

1 **Q. Following on its response to NLH-NP-065, as the establishment of a relationship**
2 **between weather and heat pump performance may increase the relevance of data**
3 **collected over the previous two winter seasons given that winter conditions on the**
4 **west coast for data already collected may be similar to expected winter conditions**
5 **on the east coast, will Newfoundland Power seek to establish a quantitative**
6 **relationship between weather and heat pump performance? If yes, please explain**
7 **Newfoundland Power’s approach to undertaking such work? If no, why not?**
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9 A. Newfoundland Power’s ongoing heat pump load research study is seeking to understand
10 the quantitative relationship between weather and heat pump performance, including the
11 impact on peak demand. The *Heat Pump Load Study Winter 2020 Results* report
12 (the “*Heat Pump Study*”) includes data from 2 climate zones from the period January
13 through March 2020.¹ Climate Zone 1 includes the Grand Falls, Gander, Corner Brook,
14 and Stephenville areas, which represent approximately 32% of Newfoundland Power’s
15 customers. Climate Zone 2 includes the St. John’s, Avalon, Bonavista, and Burin areas,
16 which represent approximately 68% of Newfoundland Power’s customers.
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18 The results from the *Heat Pump Study* show average demand savings during peak hours
19 of approximately 13% for Climate Zone 2 and approximately 2% for Climate Zone 1.²
20 The *Heat Pump Study* concluded that the differences in outdoor temperature were the
21 main reason for the lower savings in Climate Zone 1. However, this conclusion is being
22 further assessed based on heat pump load research data compiled over the January 2020
23 to April 2021 period. A final report on heat pump load over this period is expected to be
24 finalized in the Fall of 2021.
25

26 So far, heat pump load research data has been compiled during the 2019-2020 and 2020-
27 2021 winter seasons. Each of these winter seasons has been relatively mild and did not
28 include extended periods of cold winter conditions that can occur in Newfoundland. As a
29 result, Newfoundland Power, in consultation with Newfoundland and Labrador Hydro, is
30 considering extending the load research study into future winter seasons to better
31 understand heat pump load behaviour during extended cold periods.

¹ The *Heat Pump Study* was filed as Attachment A to response to Request for Information NLH-NP-062.

² See *Heat Pump Study*, Table 7 – Average Demand Savings during the Peak Hours.