigation

Eastward notes NSPI's support at page 4 of its responses to stakeholder comments, in direct response to a question from Eastward, for a multi stakeholder process to further analyze the issue of hybrid peak mitigation, which process NSPI notes could be led by a third-party organization with experience in leading multi sector energy studies. Eastward supports such an approach and believes it has particular insight in this regard, and suggests that the Board specifically note the

requirement for the ongoing review to include collaboration with Eastward and other energy providers that can provide peak mitigation, consistent with its recent findings in *Eastward Energy Incorporated (Formerly Heritage Gas) (Re)*, 2023 NSUARB 166 (M10960), where the Board held as follows:

[43]...The Board agrees that there is a benefit to coordinated planning for the energy transition, although any policy discussions with the provincial government could affect that planning. That said, the Board will direct its staff to engage with regulated entities to explore whether there are opportunities for more efficient and effective coordination of the long-term planning processes of regulated entities.

Similar initiatives are being examined at other Canadian utilities including Manitoba Hydro, BC Hydro and Fortis. Hybrid Peak mitigation has been adopted in the Province of Québec as a means to both fight climate change and lower total societal energy costs. As stated in Québec's 2030 Plan for a Green Economy at pages 6 and 53 respectively:¹

The government is breaking new ground by bringing together Québec's two main energy distributors, Hydro-Québec and Énergir, with the common goal of reducing greenhouse gas emissions from building heating by 50% by 2030.

...

Fully electrifying heating would not be ideal for Québec. It would create a significant peak demand issue at certain times during the winter, when electricity consumption is greatest. It would also increase costs for all customers.

Furthermore, it is worth noting that electricity cannot be the only option for all commercial and institutional buildings because of certain constraints. For example, in the event of a widespread or major power outage, hospitals must be able to rely on an alternative energy source. In some areas, the electrical grid also struggles to handle increased demand.

NSPI notes at page 13 of its Update that "pursuing a hybrid peak solution could have value to customers via avoidance of new firm capacity costs". Eastward believes this is highly likely to be the case and can commit to actively collaborating in any further review to address this opportunity. As this review will involve collaboration of competitive energy service providers, Eastward suggests that it would be useful for the review to be conducted by an impartial third party who would be able to ensure that the results were based fully on obtaining the lowest cost reliable energy solution. Eastward looks forward to participating in the process.

Fast Acting Generation and Coal to Gas Conversions

NSPI Action Plan Item 3c includes the initial development of approximately 300MW of new fast-acting generating capacity by 2027 and an additional 300-600MW by 2030, to address growing demand, balance variable renewable generation, and maintain system reliability. In this regard NSPI specifically notes that, "Fuel flexibility is a component of this work, including consideration for low/zero carbon alternative fuels such as hydrogen."

¹ Province of Québec (2020), *2030 Plan for a Green Economy*, <https://cdn-contenu.quebec.ca/cdn-contenu/adm/min/environnement/publications-adm/plan-economie-verte/plan-economie-verte-2030-en.pdf>

On this item Synapse states at page 8 of its report that while it generally recognizes the value in ensuring low-cost capacity through conversion of coal units as modeled in all scenarios, it is unclear in their view whether or not the level of new CT or reciprocating engines seen in the results is robust. They then recommend ongoing study under the hybrid peak mitigation scenario, which Eastward supports as noted above.

Synapse's concern is apparently based on their view over the limited capacity value attributed to new battery energy storage resources in the IRP Update. On the other hand, NSPI in its responses to stakeholder comments from E1 and NRStor noted its view that battery storage cannot be simply used to replace fast acting generation due to its storage duration limitations, and the need to ensure the system has sufficient resources during peak periods.

While Eastward is not opposed to further study along the lines proposed by Synapse, it notes as stated at page 6 of the IRP Evergreen Update that "all scenarios add new fast acting generation resources in the range of 300MW to 900MW by 2030". This is because installed capacity is influenced by the range in assumptions of firm peak load growth. Also, page 7 states that significant additional new fast acting generation is required under the "No Atlantic Loop" scenarios, and importantly that "these units operate flexibly, with frequent unit starts and low capacity factors, in order to integrate increased variable renewable generation and serve periods of peak demand".

Eastward views natural gas and its infrastructure as being central to the fight against climate change and a critical resource to maintain energy security and reliability both on its own and in the production of electricity. As natural gas plants take time to site and build, Eastward believes that any such review as called for by Synapse, and which may be mandated by the Board, should be placed on a very tight timeline so as not to jeopardize ensuring that the NSPI system has adequate in-Province capacity to accommodate the substantive amounts of non-dispatchable electricity which the IRP Evergreen Update calls for. Further, Eastward notes NSPI's statement that "Fuel flexibility is a component of this work, including consideration for low/zero carbon alternative fuels such as hydrogen." Eastward fully supports this approach.

Atlantic Loop

Eastward notes and shares the concerns expressed by Synapse and Bates White regarding the assumptions underpinning the Atlantic Loop bi-directional flow sensitivity run. Synapse notes at page 2 of its report that "the underlying assumptions of the bi-directional flow sensitivity are not based on any contractual commitments with Quebec, and thus it is unclear how robust is the finding that under a bi-directional contract, the NPVRR costs would remain lower than the No Atlantic Loop costs". Bates White notes on page 9 of its report that, "NSPI should maintain a flexible approach to regional integration and consider the costs and risks of its regional options and should focus on near-term efforts that provide value regardless of the eventual viability of the Atlantic Loop." Eastward agrees with this approach.

Hydrogen

Eastward appreciates NSPI's comments regarding monitoring the development of low/zero carbon fuels in Roadmap Item 3, monitoring emerging technologies, including hydrogen combustion turbines, in Roadmap Item 8, and monitoring the development of the hydrogen industry in Nova Scotia in Roadmap Item 11, and supports these elements of the Roadmap. Eastward is actively engaged in the development of hydrogen production for domestic end-use within the Province.

Other

Eastward also supports NSPI IRP Action Plan Item 2c to address the electrification impacts on the transmission and distribution (T&D) assets, and suggests that the Board set a schedule for ongoing update reporting by NSPI in this regard.

In response to E1 at page 14 of its responses to stakeholder comments, NSP noted that it acknowledged E1's request that upon release of the final Electrification Strategy Roadmap, planned for release in 2023, that NSPI and E3 provide full technical support and detail (eg. modeling results if appropriate) alongside the document. Eastward believes it would be useful for the Board to indicate that this information is to be provided to IRP participants upon release of the electrification study results.

Eastward notes that the federal government issued draft *Clean Electricity Regulations*. Upon Eastward's review of these draft regulations, we anticipate they will create economic and technical challenges for NSPI. Eastward assumes NSPI and many market participants will be commenting on the impacts of those draft regulations during the ongoing review period. Eastward will be monitoring this issue closely as it continues to unfold.

Eastward appreciates the opportunity to provide these comments.

Yours very truly,



Melanie Gillis