

1 **Q. (Reference Application) In light of existing and proposed 'green energy'**
 2 **initiatives by the governments of Canada and Newfoundland and Labrador, has**
 3 **Newfoundland Power analyzed the possibility that its past and proposed future**
 4 **capital expenditures on thermal capacity and thermal energy may become**
 5 **stranded? If so, please provide copies of all such analyses.**

6
 7 **A. A. General**

8
 9 Newfoundland Power has six thermal generation units ("thermal plants") with a total
 10 generation capacity of 44.5 MW. These thermal plants are used to provide standby and
 11 emergency generation, both locally and for the Island Interconnected System, and to
 12 minimize customer outages during scheduled maintenance on transmission, distribution
 13 or substation assets.

14
 15 Four of the thermal plants are stationary. These include the Wesleyville gas turbine,
 16 Greenhill gas turbine, Port aux Basques diesel generator, and the Mobile Gas Turbine
 17 ("MGT").¹ Two of the thermal plants are mobile. These include the Mobile Diesel #3
 18 ("MD3") and Mobile Gas Turbine #2 ("MG2").

19
 20 Capital expenditures undertaken by Newfoundland Power, including those related to the
 21 Company's thermal plants, are required to be approved by the Board when proven to be
 22 justified. Capital expenditures proposed by the Company consider the length of time the
 23 assets will be in service and the benefits those expenditures will bring to customers over
 24 that period. This is done in accordance with Newfoundland Power's obligation to
 25 provide reliable service to customers at least cost.²

26
 27 **B. Proposed Environmental Regulations**

28
 29 The Government of Canada is in the process of developing its Clean Electricity Standard
 30 ("CES") and Clean Electricity Regulations ("CER"), which are the key regulatory
 31 instruments that the Federal Government is proposing as a means to achieve a net-zero
 32 emissions electricity system by 2035. In developing the CES and CER, the Government
 33 of Canada recognizes that cooperation and regulatory cohesiveness between provinces,
 34 territories, indigenous peoples, and industry is critical to achieving Canada's net-zero
 35 targets.³

¹ The Wesleyville gas turbine, Greenhill gas turbine, Port aux Basques diesel generator and MGT have maximum capacities of 8.0 MW, 20.0 MW, 2.5 MW, and 6.0 MW, respectively. MGT is no longer able to be transported due to the deteriorated condition of the trailer chassis. It is now permanently stationed at the Company's Grand Bay Substation on the southwest coast of Newfoundland.

² Section 37(1) of the *Public Utilities Act* requires that Newfoundland Power provide service and facilities which are reasonably safe and adequate and just and reasonable. Section 3(b)(iii) of the *Electrical Power Control Act, 1994* requires that Newfoundland Power provide service to customers at the lowest possible cost consistent with reliable service.

³ See Government of Canada *Proposed Frame for the Clean Electricity Regulations*, July 26, 2022. <https://www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/publications/proposed-frame-clean-electricity-regulations.html>

1 The *Proposed Frame for the Clean Energy Electricity Regulations* proposes the use of
 2 existing sources of thermal generation to continue to support affordability and reliability
 3 while achieving net-zero emissions. More specifically, the use of existing thermal plants
 4 during emergency circumstances is being proposed in the CER without the requirement
 5 for utilities to meet performance standards or pay financial compensation for emissions.⁴
 6

7 The Company continues to monitor the development of CES and CER as part of planning
 8 studies associated with its thermal generation. At present, the CES and CER are not
 9 expected to result in Newfoundland Power's thermal plants becoming stranded.

10 **C. Past Capital Expenditures**

11 ***Stationary Thermal Plants***

12
 13 Initial capital expenditures related to Newfoundland Power's stationary thermal plants
 14 were made between 1969 and 1975. These thermal plants have been in service for
 15 between 47 and 53 years and are nearing the end of their service lives.⁵
 16
 17

18
 19 Recent capital expenditures associated with Newfoundland Power's stationary thermal
 20 plants have been based on annual inspections and maintenance activities and were
 21 necessary to ensure the plants remain operable. The need to ensure these plants
 22 remain operable includes increased supply risk that has become apparent since the
 23 large-scale customer outages experienced in 2014.⁶ The risk of a supply shortfall has
 24 been a concern of the Board since that time and has been monitored closely by the
 25 Board's consultant.⁷
 26

27 Newfoundland Power has not undertaken any major life extension projects related to its
 28 stationary thermal plants in recent years. However, recent inspections have identified
 29 refurbishment work on both the Greenhill and Wesleyville gas turbines would be
 30 required if they are to continue to operate over the long term. Newfoundland Power is
 31 currently undertaking a system planning study to inform the long-term plan for these
 32 gas turbines.⁸
 33

34 The Company does not expect that any remaining investment in its stationary plants will
 35 become stranded.

⁴ Ibid.

⁵ The Wesleyville gas turbine and the Port aux Basques diesel generator were brought into service in 1969. MGT was brought into service in 1974. The Greenhill gas turbine was brought into service in 1975.

⁶ The period of January 2-8, 2014 included continuing generation supply shortages and successive major electrical system disruptions.

⁷ For example, in its August 30, 2018 *Analysis of Newfoundland Island Interconnected System Power Supply Adequacy for the Winter of 2018-19*, The Liberty Consulting Group stated: "Power supply vulnerability has become a problem for the Island Interconnected System (IIS) in recent years as winter approaches. The nature of the threat may change each year, but the exposure to supply-related outages persists. This year, delays in the reliability in-service date of the LIL and their impacts on anticipated supply from Labrador (known as recall power), and poor performance at its Holyrood Thermal Generating Station (TGS) increases the risk of supply related outages considerably."

⁸ See the *2023 Capital Budget Application, 2023-2027 Capital Plan*, page 12.

1 **Mobile Thermal Plants**

2
3 Newfoundland Power's existing mobile thermal plants were first brought into service in
4 2004 and 2019.⁹ The Company's recent capital expenditures associated with MG2 were
5 necessary due to the condition of MGT, which had reached the end of its mobile service
6 life.¹⁰ With an adequate supply of fuel, the Company's mobile thermal plants can
7 operate for as long as necessary in support of localized customer outages.¹¹

8
9 The requirement for Newfoundland Power to deploy mobile thermal plants was
10 recognized by the Board in its order approving MG2. In its order, the Board stated:

11
12 *"The Board believes that the mobile gas turbine is an important asset for*
13 *Newfoundland Power's operations and supports the company's ability to supply*
14 *power to customers in all service areas on the island during extended outages,*
15 *whether unplanned or planned."*¹²

16
17 Newfoundland Power views its mobile thermal plants as necessary to fulfill the
18 Company's obligation to provide reliable service to customers at least cost in accordance
19 with provincial legislation. As a result, the Company does not expect capital investment
20 in its mobile thermal plants will become stranded.

21 **D. Future Capital Expenditures**

22
23 Proposed capital expenditures in Newfoundland Power's *2023 Capital Budget Application*
24 that are associated with thermal plants are for the refurbishment or replacement of
25 structures and equipment due to damage, deterioration, corrosion and in-service
26 failures. These expenditures are necessary to ensure the Company's thermal plants
27 remain operable and comprise a relatively small portion of the *2023 Capital Budget*
28 *Application*.¹³

29
30 The Board reviewed similar capital expenditures as part of Newfoundland Power's *2022*
31 *Capital Budget Application*. In its Order approving the expenditures, the Board stated:

32
33 *"The Board notes that this project is a recurring annual project that provides for*
34 *the replacement or refurbishment of critical structures and equipment as*
35 *identified during annual inspections and maintenance activities as well as in-*
36 *service failures that have to be addressed as they occur. These assets are*
37 *important to the provision of reliable service to customers on the Island*
38 *Interconnected system and need to be maintained and repaired as required to*
39 *remain operable. The only alternative to continued maintenance and operation*
40

⁹ MD3 was brought into service in 2004. MG2 was brought into service in 2019.

¹⁰ A condition assessment of MGT recommended that it be retired from mobile service. See Newfoundland Power's *2018 Capital Budget Application*, report 1.2 *Purchase Mobile Generation*.

¹¹ This compares to alternatives such as battery storage, wind and solar generation, which have storage limitations or depend on favorable environmental conditions.

¹² See Order No. P.U. 37 (2017), page 7, lines 28-30.

¹³ Capital expenditures included for thermal plants in the *2023 Capital Budget Application* are \$335,000, or approximately 0.3% of Newfoundland Power's *2023 Capital Budget Application*.

1 *of these assets is to retire them which, in the Board's view, would not be in the*
2 *best interest of customers."*¹⁴
3

4 Capital expenditures that may be proposed by Newfoundland Power beyond 2023 will be
5 in accordance with the Company's obligation to provide reliable service to customers at
6 least cost as directed by provincial legislation.
7

8 Consideration of future capital expenditures associated with Newfoundland Power's
9 thermal plants will be informed by a number of factors. These include the Board's
10 *Reliability and Resource Adequacy Study* review and any 'green energy' initiatives, such
11 as the development of the CES and CER.¹⁵
12

13 Newfoundland Power does not expect that its future capital expenditures on thermal
14 plants will become stranded.

¹⁴ See Order No. P.U. 36 (2021), page 13, lines 8-14.

¹⁵ The Board is currently in the process of reviewing Newfoundland and Labrador Hydro's ("Hydro") *Reliability and Resource Adequacy Study* ("RRAS"). The findings from the Board's review will inform the need for future generation requirements on the Island Interconnected System. Hydro's initial RRAS was filed with the Board on November 16, 2018. Hydro is expected to file an updated RRAS in the fall of 2022.