Request IR-1:

Reference: N-1, IRP Action Plan Update – Clean Electricity Regulations – Impacts on NSP Long Term Strategy, p. 16.

(a) What is the "current policy" referenced here?

(b) NSPI notes it anticipates "incremental system costs" associated with meeting the new CER targets. Please confirm when these additional costs are anticipated, the types or categories of costs, and provide an order of magnitude for each category of costs.

Response IR-1:

(a) "Current policy" refers to the current environmental policy measures that will come into effect in 2030 in the province of Nova Scotia (80 percent renewable energy standard, the phase-out of coal generation, and the Nova Scotia Output-Based Pricing System).

(b) Please refer to SBA IR-9.

Request IR-2:

Reference: N-1, IRP Action Plan Update, Item 1: Regional Integration, p.18-20.

(a) With the Reliability Tie being integrated into the system, please provide an update on how wind curtailment is being modelled within the Evergreen IRP and whether it is still considered to be the lowest cost option?

(b) Please provide an update on the work NSPI is currently doing with respect to trying to reduce renewable curtailment in its system planning?

Response IR-2:

(a) The Reliability Intertie was included in the 2023 Evergreen IRP and the modelling outcomes from that process include the benefits the Reliability Intertie provides to the system by enabling the integration of greater levels of intermittent renewable generation. The development of domestic wind resources, and at times curtailing those resources, is still showing as the lowest-cost option, aligned with the provincial Clean Power Plan, to meet the 80 percent renewable energy standard by 2030.

(b) The resource plan informed by system planning exercises, including the 2023 Evergreen IRP, and being pursued through NS Power's Path to 2030 supports minimizing the curtailment of renewables. The Reliability Intertie enables greater levels of renewable generation to be online, which reduces curtailment that would otherwise occur to make room for the thermal generation needed to provide grid support without the Reliability Intertie. The Reliability Intertie also creates a larger export path to sell surplus renewables instead of curtailing them. Battery energy storage systems (BESS), like NS Power's 150 MW project, create the opportunity to store energy instead of curtailing it, and then reuse that energy at times of low renewable output. Finally, fast-acting generation provides the ramping capability to balance the variable nature of renewable generation. All these

resources create a portfolio of assets that support minimizing the curtailment of renewable generation. Operationally, NS Power will update its dispatch protocols to leverage the Automatic Generation Control (AGC) functionality required from new wind farms (beginning with the Rate Base Procurement projects), which will reduce curtailment relative to what would be achieved by following the current "block" curtailment process.

Request IR-3:

Reference: N-1, IRP Action Plan Update - Electrification Impacts – T&D System, p. 22.

(a) What percentage of each of the transmission and distribution systems have been modeled as described on this page?

(b) Has NSPI observed any patterns regarding feeder peaks (morning, afternoon, summer) by geography or any other basis? Please discuss, with specific examples.

(c) How will NSPI use the data being collected and studied in the near term, medium term and long term?

Response IR-3:

(a) The entire distribution system has been modeled as meter data is available for all customers on the distribution system.

Transmission models are updated annually based on system load forecasts, transmission system meter data (SCADA), and metered generation dispatch for winter peak, summer peak, summer shoulder, and spring light load levels in accordance with NERC standards. These are submitted to the Northeast Power Coordinating Council for inclusion in Multiregional Modelling Working Group (MMWG) Power System Simulation for Engineering load flow and dynamics case models for selected years and seasons within the planning horizon. The MMWG cases form the basis for NS Power's reliability assessments, interconnection studies, regional expansion planning, and other system studies and capture the ongoing impacts of electrification and load growth.

Each case reflects the latest available forecast load at each node or bus on the interconnected system, the branches (lines and transformers) linking buses, the generating units available to supply the load, and the patterns of generation and interchange within the constraints of available capacity.

(b) Most distribution feeder peaks occur during extremely cold weather during the morning or evening. Historically, more feeders have peaked in the evening when lighting load is a factor. However, in recent years there have been more morning-peaking feeders.

Non-residential feeders have peak load timing that is very specific to the type of load they are serving. There are commercial feeders in predominantly urban areas that have afternoon peaks in the summer, industrial feeders with peaks that are coincident with seasonal loads, etc.

(c) The data provides an understanding of electrification trends for heating and transportation in various regions across the province. In the near term, this helps to prioritize capital planning to identify distribution capital requirements. In the longer term, this understanding helps to prioritize the modernization of the distribution system to adapt to managed charging for electric vehicles and increased residential needs for heating.

Request IR-4:

Reference: N-1, IRP Action Plan Update - Provincial Green Choice Program, p. 26.

(a) Is 625 MW of wind capacity under contract with NSPI, i.e. have PPAs been executed for each of these projects? If not, what remains outstanding?

(b) Please provide a status update respecting each project, its interconnection approvals and expected commercial operation date.

Response IR-4:

(a) In June 2025, two wind farms with a combined total capacity of 262 MW signed Power Purchase Agreements under the Green Choice Program (GCP).

(b) The following is an update on the generation interconnection status and the expected commercial operation dates (COD) of the two GCP wind farms, which can also be accessed on the NS Power Oasis site.[1]

IR	SIS Status	COD
826	System Impact Study in Progress	12/31/2028
732	System Impact Study in Progress	Q3 2028

[1] nspi-combined-interconnection-request-queue(pdf).pdf

Request IR-5:

Reference: N-1, IRP Action Plan Update - Thermal and CT Investment, pp. 27 – 32.

(a) Please explain how decreased sustaining capital values for the diesel CTs "confirms the Evergreen modeling approach to assume ongoing operation of the diesel CT fleet."

(b) Please explain the approximate $7.3 million sustaining capital investment in VJ-1 in 2022 and nil in 2023.

(c) Why has the total sustaining capital for the CTs varied so significantly between 2021 to 2024?

(d) Please explain "failed starts".

(e) It appears that Burnside 3 had the highest total failed starts each year. Please confirm, discuss the reasons for this, the significance and if NSPI is taking steps to address this.

Response IR-5:

(a) Based on the forecasts of the sustaining capital investment required for the diesel CTs at the time of the 2020 IRP, the supply-side modeling assessment demonstrated the value of maintaining the CTs as opposed to retiring them and building new fast-acting generation. If the sustaining capital of the unit has now decreased further from NS Power's forecast of those values at the time of the 2020 IRP, this would only improve the economic case for retaining and maintaining the diesel CT fleet.

(b) The capital in 2022 versus 2023 for VJ-1 is a result of significant engine and generator work that took place in 2022 resulting in a longer outage and higher capital spend that offset planned capital in 2023.

(c) The variation in sustaining capital from 2021 to 2024 is related to each unit's utilization, asset condition, and maintenance strategy. In some years, the sustaining capital projects may be more capital intensive (engine overhaul or a generator rotor replacement, for example).

(d) Failed starts describe the situation where a System Operator initiates a unit to start but, for various reasons, the unit is unable to develop the required load to synchronize to the grid and maintain stable operations.

(e) The failed starts on Burnside 3 are the result of instrumentation issues during the start-up sequence that are mainly attributed to fuel flow and service air flow faults. These can be caused by a variety of issues including instrumentation, valves, control system settings, and outside air temperatures. In the event of a startup sequence fault, a technician is called to site to clear the fault and make adjustments, as needed. Fuel system and air system modifications have been made in recent years to help mitigate the failed starts.

Request IR-6:

Reference: N-1, IRP Action Plan Update - Hydrogen, p. 33.

(a) Please discuss the general structure of the hydrogen tariff under development.

(b) With whom is NSPI working to develop this tariff and cost structure?

(c) What are the pre-requisites before applying for approval of such a tariff? Please list each and provide an estimated date of completion of each pre-requisite.

(d) Does NSPI require overseas committed industrial buyers before applying for approval? If so, what is NSPI's understanding of the status of this?

(e) When does NSPI expect to file an application with the NSEB for approval?

(f) Please file a copy of NSPI's power purchase agreement and power sales agreement with EverWind as prescribed by Regulation and identify any provisions in those agreements which may impact or influence the tariff being developed.

Response IR-6:

(a) The draft hydrogen/ammonia production facility tariff remains under development. Services expected to be provided by NS Power are top-up energy and the acceptance of spill energy from the customers, transmission of electricity from the proponents' generation facilities to their production facilities, firm electricity backup, and ancillary services. Due to the anticipated large size of the proposed hydrogen/ammonia customer loads, the anticipated flexibility of the customers' production facilities, and interplay with

customer-owned resources, current efforts are focused on the development of an incremental cost-based tariff plus a contribution to system fixed costs.

(b) To date tariff development work has been undertaken in collaboration with EverWind Fuels and Bear Head Energy.

(c) The Company has not developed a list of prerequisites to the filing of an application. It is understood that in order to make an application to the Board, a complete and well-supported justification is required, including the foundation for the Company's financial and operating assumptions and regulatory support for the tariff design and pricing parameters proposed. It is also understood that any such application will be subject to the Board's well-established regulatory processes.

(d) For this developing industry, it is anticipated that as part of a tariff application, insight will be required with respect to the customers' production and market plans. Whether this would require committed off-takers has not been determined. The Company's current understanding of the green hydrogen and green ammonia market is that both domestic and export offtake opportunities are still in development. Governments in Canada and the EU have demonstrated industry support through various mechanisms including funding programs and policy development focused on industrial decarbonization. One example of joint government support is the launch of the Application Phase for the 2025 H2Global auction for renewable hydrogen and its derivatives.

(e) The filing date for a tariff application has not been established. It remains contingent on the ongoing development of a viable tariff structure, which is supported by the Company and proponents, and the proponents' project development plans.

(f) Power purchase and sales agreements between NS Power and EverWind Fuels have not been completed. Please also refer to SBA IR-16.

Request IR-7:

Reference: Article in allnovascotia.com, July 20, 2025, "New Clean Tech Offers Hydrogen on Demand".

Preamble: This article discusses HyVera Distributed Energy's zero-emission process using pellets to power fuel cells or electricity generation of 5-10 MW.

(a) Is NSPI investigating and conducting any feasibility studies regarding the cost and feasibility of this technology? Please discuss.

(b) If not, will it be evaluated in future?

Response IR-7:

(a) NS Power is not currently assessing the HyVera Distributed Energy's zero-emission process.

(b) Emerging technologies have been and will continue to be considered in integrated resource planning (IRP) exercises. This could potentially include the HyVera technology in future IRPs, which would be the responsibility of the NSIESO.

Request IR-8:

Reference: CBC Article, June 5, 2025, "Mining, Energy Companies say Hydro Storage Project could be Template for NS Mines" https://www.cbc.ca/news/canada/nova-scotia/mining-energy-companies-say-hydro-storage-project-could-be-template-for-n-s-mines-1.7553746

Reference: St. Barbara October 22, 2024 ASX Release, "Update on Investigation of Renewable Energy Opportunity at Touquoy Gold Mine" https://stbarbaragold.ca/files/documents/2024.10.22-Update-on-Touquoy-Mine-Renewable-Energy-Investigation.pdf

Preamble: The CBC article discusses a partnership between St. Barbara and Natural Forces to develop a closed-loop pumped hydro energy storage system which uses water in an elevated reservoir to act as a natural battery. The St. Barbara Release states that the feasibility study confirmed the system capacity is 80 MW for 7 hours (40 MW for 14 hours) and the overall cost of the project is anticipated to be less than similar installations.

(a) Does NSPI have any knowledge of this project beyond what has been publicly released? Please discuss.

(b) Has NSPI studied pumped storage previously or is NSPI currently studying this project as part of its updated system planning? If not, why not?

(c) Is NSPI aware of the basis for comparison in referring to "similar installations? Is this battery energy storage system (BESS)?

(d) If this were feasible and cost-effective, is it the NSIESO which would be conducting any future procurement for energy storage? What will be the role of NSPI?

Response IR-8:

(a) No, NS Power does not have any knowledge of this project beyond what has been publicly shared. NS Power can confirm that it had a meeting with the project proponent in which a general project overview was shared with NS Power; NS Power suggested the proponent review the 2023 Evergreen IRP assumptions for long-duration energy storage as one benchmark of cost-effectiveness and answered questions on how the Generation Interconnection Procedures would apply to the project.

(b) NS Power has completed previous study work to understand pumped hydro opportunities at the Wreck Cove facility. NS Power included assumptions related to long-duration storage, including pumped hydro, in the Evergreen IRP, but it was not chosen as a resource in the optimized resource plans.

(c) No, NS Power is not aware of the basis of comparison referenced in the article.

(d) It is NS Power's current understanding that the NSIESO will be responsible for the procurement of future energy storage capacity.

Request IR-9:

Reference: N-1, IRP Action Plan Update - Hybrid Peak Electrification Scenario, p. 41.

(a) If there is a scope of work that has been prepared, please provide. Did NSPI have any input into the scope? If not, is NSPI satisfied that the work will meet the needs of the utility and its ratepayers for planning purposes?

(b) Who are the members of the committee?

(c) What is the schedule/timeline for deliverables, and will the work be public?

Response IR-9:

(a) The scope of work for the Hybrid Heating study is provided below. Yes, NS Power had the opportunity to provide input into the scope of work.

Hybrid Heating Study – Scope of Work

Purpose: To assess whether a hybrid heating program could ease winter peak demand as clean energy generation grows and electrification expands. This study will help inform possible program designs, gauge customer interest, and support the quantification of system-level benefits.

Key Activities

1. Jurisdictional Scan
    - Review successes and challenges from hybrid-heating programs in other cold-climate regions.

- Document control technologies, incentive structures, administration models, and performance metrics.

2. Customer Research
   - Design and deploy an online survey to estimate:
     - Heating system configurations
     - Incentive levels

3. Electric-System Modelling
   - Modelling of various scenarios to understand system level benefits such as avoided generation capacity, winter-peak reduction, cost savings, and GHG impacts.

4. Program Operationalization
   - Outline possible program governance and delivery models.

5. Reporting and Outreach
   - Compile findings and recommendations in a public report with a plain-language summary.

(b) Net Zero Atlantic is coordinating the work through a Project Management Committee that includes the Department of Energy, Nova Scotia Power, and Efficiency Nova Scotia.

(c) The final study report is expected in Q1 2026. Yes, the work will be made public.

Request IR-10:

Has NSPI prepared any update to the Relative Rate Effect Model, which was appended to the 2020 IRP Final Report as Appendix D? If so, please provide. If not, why not?

Response IR-10:

Please refer to CA IR-7.