

NOVA SCOTIA ENERGY BOARD

IN THE MATTER OF: THE PUBLIC UTILITIES ACT

- and -

**IN THE MATTER OF: A Review of NOVA SCOTIA POWER INCORPORATED's FIVE-
YEAR RELIABILITY PLAN 2025-209**

INFORMATION REQUESTS – SET 2

To: **Jennifer Power**
Senior Regulatory Counsel
PO Box 901
Halifax, Nova Scotia, Canada B3J 2W5
Email: Jennifer.Power@nspower.ca

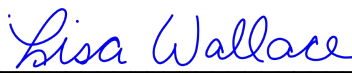
From: **Synapse Energy Economics**
Board Counsel Consultant

Responses Due: **June 12, 2026**

Copies: 1 electronic copy (PDF searchable)

Contact Person: **Jennifer Kallay**
Synapse Energy Economics
485 Massachusetts Avenue, Suite 3
Cambridge, MA 02139
Email: jkallay@synapse-energy.com

Issued at Halifax, Nova Scotia, this 22nd day of May, 2026



for Crystal Henwood, Clerk of the Board

Request IR-66:

Please refer to NS Power's response to IR-7 (a-g) which states, "NS Power does not assess reliability by specific customer classes or customer types. Reliability is tracked on both a system-wide basis and on an individual feeder basis. Typically, multiple different customer classes and customer types could be represented on a single feeder. NS Power can identify the rate class of a given customer on each feeder; however, it does not currently assess reliability performance using rate class information and does not currently plan to do so."

- a. Please identify the feeder IDs that serve Mi'kmaq of Nova Scotia communities (as well as other customers on those feeders).
- b. Please provide Total Investments (\$), Circuit Kilometres Addressed, CKAIID, and CKAIIF on average for those feeders that serve Mi'kmaq of Nova Scotia communities (as well as other customers on those feeders), on an annual basis from 2020 to 2025. Please provide the data in the format requested in the attached Excel file titled Synapse_IR_M12558_Set 2 Data Template 2026.05.22.xlsx, in the IR-66 Data Template tab.
- c. Please provide Total Investments (\$), Circuit Kilometres Addressed, CKAIID, and CKAIIF on average for feeders that do not serve Mi'kmaq of Nova Scotia communities, on an annual basis from 2020 to 2025. Please provide the data in the format requested in the attached Excel file titled Synapse_IR_M12558_Set 2 Data Template 2026.05.22.xlsx, in the IR-66 Data Template tab.

Request IR-67:

Please refer to NS Power's response to IR-11 (b) which states, "The concerns raised through engagement activities with customers have been incorporated into the development of the Five-Year Reliability Plan primarily by providing further context that can be used to inform NS Power's asset management framework. Feedback from customers on their experience would assist in better understanding key areas of concern that can be incorporated with other key condition and criticality factors such as historical reliability performance.

Additionally, customer feedback regarding affordability and potential rate impacts has informed NS Power's approach to the pace of reliability performance improvement with costs, as discussed previously."

- a. Please summarize the concerns raised through engagement activities with customers.
- b. Please describe how these concerns provided further context to inform NS Power's asset management framework.
- c. Please summarize the customer feedback NS Power received with regards to affordability and potential rate impacts.
- d. Please describe how this feedback informed NS Power's approach to the pace of reliability performance improvement.

Request IR-68:

Please refer to NS Power's response to IR-14 which states, "NS Power's participation in working groups within Electricity Canada along with member utilities across Canada as well as reviews of and discussions on the best practices of these utilities provides the Company with valuable insight into how other Canadian utilities are targeting reliability improvements."

- a. Please provide information on the best practices of these utilities with regards to reliability improvements.
- b. Please identify which best practices were incorporated into NS Power's Five-Year Reliability Plan and how they were incorporated.

Request IR-69:

NS Power states in its response to IR-16 that "Reactive investments address assets that have failed or are at imminent risk of failure based on lagging indicators and require timely intervention to restore service, maintain safety, or ensure regulatory compliance." Please provide a definition for "imminent risk of failure" and explain how NS Power determines if assets are at "imminent risk of failure".

Request IR-70:

Please refer to the table in NS Power's response to IR-17.

- a. Please provide data for a longer time period (2005 through 2026) as shown in the attached Excel file titled Synapse_IR_M12558_Set 2 Data Template 2026.05.22.xlsx, in the IR-70 Data Template tab.
- b. For years with reactive investments, does NS Power defer proactive investments from its most recent ACE Plan to the next year such that the total planned investments (inclusive

of reactive and proactive investments) remain the same as what was included in its ACE Plan? Please explain.

Request IR-71:

Regarding NS Power's response to IR-17, please explain how reactive reliability costs are collected from customers (i.e. the proceeding in which they are requested and authorized for recovery and when they are recovered).

Request IR-72:

Please refer to NS Power's response to IR-18 which states, "Specific projects had not been defined for 2026–2029, at the time of filing the Five-Year Reliability Plan. Investment levels for these years therefore reflect high-level program budgets. Where investment is shown in the Plan for individual sub-programs, those amounts were derived by:

- determining each sub-program's relative share of the total program investment in 2025; and
- applying that same proportion to the program-level investment totals for the 2025–2029 planning period."
- a. Does NS Power track the condition of assets to facilitate projections of which assets may reach their end of life, fail, or require upgrade for reliability purposes within the next 1 year, 3 years, and 5 years (as an example)? If so, please explain. If not, why not?
- b. Does NS Power anticipate the need for any particularly large reliability investments (>\$1 million) in the 2027-2031 planning period? If so, what are those investments and how are they accounted for in the Reliability Plan?
- c. Please explain how NS Power determines when feeders with a criticality score of 5 and a condition score of 4, 3, 2, and 1 will likely require reliability investments.

Request IR-73:

Please refer to NS Power's response to IR-19 (c) (ii). Does NS Power have any plans to more accurately characterize and quantify tree contacts in its tracking of the cause of outages?

- a. If so, what are those plans?
- b. If not, why not?

Request IR-74:

1 Please refer to NS Power's response to IR-19 (d) (iii). Has the 2025 ransomware attack
2 compromised reliability in 2025 and/or 2026?

3 a. For 2025, when was reliability compromised, how, and by how much?

4 b. For 2026, by how much is reliability anticipated to be compromised? Are any proposed
5 reliability investments on postponed or canceled due to this attack?

6 c. For 2027, 2028, and 2029, are any future reliability investments contemplated in response
7 to this attack? Which ones and what is the proposed investment? Are any updates to the
8 Five-Year Reliability Plan needed to accommodate these changes/additions?
9

10 **Request IR-75:**

11 Please refer to NS Power's response to IR-20 which states, "Further, emerging risks such as
12 those from a changing climate would help to inform the development of the plan, including the
13 development of new distribution standards to better resist high winds that would subsequently be
14 incorporated into specific projects."

15 a. Please identify all new distribution standards that were adopted from 2015-2025.

16 b. Are any new distribution standards proposed for 2026-2031? If so, please identify these
17 as well and indicate their potential timeline for adoption.
18

19 **Request IR-76:**

20 Please refer to NS Power's response to IR-21 which states, "Electricity Canada's methodology
21 for calculating performance metrics does not account for behind-the-meter generation or other
22 sources of backup power." Please provide documentation associated with Electricity Canada's
23 methodology for calculating performance metrics.
24

25 **Request IR-77:**

26 Please refer to NS Power's response to IR-24 (a) which states, "Diminishing returns were
27 represented as a reduction in the effectiveness of investments in the later years of the program,
28 such that an equivalent program investment in year 5 would deliver a smaller reliability benefit
29 than in year 1 of the plan." Please provide the data which shows the diminishing returns that are
30 assumed over the five years of the Reliability Plan. Please provide in Excel with all supporting
31 data and assumptions.

Request IR-78:

Regarding NS Power's response to IR-30:

- a. Using an actual feeder and corresponding data from the response to IR-28, please provide an Excel spreadsheet that calculates, with working formulas, the feeder risk score. Please clearly identify the inputs used (e.g. "feeder condition component," etc.). Please provide an accompanying explanation of the calculation.
- b. Please provide the definition for "problem feeder."
- c. Please explain and show in the spreadsheet for (a) how the "control" variables of communications and maintenance access affect the score.
- d. Does having a score of 1 for communications and maintenance increase or decrease the feeder risk score? By how much? Please explain and provide an illustrative calculation.
- e. Regarding "maintenance access" defined as "if feeder has >30 percent of structures off-road:
 - i. How is the 30 percent calculated? Please provide an illustrative example.
 - ii. Please provide a definition of "structures."

Request IR-79:

Regarding NS Power's response to IR-34, please provide the relevant page numbers for the two documents cited here:

- a. 2026 ACE Plan (M12619)
- b. Property and Assets proceeding (M11067)

Request IR-80:

Please refer to NS Power's response to IR-35 (e) which states, "Consistent criteria and a comprehensive list of critical facilities in the province are not available to NS Power."

- a. Please provide the criteria that NS Power is aware of for defining critical facilities.
- b. Please provide the number of critical facilities that NS Power is aware of.
- c. How does NS Power become aware of critical facilities? Who provides notification to NS Power of the existence of a critical facility?

- d. What actions is NS Power required to take with regards to critical facilities it is aware of/notified about? Please explain.

Request IR-81:

NS Power states in response to IR-37, "Once reliability investments were prioritized at a feeder, NS Power considered cost-effective approaches to address the identified reliability needs by comparing alternative investment options and selecting those expected to deliver the required reliability improvement efficiently."

- a. Does NS Power calculate cost-effectiveness of various reliability investment and or expenditures at the feeder level? If yes, please provide this calculation for a historical or forecast project.
- b. How does NS Power evaluate alternatives to improve reliability at the feeder level? Please describe whether this is a quantitative evaluation or qualitative evaluation, and provide a specific historical example with all source documents and calculations (if applicable).

Request IR-82:

Please refer to Attachments 1 and 2 in NS Power's response to IR-38. Please provide a detailed demonstration of how the data and calculations in Attachment 2 map to the data and calculations in Attachment 1.

Request IR-83:

Please refer to Attachment 2 in NS Power's response to IR-38. Please also refer to NS Power's response to IR-39 (a-b) which states, "As detailed in Synapse IR-38, cost and SAIDI reduction projections are informed by historical outage performance and historical cost data and therefore represent planning-level projections rather than project-specific commitments."

- a. Please define the term "proposed incremental investments".
- b. Please discuss why the proposed incremental investments do not equal the total Reliability Plan investments of \$1.3 billion - the total for all five-years of the Plan.
- c. Please provide all data and an illustrative example of how SAIDI hour per \$1M and SAIDI reduction projections are informed by historical outage performance and historical cost data for each sub-program in Attachment 2.

- d. What historical time period was utilized to quantify SAIDI reduction projections for each sub-program in Attachment 2? Please be specific about which year(s) of outage performance are used to quantify the impacts of which year(s) of costs and provide the underlying data for those years.
- e. Regarding the column labeled SAIDI Hour Per \$1M (Low) in Attachment 2, please provide the data sources, inputs, and calculations used to derive each value in the table.
- f. Regarding the column labeled SAIDI Hour Per \$1M (High) in Attachment 2, please provide the data sources, inputs, and calculations used to derive each value in the table.
- g. Regarding the column labeled SAIDI Reduction (Low) in Attachment 2, please provide the data sources, inputs, and calculations used to derive each value in the table.
- h. Regarding the column labeled SAIDI Reduction (High) in Attachment 2, please provide the data sources, inputs, and calculations used to derive each value in the table.

Request IR-84:

NS Power's response to IR-39 states "Each investment stream, including vegetation management, is evaluated using a baseline cost-per-SAIDI assessment, with considerations for operational resources, execution, and scalability constraints by NS Power SMEs."

- a. Please provide a mapping of how the notes column translates to the scalability designation for each investment stream.
- b. Please describe how the scalability designation translates to the proposed incremental investment levels for each investment stream.

Request IR-85:

Regarding NS Power's response to IR-40, please provide the table in Excel with supporting data, calculations and assumptions.

Request IR-86:

Regarding NS Power's response to IR-41, attachment 2, please provide the forecasted expenditure at the time of the Reliability Plan filing at the feeder level or in aggregate for the feeders listed.

Request IR-87:

Regarding NS Power's response to IR-41, attachment 3, please add for each Feeder listed the amount of expenditure on the Distribution Vegetation Management Right of Way Widening program in 2025. Please provide in Excel.

Request IR-88:

Regarding NS Power's response to IR-42:

- a. Please provide the amount of expenditures on each of the "added" lines in 2025 (Transmission lines L-6503 and L-6002).
- b. Does NS Power compute risk scores for transmission lines (e.g. as provided in IR-41, attachment 1)? If yes, please provide the methodology of risk scoring. If no, please explain why not.
- c. In Excel, please provide a reliability risk ranking, including Transmission Line ID risk score, and risk score components, for all Transmission Lines in 2025. Please include all supporting workpapers and calculations. Please indicate which were targeted in 2025 and which will be targeted in 2026.

Request IR-89:

Regarding NS Power's response to IR-43, attachment 3, for each Feeder listed please add the amount of expenditure on the New Rights-of-Way for Distribution Feeders program in 2025. Please provide in Excel.

Request IR-90:

Regarding NS Power's response to IR-47:

- a. Response b(ii) shows a table below the statement ("Work completed at the feeder level is as follows"). Please provide this table in Excel and indicate 1) which feeders were originally included in the Reliability Plan and 2) the amount of expenditure on each feeder for this program.
- b. Response b(iv) shows a table below the statement ("Work that was completed but not initially identified"). Please provide this table in Excel and indicate the amount of expenditure on each feeder for this program.

Request IR-91:

Regarding NS Power's response to IR-48, please provide the full list of feeders related to this program including feeder ID and expenditure amount. Please confirm that feeders listed under b(iv) are included in this response. If not, please explain and provide the amount of expenditure associated with each feeder listed in Excel.

Request IR-92:

Regarding NS Power's response to IR-52:

- a. Please provide all NS Power forecasts of measure types, number of measures, costs, and SAIDI and SAIFI reductions from these grid modernization investments related to reliability from its 2020 to 2026 ACE Plans. Please include references to specific page numbers where these values appear in each ACE Plan.
- b. Please provide references to other proceedings where the NSEB has evaluated these types of investments.

Request IR-93:

Please refer to page 6 of NS Power's response to IR-52 which states, "Condition-Based Replacement: Enhanced asset management data from RTUs and connected devices enables more targeted equipment replacement based on actual condition rather than age alone."

- a. Please describe the portion of the system that has this enhanced data. Please break out the response for i) RTUs, ii) downline connectivity improvements and Fault Location Isolation and Service Restoration (FLISR), and iii) distributed energy resources.
- b. Please provide a description of the types of enhanced data received from RTUs and connected devices on actual condition.
- c. Please describe if/how this enhanced data is used to improve the prioritization of assets. Does this enhanced data enable increased confidence with regards to the predicted timing of asset failure, such that projections for 1, 3, and 5 years into the future are more accurate? Please explain.

Request IR-94:

Regarding NS Power's IR-55, attachment 1, please provide all information in this spreadsheet for all substations (not just those targeted for RTU connectivity) in Excel.

Request IR-95:

Please provide all data for 2005 through 2026 as shown the attached Excel file titled Synapse_IR_M12558_Set 2 Data Template 2026.05.22.xlsx, in the IR-95 Data Template tab. Please include the following for each year in which the data is available:

- Five-Year Reliability Plans: Total investments (\$), Circuit Kilometres Addressed, SAIDI, SAIFI, and Maximum hours for customer service restoration on major event days.
- Reliability Components of ACE Plans: Total investments (\$), Circuit Kilometres Addressed, SAIDI, SAIFI, and Maximum hours for customer service restoration on major event days.
- Actual Reliability Investments: Reactive investments (\$), Proactive investments (\$), Total investments (\$), Circuit Kilometres Addressed, SAIDI, SAIFI, Maximum hours for customer service restoration on major event days, and Number of major event days.
- Reliability standards met (Y/N).
- If not met, penalties assessed (\$).

Please provide all available data. If any data is not available, please identify that data in the written response, explain why it is not available, and populate those cells with a "n/a".

Request IR-96:

To what degree does NS Power factor an increasing prevalence and severity of minor and major events into its Reliability Plan?

- a. What types and sources of weather data does NS Power use to understand how the prevalence and severity of minor and major events is changing over time? Please provide the sources as well as the specific data utilized within each source.
- b. Do the standards account for the increasing prevalence and severity of minor and major events? If so, which ones and how?
- c. Would other metrics do a better job accounting for the increasing prevalence and severity of minor and major events? If so, which ones and how?

- 1 d. Has NS Power normalized any of its planned or actual reliability plan metrics to better
2 control for the increasing prevalence and severity of minor and major events? If so, which
3 ones and how?

4
5 **Request IR-97:**

6 Please provide the following for each year of the Five-Year Reliability Plan:

- 7 a. Revenue requirements of the investments by rate class
8 b. Sales by rate class
9 c. Customers by rate class
10 d. Reductions in CMI by rate class
11 e. Rate impacts by rate class
12 f. Bill impacts by rate class