Section 4: Rate Base and Revenue Requirement

Q. (Section 4) In its 2016 GRA filing at page 4-29 Newfoundland Power referred to potential competition as a result of increased power costs. At that time, Newfoundland Power was asked to provide the cost of conversion for a typical residential customer to an oil furnace and the current annual cost of heating with oil versus electricity for different rate classes. With the increased capital cost of Muskrat Falls can Newfoundland Power revisit and update its answer and reference any other alternative fuels that both residential and industrial users might switch to such as propane?

A. Approximately 74% of Newfoundland Power's Domestic customers rely on electric heating. The remaining 26% of Domestic customers rely on other sources of heat, including home heating oil. In the *2022/2023 General Rate Application*, electricity provided an operating cost advantage of approximately 9-10% over home heating oil. Currently, electricity provides an operating cost advantage of approximately 15%.[1] Government incentives are currently available for customers to convert from oil heating to electric heating. Approximately 2,065 households in the province have applied for the funding to date.[2]

In addition to customer conversions from oil to electric heating, Newfoundland Power's electric heat customers are choosing to install heat pumps as a more efficient source of electric home heating. Heat pumps provide an operating cost advantage over electric baseboard heating.[3] Customers with electric baseboard heating have also had an opportunity to take advantage of Government incentives to install heat pumps in order to reduce electricity costs.[4] Newfoundland Power estimates that the penetration of heat pumps increased from approximately 4% in 2014 to approximately 28% in 2022. Overall, Domestic customers with a heat pump consume approximately 15% less than customers with other forms of electric heating.[5]

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1 Based on the current domestic service energy rate and the Board's Maximum Retail Heating Fuel Prices effective Thursday, February 29, 2024.

2 See the news release from the Government of Newfoundland and Labrador, *Federal-Provincial Agreement Allows Newfoundlanders and Labradorians to Switch from Heating Homes with Oil to Heat Pumps and Other Electric Home Heating Systems*, February 23, 2024.

3 The major benefit of using an air-source heat pump is the high efficiency it can provide in heating compared to typical systems like furnaces, boilers and electric baseboards. At 8°C, the coefficient of performance ("COP") of air-source heat pumps typically ranges from between 2.0 and 5.4. This means that, for units with a COP of 5, 5 kilowatt hours ("kWh") of heat are transferred for every kWh of electricity supplied to the heat pump. As the outdoor air temperature drops, COPs are lower, as the heat pump must work across a greater temperature difference between the indoor and outdoor space. At –8°C, COPs can range from 1.1 to 3.7. See Natural Resources Canada, *Heating and Cooling with a Heat Pump*.

4 See the news release from the Government of Newfoundland and Labrador, *Federal-Provincial Agreement Allows Newfoundlanders and Labradorians to Switch from Heating Homes with Oil to Heat Pumps and Other Electric Home Heating Systems*, February 23, 2024. To date, 4,481 heat pumps have been installed in the province using the Government of Canada's Greener Homes Grant. The Greener Homes Grant is not accepting new applicants at this time.

5 See Newfoundland Power's *2025/2026 General Rate Application, Volume 1, Application, Company Evidence and Exhibits, Section 5, Customer Rates,* page 5-5, footnote 7.

Other alternative sources of heating for Newfoundland Power customers include wood and propane. Wood currently has an operating cost advantage of approximately 10%.[6] Electricity currently has an approximate 34% operating cost advantage over propane.

The operating cost advantages of the various home heating alternatives available to Newfoundland Power's customers is subject to a number of factors including electricity rates, commodity prices, and policies regarding carbon taxation.[7]

[6] This is based on a market price of a cord of wood on the Northeast Avalon and does not preclude customers from gathering their own wood or finding a lower cost supply.

[7] See Government of Newfoundland and Labrador, *Notice: Repeal of Provincial Carbon Tax*. Retrieved on March 1, 2024 from https://www.gov.nl.ca/fin/tax-programs-incentives/personal/carbontax/.