

1 Q. **Reference: Requests for Information NP-NLH-011 to NP-NLH-014.**

2 Please outline the maximum non-firm load available for the Labrador Interconnected System
3 and please describe the system constraint scenario(s) that would result in the non-firm load not
4 being available to the customer(s).

5

6

7 A. The maximum non-firm capacity that is available for the Labrador Interconnected System is
8 provided in Schedule 1 of the application.¹

9 The system constraints² scenarios that would result in Newfoundland and Labrador Hydro
10 (“Hydro”) not supplying non-firm customers could be as a result of capacity limitations of
11 supply, transmission infrastructure, or interconnection infrastructure. Non-firm customers will
12 be supplied capacity up to the minimum of these three constraints. Each of these constraints are
13 further described below including an example.

14 **Supply**

15 Hydro will calculate, in real-time, the remaining supply available to service Labrador
16 Interconnected System non-firm customers. The remaining supply in Labrador is the unused
17 portion of the TwinCo³ and Recapture Blocks; please refer to Hydro’s response to NP-NLH-010 of
18 this proceeding.

19 The total remaining available supply will be divided by the amount of customers availing of the
20 non-firm rate. This will be the supply allocated to each customer.

21 Example:

- 22
 - Remaining Supply = 120 MW, Number of Non-Firm Customers = 7
- 23 120 MW/7 customers = 17.1 MW per customer.

¹ “Application for Non-Firm Rate for Labrador,” Newfoundland and Labrador Hydro, rev. March 29, 2023 (originally filed September 15, 2022), sch. 1, p. 3, table 1.

² Any calculations or data used for determining maximum supply or capacity are based on system studies or analysis taking into account the system constraints definition presented in Hydro’s response to NP-NLH-011 of this proceeding.

³ Twin Falls Power Corporation Limited (“TwinCo”).

1 **Transmission**

2 Hydro will calculate, in real-time, the remaining transmission capacity (transmission assets
3 include transmission lines, terminal station equipment) available to service Labrador
4 Interconnected System Non-Firm customers. As the transmission system assets are separate for
5 Labrador West and Labrador East regions, this calculation will be done for each system.

6 The total remaining available transmission capacity will be divided by the amount of customers
7 availing of the non-firm rate in that region. This will be the transmission capacity allocated to
8 each customer.

9 Example:

- 10 ● Remaining Transmission Capacity, LabWest = LabWest Transmission Capacity - LabWest Firm
11 Load

12 40 MW = 300 MW - 260 MW

13 Total LabWest Non-Firm Customers = 4

14 40 MW/4 customers = 10 MW per customer.

- 15 ● Remaining Transmission Capacity, LabEast = LabEast Transmission Capacity - LabEast Firm
16 Load

17 25 MW = 100 MW - 75 MW

18 Total LabEast Non-Firm Customers = 3

19 25 MW/3 customers = 8.3 MW per customer

20 **Interconnection**

21 Hydro will complete interconnection studies for each non-firm customer's specific
22 interconnection to the system and this study will indicate the maximum amount of capacity (by
23 season, if appropriate) this interconnection can supply to the customer.

24 Example:

- 25 ● LabWest Customer Interconnection Capacities:

26 Customer A: 15 MW

1 Customer B: 10 MW

2 Customer C: 8 MW

3 Customer D: 5 MW

4 • LabEast Customer Interconnection Capacities:

5 Customer E: 10 MW

6 Customer F: 8 MW

7 Customer G: 5 MW

8 **Final Calculation**

9 Each non-firm customer's maximum supply allocations can now be computed as the minimum
10 of the supply, transmission, and interconnection capacities above.

11 Customer A: $\text{MIN}(17.1 \text{ MW}, 10 \text{ MW}, 15 \text{ MW}) = 10 \text{ MW}$

12 Customer B: $\text{MIN}(17.1 \text{ MW}, 10 \text{ MW}, 10 \text{ MW}) = 10 \text{ MW}$

13 Customer C: $\text{MIN}(17.1 \text{ MW}, 10 \text{ MW}, 8 \text{ MW}) = 8 \text{ MW}$

14 Customer D: $\text{MIN}(17.1 \text{ MW}, 10 \text{ MW}, 5 \text{ MW}) = 5 \text{ MW}$

15 Customer E: $\text{MIN}(17.1 \text{ MW}, 8.3 \text{ MW}, 10 \text{ MW}) = 8.3 \text{ MW}$

16 Customer F: $\text{MIN}(17.1 \text{ MW}, 8.3 \text{ MW}, 8 \text{ MW}) = 8 \text{ MW}$

17 Customer G: $\text{MIN}(17.1 \text{ MW}, 8.3 \text{ MW}, 5 \text{ MW}) = 5 \text{ MW}$