

NOVA SCOTIA ENERGY BOARD

IN THE MATTER OF: THE PUBLIC UTILITIES ACT

- and -

IN THE MATTER OF: AN APPLICATION by NOVA SCOTIA POWER INCORPORATED
(NS Power) for Subsequent Approval of an ACE Plan Capital Item

CI C0080101 – 539N-210 Big Island Subsea Cable Replacement

NON-CONFIDENTIAL INFORMATION REQUESTS

To: **Lana Myatt**
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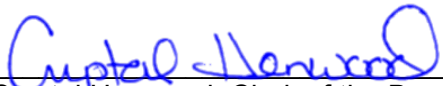
From: **Nova Scotia Energy Board**
Board Staff

Responses Due: **Monday, May 11, 2026**

Copies: 1 electronic copy (PDF searchable)

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Issued at Halifax, Nova Scotia, this 20th day of April 2026



Crystal Henwood, Clerk of the Board

Request IR-1:

- a. Please explain the voltage and capacity of the primary circuit on Big Island.
- b. Please identify the number of customers on Big Island.
- c. Please explain whether there are any substations or switching facilities on the island. If so, please describe their function and how the new subsea cable would affect their operation.
- d. Please explain all related system upgrades that are required to support the project but are not included in the proposal and why they are excluded?

Request IR-2:

- a. Please explain whether the new subsea cable(s) is an AC or DC cable.
- b. Please identify the number of cable(s) to be installed and provide the related technical specifications, including but not limited to voltage rating, type of insulation, capacity, and conductor size.
- c. Please provide georeferenced engineering routing maps and plan view maps for the proposed new subsea cable(s) and all existing cables.
- d. Please provide the relevant cable engineering design, load study and system planning reports.
- e. Please identify and explain the applicable technical, safety and environmental standards, codes and regulations governing the design, installation, commissioning and operation of the new subsea cable(s).
- f. Please explain how service to Big Island would be maintained or restored in the event of a failure of the new cable(s), and contingency arrangements.
- g. Please list and describe all permits, approvals, and assessments required for the installation of the new subsea cable(s), including but not limited to environmental, land-use, and marine, and provide the current status of each.

Request IR-3:

- a. Please explain whether the proposed project budget includes any related onshore and near-shore land works and any associated equipment that may be required.
 - i. If not, please explain.
 - ii. If yes, please identify and describe the associated land work and required equipment, and related costs.

- b. Please describe the installation method for the new subsea cable(s) and provide installation plans and studies.
- c. Please describe all required tests and commissioning activities for the new subsea cable(s).
- d. Please identify the warranty period and warranty terms applicable to the new subsea cable(s), including manufacturer and installation warranties.

Request IR-4:

- a. Please describe the technical specifications of the subsea cable installed in the 1990s.
- b. Please describe how the major storm event damaged the subsea cable installed in the 1990s.
- c. Please describe the current status of the subsea cable installed in 1990s and the basis for the conclusion that it is unsuitable for continued operation.
 - i. Please provide a cable condition assessment report if available.
- d. Please explain whether NS Power attempted to repair the cable.
 - i. If no repair was attempted, please explain why a repair was not pursued and why it is not possible to repair the cable.
 - ii. If a repair was attempted, please explain the outcome and conclusions.
- e. Please describe the original cable installation method and whether any physical or electrical protection measures were applied to the cable.

Request IR-5:

- a. Please describe the cause(s) of the fault on the subsea cable installed in 1977 and the rationale for the decision to replace it with the subsea cable installed in the 1990s.
- b. Please explain how NS Power determined the 1977 subsea cable was suitable for continued operation following the failure of the subsea cable installed in the 1990s.
 - i. Please explain why a similar condition assessment of the 1977s subsea cable was not performed prior to the installation of the 1990s subsea cable.
- c. Please explain whether the 1977 subsea cable has experienced any faults since being re-energized in 1999.
 - i. If so, please describe the nature and frequency of those faults, and their impact on customers.

Request IR-6:

- a. Please describe the various technologies and methods that will be used to protect the new subsea cable(s) from identified risks, including but not limited to, natural and environmental risks, fishing activities, marine traffic, and electrical faults.
- b. Please describe how the proposed protection measures address each identified risk.
- c. Please confirm that the cost associated with each of the measure, technologies and methods is included in the project's current cost estimate.

Request IR-7:

- a. Does NS Power intend to procure this project through a competitive bidding process?
 - i. If not, why not?
- b. Please explain if any requests for proposals (RFPs) have been issued for the project and provide a copy of all relevant RFPs.
- c. Please provide a detailed description of the project scope, including major scope elements, estimated timelines, critical milestones, status of each project element, and expected completion date.

Request IR-8:

- a. Please provide a table that lists the past five years of load records for Big Island, including but not limited to peak and average demand, as well as the load forecast over the expected service life of the proposed new cable(s).
- b. Please compare the proposed new cable(s) with the existing subsea cables installed in 1977 and 1990s, including but not limited to differences in design, electrical performance, mechanical strength, resiliency, real-time monitoring capability, and maintenance requirement.

Request IR-9:

- a. Please describe the plan for the existing cables after the completion of the new cable installation.
 - i. If the plan is to remove, abandon or decommission the existing cables, please confirm whether the quoted budget includes the cost of this work.
- b. If not, why not and when will that work be completed?
- c. If the plan is to leave the existing cables in place, please explain the rationale.
 - i. Will the 1977 cable be left in place to provide a means of redundant supply?

1
2 **Request IR-10:**

3 In “Why do this project this way”, NS Power noted that:

4 A subsea replacement was selected after evaluating and ruling out two land-based alternatives—an
5 overhead line along the Big Island causeway and a trenched underground cable in the same corridor.
6

7 ... open-water conditions and climate-driven increases in storm severity create a persistently high
8 failure risk for any land-based alternative.

9 a. Please provide the technical analysis and evaluation reports that support the decision to
10 rule out both overhead and trenched underground land cable along the corridor.

11 i. Please provide a copy of NS Power’s Economic Analysis Model (EAM) comparing
12 each of the evaluated options.

13 b. Please explain why the alternatives were determined to be unsuitable.

14 c. On pdf pg. 4 of the application, NS Power states: “On the Big Island causeway, the
15 exposure to open-water conditions and climate-driven increases in storm severity create
16 a persistently high failure risk for any land-based alternative.” Please explain specifically
17 how the causeway’s exposure to open-water conditions and climate-driven increases in
18 storm severity create a persistently high failure risk for a trenched underground cable.

19 d. Given that the subsea cable installed in the 1990s failed during a major storm event,
20 please explain the technical basis on which NS Power determined that the underground
21 trenched cable would present a higher failure risk.

22 i. Please provide a table comparing the alternatives against subsea cable side by
23 side, including the strengths and weaknesses of each option.

24 e. On pdf pg. 4 of the application, NS Power states: “A subsea cable routed through the more
25 sheltered harbour provides substantially lower lifecycle risk, higher reliability, and reduced
26 exposure to environmental forces, making it the most appropriate long-term solution.”
27 Please explain specifically how a subsea cable provides substantially lower lifecycle risk,
28 higher reliability, and reduced exposure to environmental forces than a) an overhead line
29 option, and b) a trenched underground option.
30

31 **Request IR-11:**

32 In the “Reason for Variance”, NS Power noted that the increase of \$849,612 from the 2026 ACE
33 Plan is to account for the following tasks:

1 ... the increased estimate covers the inclusion of a marine geo-technical survey required for burial
2 assessment and cable protection, landfall civil execution for cable pull in and backfill and marine
3 cable protection.

- 4 a. Please confirm whether these are common tasks for subsea cable projects in Nova Scotia.
- 5 b. Please explain why these elements were not included in the original proposal.

6
7 **Request IR-12:**

- 8 a. For the listed consulting works in the Capital Project Detailed Estimate, please provide all
9 relevant studies and technical reports prepared for the project, including cable engineering
10 design and routing, metocean data, marine traffic, fisheries studies, cable burial risk
11 assessment, underwater benthic habitat testing, archaeology resource impact
12 assessment, and wetlands, watercourses and SOCI.
- 13 b. Please describe the scope of work undertaken by each consultant and explain why those
14 services are required.
- 15 c. Please describe any known or identified concerns for the project, including but not limited
16 to technical, environmental, or other relevant considerations.

17
18 **Request IR-13:**

- 19 a. Please provide the fault history of the existing 1977 and the existing 1999 cables.
- 20 b. Please provide the history of repairs on the existing 1977 and the existing 1999 cables.

21
22 **Request IR-14:**

- 23 a. When did the 1999 cable fail?
 - 24 i. What was the remaining undepreciated capital cost of the cable at the time of its
25 failure?
 - 26 ii. Please confirm that once the cable failed and was no longer used and useful, NSP
27 expensed the remaining undepreciated capital cost over five years (or over another
28 period as directed by the Board).
 - 29 A. If not confirmed, please explain why this was not done.
 - 30 B. Please identify the current undepreciated capital cost of the cable.
 - 31 C. Please identify the amount of return on rate base that NS Power has
32 earned on the cable since its failure.

1 **Request IR-15:**

2 a. Has NS Power procured the services of a cable laying vessel for this project?

3 i. If not, what is the schedule for procuring such services?

4 A. If a vessel cannot be secured by this timeline, please identify any further
5 risks for additional project costs.
6

7 **Request IR-16:**

8 Please explain specifically how NS Power developed its cost estimates for each line item under
9 “Materials” and “Contracts” in the “Capital Project Detailed Estimate” on pdf pg. 5 of the
10 application.
11