

**NOVA SCOTIA UTILITY AND REVIEW BOARD**

**IN THE MATTER OF:            THE PUBLIC UTILITIES ACT**

**- and -**

**IN THE MATTER OF:            NOVA SCOTIA POWER INCORPORATED (NS Power)  
2024 10-Year System Outlook Report**

**NON-CONFIDENTIAL INFORMATION REQUESTS**

**To:**                                **Nova Scotia Power Inc.**  
Mark Peachey  
Manager, Capital Filings  
[mark.peachey@nspower.ca](mailto:mark.peachey@nspower.ca)

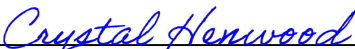
**From:**                            **Nova Scotia Utility and Review Board**  
Board Staff

**Responses Due:**                **Thursday, September 19, 2024**

**Copies:**                         1 electronic copy (PDF searchable)

**Contact Person:**               **Steve Pronko, P.Eng.**  
Director, Electrical Advisory Services  
Nova Scotia Utility and Review Board  
Tel: (902) 424-4448  
**E-mail:** [steve.pronko@novascotia.ca](mailto:steve.pronko@novascotia.ca)

**Issued** at Halifax, Nova Scotia, this **27<sup>th</sup>** day of **August 2024**.

  
\_\_\_\_\_  
Crystal Henwood, Regulatory Affairs Officer/Clerk

1     **Request IR-1:**

2     Referencing pages 6 and 15 of 67, NS Power stated that Evergreen scenario CE1-E1-R2 (net  
3     zero 2035, current policy and trends for electrification, no Atlantic Loop) was used as the basis  
4     for the 2024 10-Year System Outlook report as it is the planning scenario which most closely  
5     aligned to the Province's Clean Power Plan, NS Power's The Path to 2030, and the 2024 Load  
6     Forecast. It also stated, "This scenario was among the lowest cost plans evaluated which  
7     achieves the 2030 decarbonization targets and the federal target of a net-zero electricity system  
8     in 2035."

- 9
- 10         a) Please explain what factors excluded selecting other plans that were evaluated with a  
11         lower cost.

12

13     **Request IR-2:**

14     In its decision letter of May 23, 2024, regarding NS Power's 2023 Evergreen IRP Update  
15     (Matter M11307), the Board highlighted certain Synapse recommendations and stated:

16

17             As noted by Synapse in its August 2023 comments, the battery energy storage ELCC  
18             profile is a critical input value to the modeling. This needs to be carefully re-examined  
19             in conjunction with an updated portfolio ELCC analysis, which considers the interactive  
20             effect of all four clean resources (i.e., wind, solar PV, battery energy storage, and  
21             demand response or peak load mitigation during winter peak periods). The Board sees  
22             value in further study to evaluate the incremental diversity benefit available from  
23             increased interaction among renewable resources.

24

25             Synapse also recommended ongoing study under the hybrid peak mitigation scenario,  
26             and an updated analysis of battery energy storage capacity, prior to any significant  
27             commitment regarding 2029 or 2030 CT additions. This work needs to proceed.

28

29     Figure 6 on page 18 notes the addition of combustion turbines in 2027/2028 with a firm  
30     capacity of 300 MW, and a similar 300 MW addition in 2029/2030.

- 31
- 32         a) Please provide an update on NS Power's progress with these two recommendations.

33

34     **Request IR-3:**

35     Figure 3 shows the Nova Scotia Block with a maximum rated capacity of 145.4 MW during  
36     the winter peak period. In its response to Board IR-3 in Matter M11221, NS Power stated that

1 the NS Block includes the provision of 153 MW of nameplate firm capacity, and although it is  
2 assigned a 98% ELCC in the 2019 Planning Reserve Margin and Capacity Value Study, NS  
3 Power assigned it a 95% ELCC in the 10-Year System Outlook Report to be consistent with  
4 other hydro resources. NS Power also stated "This assumption will continue to be updated  
5 over time as more data becomes available."

6  
7 a) Has NS Power acquired any additional data which could be used to update the  
8 assumption? If not, please explain when that is anticipated.

9 b) Does NS Power intend to continue assuming a reduced peak capacity contribution  
10 from the NS Block?

11 c) Please list any peak demand periods when the capacity contribution from the NS Block  
12 exceeded 145.4 MW.

13  
14 **Request IR-4:**

15 Figure 3 shows the Wreck Cove maximum rated capacity during the winter peak period to be  
16 201.4 MW. However, page 14 states that the Wreck Cove Hydro system has "the ability to quickly  
17 provide 212 MW of peak capacity from two operating units...".

18  
19 a) The difference seems to be attributed to NS Power using a 95% ELCC for its hydro fleet.  
20 Please confirm.

21 b) Also, please explain whether 95% is an assumed value or an actual maximum achievable  
22 output from Wreck Cove during peak load periods.

23 c) Please list any peak demand periods over the past 10 years when the capacity  
24 contribution from Wreck Cove exceeded 201.4 MW.

25  
26 **Request IR-5:**

27 Page13 states that the Mersey Hydro System continues to provide a capacity of 45.8 MW, but  
28 the ELCC was reduced to 82% to account for potential additional outage hours associated with  
29 the redevelopment project work. This reduction should result in a peak capacity contribution of  
30 37.6 MW but Figure 3 shows 34.9 MW. Please explain that variance.

31  
32 **Request IR-6:**

33 Please reproduce Figures 3 and 4 by adding an additional column to show nameplate capacity  
34 for each line item.

**Request IR-7:**

On page 28 of 67, Figure 11 presents forecasted sustaining capital investments by unit in graphical form. Please provide this investment information in a table and explain any changes from the response provided last year to Board IR-5 in Matter M11221.

**Request IR-8:**

Referencing Figure 6, please list all of the NS Power capital projects, along with the date when any of those projects have been submitted or are anticipated to be submitted for Board approval. If approximate costs are known, please also include that detail.

**Request IR-9:**

On page 21, NS Power stated that one of the five Rate Base Procurement projects awarded a PPA withdrew from the program. "For the 2024 10 Year System Outlook it is assumed that the capacity and energy represented by the withdrawn RBP wind project will be added to the Green Choice procurement round increasing the maximum nameplate capacity of all generation facilities accepted into the Green Choice Program from 350 MW to 416 MW."

- a) Please provide any documentation supporting that assumption.

**Request IR-10:**

Page 24 states that "NS Power created the concept of utilization factor (UF) for the purpose of providing a directional understanding of the future use of each generating unit." Please identify any other electric utility that is using the same or similar concept.

**Request IR-11:**

On pages 31-32, NS Power stated: "Each transmission SIS initiated for Study Group 32 or beyond requires EMT analysis as part of their SIS to determine if additional equipment is required to support the integration of the new generation resource."

- a) Please identify the projects in Figure 12 which are in Study Group 32 or beyond.
- b) Please provide a brief narrative regarding the findings of the EMT analyses related to additional equipment requirements.

**Request IR-12:**

Reference NPCC Directory 1 and Directory 7 reviews, pages 54-55:

- a) NS Power noted that voting by NPCC members on the updates proposed by the working group on the Directory 1 Document – Design and Operation of the Bulk Power System, is scheduled to conclude on June 27, 2024. Please provide an update on the results of the vote and the extent of any proposed changes.
- b) NS Power also noted that the working group on NPCC Directory 7 Document – Remedial Action Schemes, anticipates its review will be complete in Q3 2024. Please provide an update on this review.

**Request IR-13:**

Reference the following statement on page 61:

IBRs can be used to support a grid Short Circuit Levels but additional equipment (synchronous condensers, Static Var Compensator (SVC)s or other fast acting reactive power sources) may have to be installed to support the voltage in local regions as there are some challenges with using numerous IBR units to manage System Strength. This requirement will continue to be analyzed as part of SIS and other grid studies.

Given NS Power's current knowledge about IBRs and the short circuit impact, please provide the Company's insight into timing and general location of potential remedial capital projects.

**Request IR-14:**

In response to Board IR-11 in Matter M11221 regarding the Reliability Tie, NS Power stated:

- (a) A Facility Study for TSR 411 is currently underway. It includes the elements of the Reliability Tie. Transmission Planning analysis is ongoing with the next study report anticipated by Q1 2024.
- (b) The Company plans to submit a Class 1 Environmental Assessment Application with NS Environment and Climate Change in Q4 2023.
- (c) Conceptual engineering has been completed for the project. Detailed design is scheduled to begin Q4 2023.
- (d) Negotiations are ongoing with NB Power on an intertie agreement.
- (e) Construction is currently anticipated to begin in 2025 and conclude in 2027.
- (f) NS Power expects to file a capital application for the Reliability Tie with the NSUARB in Q3 2024.

1 Please provide the latest update regarding this project.

2  
3 **Request IR-15:**

4 On page 59, NS Power stated that in collaboration with Manitoba Hydro International (MHI), it  
5 completed the initial findings and recommendations report of the Large Scale Integration of  
6 Inverter Based Resources in Nova Scotia study. Please file a copy of the report.

7  
8 **Request IR-16:**

9 In accordance with the Nova Scotia Wholesale and Renewable to Retail Electricity Market rules,  
10 the 10-Year System Outlook is the NSPSO's annual assessment of NS Power's system capacity  
11 and resource adequacy. The focus is on the transmission system, generation resources, and  
12 DSM contributions. Considering the increasing number of resources being connected to the  
13 distribution system, please provide NS Power's view on the merits of expanding the 10-Year  
14 System Outlook report to include an assessment of the distribution system.

15  
16 **Request IR-17:**

17 In Section 6.2, Planning Reserve Criteria, NS Power quoted a portion of the NPCC reliability  
18 criteria regarding probabilistic evaluation of resource adequacy and various factors that need to  
19 be considered in that evaluation. In Section 6.4, NS Power stated that it will not achieve the target  
20 20% planning reserve margin for the 2024/2025 winter period and identified mitigation strategies.

- 21  
22 a) Recognizing that there is a degree of uncertainty in forecasting peak demand, as well as  
23 uncertainty associated with the impact of weather, please comment on NS Power's  
24 confidence in meeting the winter peak demand during normal and abnormal conditions.  
25 b) Does NS Power anticipate requiring load interruptions? If so, to what extent?  
26 c) Please elaborate on the statement that "NS Power will position its thermal fleet for high  
27 reliability operation in Winter 2024/2025". How does that differ from typical reliability  
28 operation?

29  
30 **Request IR-18:**

31 On page 9, NS Power notes that its long-term peak forecast is reduced in part due to the "adoption  
32 of hybrid heating scenario in alignment with Nova Scotia's Clean Power Plan and NS Power's  
33 Evergreen IRP." Please explain how much the hybrid heating scenario contributes to peak  
34 reduction, by fuel source (e.g., fuel oil, natural gas, wood) and provide copies of any assessments  
35 by NS Power.