

1 **Q. (Reference Application) In light of existing and proposed ‘green energy’ initiatives**
 2 **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**

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 9 Capital expenditures undertaken by Newfoundland Power are required to be approved by
 10 the Board. Capital expenditures proposed by the Company consider the length of time
 11 the assets will be in service and the benefits those expenditures will bring to customers
 12 over that period. This is done in accordance with Newfoundland Power’s obligation to
 13 provide reliable service to customers at least cost.¹

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 15 **B. Newfoundland Power’s Thermal Generation**

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 17 Newfoundland Power has 6 separate thermal generation units (“thermal plants”) with a
 18 total generation capacity of 44.5 MW. These thermal plants are used to provide standby
 19 and emergency generation, both locally and for the Island Interconnected System, and to
 20 minimize customer outages during scheduled maintenance on transmission, distribution
 21 or substation assets.

22
 23 Four of the thermal plants are stationary. These include the Wesleyville gas turbine,
 24 Greenhill gas turbine, Port Aux Basques diesel generator, and the Mobile Gas Turbine
 25 (“MGT”).² Two of the thermal plants are mobile. These include the Mobile Diesel #3
 26 (“MD3”) and Mobile Gas Turbine #2 (“MG2”).

27
 28 **C. Past Capital Expenditures**

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 30 *Stationary Thermal Plants*

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 32 Initial capital expenditures related to Newfoundland Power’s stationary thermal plants
 33 were made between 1969 and 1975. These thermal plants have been in service for
 34 between 46 and 52 years and are nearing the end of their service lives.³

¹ 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.

² 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 (“GBS”) Substation on the southwest coast of Newfoundland.

³ 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.

1 Recent capital expenditures associated with Newfoundland Power’s stationary thermal
 2 plants have been based on annual inspections and maintenance activities and were
 3 necessary to ensure the plants remain operable. The need to ensure these plants remain
 4 operable includes increased supply risk that has become apparent since the largescale
 5 customer outages experienced in 2014.⁴ The risk of a supply shortfall has been a concern
 6 of the Board since that time and has been monitored closely by the Board’s consultant.⁵
 7

8 Newfoundland Power has not undertaken any major life extension projects related to its
 9 stationary thermal plants in recent years. However, recent inspections have identified
 10 refurbishment work on both the Greenhill and Wesleyville gas turbines would be required
 11 if they are to continue to operate over the long term.
 12

13 The Company does not expect that any remaining investment in its stationary plants will
 14 become stranded.
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16 *Mobile Thermal Plants*

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 18 Newfoundland Power’s existing mobile thermal plants were first brought into service in
 19 2004 and 2019.⁶ The Company’s recent capital expenditures associated with MG2 were
 20 necessary due to the condition of MGT, which had reached the end of its mobile service
 21 life.⁷
 22

23 Additional mobile generation was necessary in 2019 to enable Newfoundland Power to
 24 continue to address localized planned and unplanned customer outages throughout its
 25 service territory.⁸ With an adequate supply of fuel, the Company’s mobile thermal plants
 26 can operate for as long as necessary in support of localized customer outages.⁹

⁴ The period of January 2-8, 2014 included continuing generation supply shortages and successive major electrical system disruptions.

⁵ 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.”

⁶ MD3 was brought into service in 2004. MG2 was brought into service in 2019.

⁷ 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*.

⁸ When available as a mobile source of generation, MGT was utilized multiple times per year to reduce customer outages. For example, in 2015, Newfoundland Power deployed MGT in 4 locations to avoid extensive customer outages: Trepassey, Abrahams Cove, Lewisporte and Twillingate. In these cases, approximately 28 million customer outage minutes were avoided.

⁹ This compares to alternatives such as battery storage and wind and solar generation, which have storage limitations or depend on favorable environmental conditions.

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

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4 *“The Board believes that the mobile gas turbine is an important asset for*
5 *Newfoundland Power’s operations and supports the company’s ability to*
6 *supply power to customers in all service areas on the island during*
7 *extended outages, whether unplanned or planned.”¹⁰*
8

9 Newfoundland Power views its mobile thermal plants as necessary to fulfill the
10 Company’s obligation to provide reliable service to customers at least cost in accordance
11 with provincial legislation. As a result, the Company does not expect capital investment
12 in its mobile thermal plants will become stranded.

13 14 **D. Future Capital Expenditures**

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16 Proposed capital expenditures in Newfoundland Power’s *2022 Capital Budget*
17 *Application* that are associated with thermal plants are for the refurbishment or
18 replacement of structures and equipment due to damage, deterioration, corrosion and in-
19 service failures. These expenditures are necessary to ensure the Company’s thermal
20 plants remain operable and comprise a relatively small portion of the *2022 Capital*
21 *Budget Application*.¹¹
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23 Capital expenditures that may be proposed by Newfoundland Power beyond 2022 will be
24 in accordance with the Company’s obligation to provide reliable service to customers at
25 least cost as directed by provincial legislation.
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27 Consideration of future capital expenditures associated with Newfoundland Power’s
28 thermal plants will be informed by a number of factors. These include the Board’s
29 *Reliability and Resource Adequacy Study Review* and any ‘green energy’ initiatives being
30 undertaken by the governments of Canada and Newfoundland and Labrador.¹²
31

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

¹⁰ See Order No. P.U. 37 (2017), page 7, lines 28-30.

¹¹ Capital expenditures included for thermal plants in the *2022 Capital Budget Application* are \$307,000, or approximately 0.3% of Newfoundland Power’s *2022 Capital Budget Application*.

¹² 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 mid-2022.