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Request IR-1:

Regarding NS Power's plans regarding the addition of thermal combustion turbines.

(a) Has NS Power had any conversations with CT suppliers to collect updated pricing and timelines for new thermal resources?

(b) If so, please provide a summary of those conversations, and identify whether the updated information would merit an update to NS Power's IRP analysis.

Response IR-1:

(a-b) NS Power has not had any conversations with CT suppliers since it was informed in the Fall of 2024 that the NSIESO will be responsible for the procurement of all fast-acting generation projects.

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1 **Request IR-2:**

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3 **Please provide an updated rate impact analysis for the resource portfolio derived from the**
4 **Evergreen IRP.**

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6 Response IR-2:

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8 Please refer to IG IR-1 part (b).

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Request IR-3:

Please provide an assessment of the implication of the province's offshore wind objectives on NS Power's long-term resource plan and provide all analysis on the financial and operational impacts.

Response IR-3:

Offshore wind was included as a candidate resource option in the 2023 Evergreen IRP analysis and was not selected in any of the optimized scenarios or sensitivities. Since the conclusion of the 2023 Evergreen IRP, Net Zero Atlantic has published phase one of a two-year Atlantic Canada Offshore Wind Grid (OSW) Integration and Transmission Study.¹ Phase one evaluates the path to market for OSW, with phases two and three focused on characterizing the resource potential for OSW and the locational/technical/economic/deployment potential, respectively. All phases of the report will be made publicly available and provide an analysis of the Province's offshore wind objectives. NS Power is supporting this project as a member of the technical committee for the study.

¹ [Atlantic Canada Offshore Wind Grid Integration and Transmission Study | Net Zero Atlantic](#)

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Request IR-4:

Refer to Exhibit N-1, 2025 Evergreen IRP Action Plan and Roadmap update (2025 Evergreen IRP) page 10 of 42, regarding the Renewable Electricity Standard (RES).

Please provide an update on NS Power's compliance with RES requirements and a forecast of future compliance.

Response IR-4:

Please refer to the 2025 10-Year System Outlook report for an update on RES compliance and a forecast of future compliance.¹

¹ NS Power 2025 10 Year System Outlook report (M12386), July 14, 2025, Section 5.1, p.34.

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Request IR-5:

Refer to Exhibit N-1, 2025 Evergreen IRP, pages 11-12 of 42, regarding the Annual Emissions Limits (AEL) under the Clean Electricity Regulations (CER).

(a) Please provide a summary of how NS Power’s existing and planned emitting resources will be classified under the CER for AEL compliance (i.e. as “New Units,” “Planned Units,” etc.).

(b) Please provide an accounting of the emissions rate of NS Power’s thermal units, and whether they meet any of the standards listed on slide 11.

(c) Please provide any forecast of offset purchases developed by or for NS Power for compliance with the CER AEL rules.

Response IR-5:

(a) As per the CER, all units in operation by the end of 2024 are considered “existing”. All fast-acting generation added to the system after January 1, 2025 would be considered “new.” The only exception would be for any fast-acting generation capacity additions that meet the “planned unit” criteria. It is not yet understood if the first phase of fast-acting generation (300 MW) will meet the planned unit criteria under the CER.

(b) The thermal generation fleet will not have to meet a specific emissions rate / emissions intensity under the CER. The thermal fleet will have to emit at a level under the annual allowable emissions for each unit (or all units in a pool), which is determined by the CER allowable emissions limit (AEL) and the installed capacity of the unit. The CER and the operation of the emitting units in the Evergreen IRP are in alignment. As such, the operation of the emitting fleet identified in the Evergreen IRP is anticipated to meet the CER standards.

2025 Evergreen IRP Action Plan and Roadmap Update (NSEB M12247)
NSPI Responses to Small Business Advocate Information Requests

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- 1 (c) NS Power is not currently anticipating the need for offset purchases once the CER annual
2 emissions limits come into effect in 2035.

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Request IR-6:

Refer to Exhibit N-1, 2025 Evergreen IRP, page 13 of 42, regarding the provisions for banking and pooling emissions.

Please describe how these rules have been, or will be, incorporated as constraints in NS Power's IRP planning models.

Response IR-6:

The concept of pooling aligns with the CER assumptions in the Evergreen IRP planning models as the pooling provides the ability of the operator to dispatch the emitting fleet in a manner consistent with the outcomes of the Evergreen IRP. The concept of banking has not been modeled in the Evergreen IRP as it was introduced after the completion of that work but can be considered in future IRP studies conducted by the NSIESO.

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Request IR-7:

Refer to Exhibit N-1, 2025 Evergreen IRP, page 16 of 42, referring to the “proxy used in the Evergreen IRP.”

(a) Please provide a comparison of the constraint parameters used in the proxy with the final CER rules.

(b) Would the differences between the proxy and the final CER rules result in different capacity expansion portfolios if the analysis was updated?

i) Please provide any analysis supporting this response.

Response IR-7:

(a) The constraint parameters used in the 2023 Evergreen IRP as a proxy for the CER was an annual performance standard of 50 tonnes CO₂/GWh for the entire system. Based on the total allowable emissions (65 tonnes CO₂/GWh allowable emissions intensity on a per unit installed capacity basis and 35 tonnes CO₂/GWh of offset purchase room) and the ability to pool, the final CER is in alignment with the outcome of the Evergreen IRP (use of emitting generation as peaking facilities), which is influenced by the CER proxy included in the assumptions.

(b) Since the proxy for the CER included in the Evergreen IRP is in alignment with the final CER, NS Power does not anticipate significant changes in the capacity expansion plan portfolio due to updates in the final version of the CER requirements in 2035.

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Request IR-8:

Refer to Exhibit N-1, 2025 Evergreen IRP, page 16 of 42, which states that “The use of emitting generation beyond 2035, which was demonstrated to be part of the low-cost resource plans in the Evergreen IRP, continues to be permitted under the CG2 CER.”

(a) Was the cost of emissions offsets or other compliance specifics included in the modeling constraints used in the Evergreen IRP?

(b) If so, please provide details on the values and the representation as modeling constraints.

Response IR-8:

(a) The cost of offsets was not included in the base Evergreen IRP modeling as it relates to the CER. However, the model does apply the carbon tax to all emissions above zero starting in 2035 to align with the CER. In addition, one of the Evergreen IRP scenarios tested offsets as a sensitivity where Direct Air Carbon Capture (DACC) was modeled at \$500/tonne.¹

(b) Please see part (a).

¹ [IRP Evergreen - Updated Assumptions](#), 2022 Evergreen IRP Updated Assumptions January 2023 Update, slide 13.

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Request IR-9:

Refer to Exhibit N-1, 2025 Evergreen IRP, page. 16 of 42, stating that “NSP anticipates incremental system costs associated with meeting the CER’s targets compared to current policy.”

Please provide additional detail regarding the drivers of these additional costs and provide all analysis quantifying these incremental system costs over time.

Response IR-9:

The anticipated drivers for the additional costs would be attributed to the need for additional resources required on the system to meet the 2035 requirements and the carbon tax on emissions. As demonstrated in the Evergreen IRP, this includes a mix of variable renewable generation, combustion turbines and BESS to achieve the 2035 environmental policy targets.

As part of the 2023 Evergreen IRP modeling work, NS Power modeled two net-zero scenarios: net-zero restrictions starting in 2035 and 2050. When comparing the 26-year NPV Revenue Requirement (NPVRR) for the net-zero 2035 (CE1-E1-R2) and the net-zero 2050 (CE2-E1-R2) scenarios, the modeling demonstrated an additional \$100 million of incremental cost associated with the 2035 scenario.

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Request IR-10:

Refer to Exhibit N-1, 2025 Evergreen IRP page 20 of 42, stating that “NS Power will continue to monitor opportunities for near-term firm imports over existing and planned transmission infrastructure.”

Please provide an update on the status of this monitoring and specifically identify any expected opportunities for firm imports.

Response IR-10:

Please refer to NSEB IR-44 from the NS-NB Reliability Intertie Project Application proceeding (M12217). For convenience, the IR response has been reproduced below:

NS Power regularly conducts inquiries into potential import opportunities. This includes an annual solicitation for imports from NB Power and Hydro Quebec. NS Power also previously engaged with Hydro-Quebec regarding the potential for firm imports as part of the Atlantic Loop discussions, and an import of 550MW was studied in the 2023 Evergreen IRP.

As discussed in section 14.4.4 and 14.4.5 of the Application, the Reliability Intertie itself is a necessary, but not sufficient, component for accessing any new extra-jurisdictional firm capacity resources, though there are several projects underway in the Atlantic region, as further discussed in those sections of the Application, which could enable these more significant firm capacity resources to become available in the future.¹

Please also refer to NSEB IR-4.

¹ NSEB IR-44, NS-NB Reliability Intertie Project Application (M12217), May 30, 2025.

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Request IR-11:

Refer to Exhibit N-1, 2025 Evergreen IRP page 22 of 42, stating that "... the annual load forecast has also been used to better understand system peak on a more granular level by reallocating the load at the feeder level."

Please provide additional detail on the data has been used, and what the potential implications are for long-term resource planning.

Response IR-11:

In the past, there was limited integration between the system-level load forecast report and distribution feeder load forecasts utilized in distribution planning studies; the historical growth rate of individual distribution feeders was used to forecast future growth. Currently, the forecasted incremental demand at the system level from the load forecast report is allocated by feeder to provide a forecast that considers other forecast inputs. Each peak contribution component from the load forecast report is allocated to feeders based on known residential developments, new large load interconnection requests, historical load growth, and customer mix by feeder. Enhancements to feeder forecasting will result in more accurate modelling in distribution planning studies to inform capital investment requirements.

The improvements to distribution feeder load forecasting as used in distribution planning studies are not anticipated to significantly affect resource planning at the provincial/system level.

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Request IR-12:

Refer to Exhibit N-1, 2025 Evergreen IRP, page. 23 of 42, referring to three areas of corrective action plans identified as a result of the NERC TPL assessment.

(a) Please provide additional detail on the implications of these issues and provide the status of the development of the corrective action plans.

(b) If plans have been developed, please provide them.

Response IR-12:

(a) The following is additional information related to the corrective action plans resulting from the 2024 NERC TPL Annual Assessment:

1. Add a third 392 MVA, 230 kV – 138 kV transformer at 120H-Brushy Hill.

There are currently two 392 MVA, 230 kV-138 kV transformers located at the 120H-Brushy Hill Substation: 120H-T71 and 120H-T72. These transformers, along with the 450 MVA, 345 kV-138 kV transformer 103H-T81 located at 103H-Lakeside and the generation at 91H-Tufts cove, supply the bulk of the Metro Halifax area load. The TPL assessment noted that 120H-T71 (or T72) could be overloaded during P6¹ planning events involving the N-1 outage of 345 kV line L-8002 (which supplies 103H-T81). This violation was found in both the near- and long-term planning horizons. The P6 planning event in question involved the loss of 345 kV Line L-8002 followed by system adjustments and the subsequent loss of one of the two Brushy Hill 230 kV transformers.

¹ A P6 contingency per NERC Standard TPL-001-5, Table 1 is a multiple contingency fault event involving the loss of one of the following followed by system adjustments: transmission circuit, transformer, shunt device, or single pole of a DC line, which is subsequently followed by loss of one of the following: transmission circuit, transformer, shunt device, or single pole of a DC line.

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Potential solutions include:

- adjusted corridor flow limits (operational restrictions) during N-1 event,
- increased overload rating based on loss of life study,
- addition of new parallel transformer (120H-T73).

Limiting the Onslow South corridor flow during outages to L-8002 requires the availability of replacement capacity south of Onslow or the shedding of load to prepare the system so that it can withstand the next largest contingency loss (loss of 120H-T71 or T72).

The loss of 120H-T71 (or T72) with L-8002 out of service during winter peak conditions will result in the overload of the surviving Brushy Hill transformer to 135 percent, exceeding its 15-minute 120 percent overload rating. Increasing the overload rating by permitting a larger loss of transformer life during the event is not a practical solution as these units are approximately 50 years old and are critical to the supply of Metro Halifax.

The purchase and installation of a third 392 MVA, 230 kV-138 kV transformer at Brushy Hill is currently under review.

2. Adjust corridor flow limits related to contingency loss of L-6503 with L-8003 out of service.

Contingency loss of L-6503 is noted to cause overloads of parallel lines L-7004 and L-6552 in winter peak and summer peak cases, respectively. This occurs during P6 planning events where L-8003 is out of service and is only found to occur during the near-term planning horizon (five-year cases 2029SUM/2029WIN). Potential short-term solutions include:

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- Adjusted corridor flow limits (operational restrictions) during N-1 event,
- Upgrading of L-6552,
- Upgrading of L-7004,

In the short term, limiting the corridor flows during outages to L-8003 is sufficient to mitigate this issue. In the long term, planning will investigate alternative solutions.

3. Modify/reconfigure/upgrade existing Remedial Action Schemes (RAS) to accommodate “Path to 2030” generation additions.

Due to the significant changes expected in the generation fleet between now and 2034, the existing RAS settings were not appropriate for some P6 contingencies. These contingencies were identified in Section R3.1 of the TPL study and will require modifications to the RAS arming levels and associated Operating Guidelines as the NS Power system evolves.

Any modifications to an existing RAS, or any creation of a new RAS, must receive NPCC review and approval prior to being placed in service.

- (b) Please see the responses to part (a). Generation interconnection customer projects are either under review or will be incorporated into future system impact study work for resources as they proceed through the generation interconnection request queue.

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1 **Request IR-13:**

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3 **Refer to Exhibit N-1, 2025 Evergreen IRP, page. 23 of 42, noting that**
4 **modified/reconfigured/upgraded Remedial Action Schemes are required to accommodate**
5 **“Path to 2030” generation.**

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7 **Which specific generation additions require the additional/updated schemes?**

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9 **Response IR-13:**

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11 Interconnection Requests for generation along the transmission corridor between Onslow and Cape
12 Breton will require modifications to existing Type 1 and Limited Impact Remedial Action
13 Schemes (RAS) and will require the associated NPCC studies and RAS modification approvals.
14 Generation added within the northwest corridor between Onslow and New Brunswick will impact
15 existing import/export Limited Impact RAS and will also require NPCC review and approval.
16 There are active requests in the Advanced Stage Transmission Interconnection queue for wind
17 projects along both of these corridors.

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1 **Request IR-14:**

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3 **Refer to Exhibit N-1, 2025 Evergreen IRP, page. 23 of 42, stating that “More detailed studies**
4 **to support the NERC TPL and NPCC Area Transmission Review requirements were**
5 **completed in 2024.”**

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7 **Please provide these studies.**

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9 Response IR-14:

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11 This item is referencing the NERC 2024 analysis associated with the TPL Annual Assessment and
12 the NPCC Intermediate Area Transmission Review. These NERC and NPCC studies contain
13 confidential industry data and are not available for NS Power to provide. Please refer to SBA IR-
14 12 for the corrective actions associated with the TPL study.

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Request IR-15:

Refer to Exhibit N-1, 2025 Evergreen IRP page 26 of 42, listing six new projects selected under the Green Choice Program (GCP): Yellow Birch; Melvin Lake; Rhodena; Blueberry Acres; Sugar Maple and Eigg Mountain.

(a) Please provide the expected in-service dates for each of these resources.

(b) Please provide a comparison of the schedule of capacity addition resulting from these projects with the GCP capacity development assumptions used in the Evergreen IRP.

Response IR-15:

(a) Please refer to IG IR-4 part (a).

(b) The Evergreen IRP Action Plan indicates the need for 1,000 MW of incremental variable renewable generation (wind, solar) by 2030. The GCP wind resources will contribute to this capacity need and have a COD of 2028. Please note, the GCP was not explicitly modeled in the Evergreen IRP, but the procurement is aligned with the outcomes.

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Request IR-16:

Refer to Exhibit N-1, 2025 Evergreen IRP, page. 33 of 42, regarding the development of the hydrogen tariff.

(a) What is the current status of the hydrogen tariff?

(b) Has NS Power collaborated with hydrogen project developers on the tariff?

(i) If so, please describe the nature of the collaboration and the companies involved.

(c) Please provide any draft tariff materials developed by NS Power.

(d) Please provide any memos, reports, or other materials summarizing the progress made in the development of a hydrogen tariff.

Response IR-16:

(a) The draft hydrogen/ammonia production facility tariff remains under development. NS Power is currently engaged with prospective hydrogen proponents to develop an industry-specific tariff. NS Power has been working with hydrogen industry developers to understand the nature and scope of the electricity services required by the developers to support their project plans and to examine the implications of their planned production facilities and energy resources for the power system. Work to date has focused on:

- The resource planning implications of serving these large new loads (e.g. the availability of the forecast required renewable and firm electricity supply from NS Power and the forecast cost of providing these services over the coming decades).

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- The development of a tariff construct under which these services would be provided by NS Power.
- The engagement with the developers has varied according to the state of the developers' project plans, but has, in general included the development of modelling assumptions, review and refinement of analysis results, and engagement on tariff design. In all cases, analyses and tariff design and pricing parameters remain under development and subject to change as the project developer plans advance, the hydrogen/ammonia export markets develop, and the form and content of the potential tariff are refined.

(b) Please see the response to part (a). To date tariff development work has been undertaken in collaboration with EverWind Fuels and Bear Head Energy.

(c) Until such time as the resource planning and tariff development work advances to a state where NS Power and the developers have reached consensus on the results of the work and determined the form and timing of an application to the NSEB, it is premature to provide tariff development materials. NS Power understands that if an application to the Board is made for approval of a hydrogen/ammonia production facility tariff, a complete justification will be required and this will be subjected to the Board's well-established regulatory processes.

(d) Please see the response to part (c). Please also refer to IG IR-6.

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Request IR-17:

Refer to Exhibit N-1, 2025 Evergreen IRP, page 41 of 42, regarding the Net Zero Atlantic study.

(a) Please provide an update on the status of that study and the expected completion date.

(b) Did the assessment of the “hybrid heating electrification profile” result in any implications for NS Power’s resource planning process?

i) If so, please explain the implications.

Response IR-17:

(a) Please refer to NSEB IR-8.

(b) The assessment of the hybrid heating electrification profile is in reference to the E3 Electrification Study, not the study in progress by Net Zero Atlantic. The peak reductions identified through the E3 Electrification Study were assessed as part of the 2023 Evergreen IRP and demonstrated value to the system by reducing resource capacity requirements and system costs. Since the 2023 Evergreen IRP demonstrated there was potential value to a hybrid heating program, the study being led by Net Zero Atlantic is to assess the costs and benefits of such a program in more detail and is the next step in the process leading to the implementation of such a program if it continues to show benefit. This study is also aligned with the category of Load Management initiatives which are part of the Nova Scotia Clean Power Plan.

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Request IR-18:

Refer to Exhibit N-1, 2025 Evergreen IRP, page. 42 of 42, regarding the transition of IRP responsibilities to NSIESO.

(a) Please provide an update on the status of this transition.

(i) Has NSIESO initiated the IRP process to date?

(b) Has NS Power been in communication with NSIESO regarding the requirements of the IRP process?

(ii) If so, please describe those communications.

(c) Please provide any materials exchanged between NS Power and NSIESO regarding the transition of IRP responsibilities to NSIESO.

Response IR-18:

(a-c) NS Power understands the NSIESO will be required to initiate an IRP as required by the provisions of Bill 404.

NS Power understands that the NSIESO Board of Directors has been appointed, and a CEO search process is underway at this time.

Given the current status of the NSIESO, an IRP process and communications related to a future IRP have not been initiated.