

1 Q. **Reference: Volume I, Section 6.7.3; Table 6-7; Exhibit 17**

2 Hydro proposes two seasonal second-block prices, one for December through March and
3 another for April through November, notwithstanding that the underlying marginal energy
4 values vary by hour and by month.

5 a) Explain the economic rationale for averaging hourly or monthly marginal energy costs
6 into two seasonal prices.

7 b) Provide the load-weighted marginal cost for each month of the Test Year for the Island
8 Industrial class.

9 c) Provide the annual quantity of second-block consumption occurring in each month and
10 the weighting methodology used to derive the seasonal rates.

11 d) Quantify the difference between revenues and customer bills under the proposed two-
12 season design and under monthly marginal-cost-based second-block prices.

13 e) Explain if Hydro considered time-of-use or other temporal differentiation within the
14 winter and non-winter seasons and provide any analysis performed.

15 f) Explain the criterion Hydro used to determine that the efficiency gain from additional
16 temporal differentiation did not justify the associated complexity.

17
18
19 A. *This response was provided by Christensen Associates Energy Consulting.*

20 a) Hourly marginal costs are load-weighted using the Island Industrial class load profile and
21 averaged by season to develop seasonal marginal energy prices. This approach incorporates
22 the underlying marginal costs to provide a seasonal price structure and signal to customers.
23 The resulting seasonal energy prices convey information about the relative cost of serving
24 energy at different times of the year, thereby encouraging industrial customers to schedule
25 discretionary activities, such as maintenance outages or incremental production, during
26 periods when system costs are lower.

- 1 **b)** Monthly load-weighted marginal costs for the Island Industrial class are provided in the
2 table below.

Month	Load- Weighted Marginal Cost
January	\$127.69
February	\$100.62
March	\$43.44
April	\$25.60
May	\$23.09
June	\$27.16
July	\$47.55
August	\$42.51
September	\$26.96
October	\$26.72
November	\$44.67
December	\$87.17

- 3 **c)** The methodology for developing seasonal rates is as follows: Forecasted 2027 Island
4 Industrial hourly load profiles are aggregated across customers and then multiplied by the
5 corresponding hourly marginal costs to calculate hourly costs to serve. Seasonal rates are
6 then calculated by dividing the total hourly cost to serve within each season by the
7 corresponding total consumption for that season.
- 8 For informational purposes only, the monthly and annual second-block energy consumption
9 are provided in the table below.

Month	Second Block Consumption (kWh)
January	22,310,956
February	16,781,389
March	23,693,865
April	18,587,437
May	29,030,926
June	26,120,842
July	29,893,872
August	29,262,194
September	28,420,384
October	23,419,948
November	11,241,143
December	28,247,826
Annual	287,010,782

- d) For confidentiality reasons, the exact revenues from each customer's bill cannot be provided. However, the table below presents the percentage impact in annual bill from converting from seasonal marginal cost pricing to monthly marginal cost pricing for the second block. In the monthly version, Block 1 prices are updated to account for the new methodology, which results in the price increasing from \$0.06694 under the proposed seasonal version to \$0.06720 under the alternative monthly version requested here. As the table demonstrates, the percentage differences between annual bills are small.

Customer	Percent Difference
1	-0.29%
2	0.45%
3	0.65%
4	0.23%
5	-0.51%
6	-0.46%
All	0.00%

- e) In the Wholesale and Industrial Rate Design Review Update Report filed with the Board of Commissioners of Public Utilities on September 30, 2019, Newfoundland and Labrador Hydro ("Hydro") stated that the proposed changes to the Island Industrial rate structure would be limited to those necessary as a result of No. 6 fuel at the Holyrood Thermal

1 Generating Station no longer reflecting the marginal energy cost on the Island
2 Interconnected System. To implement this change, Hydro proposed implementing an energy
3 blocking structure in which the marginal price is based on Hydro's test year average unit
4 value of exports. Consistent with this report, Hydro's proposal in the 2026 General Rate
5 Application limits changes to the rate structure to those noted in the report. Hydro has not
6 offered time-of-use rate to any customer groups at this point. Hydro's proposed design is
7 consistent with the existing Utility Rate, which includes a demand charge and a seasonally
8 differentiated two-block energy charge. Hydro did not pursue incremental benefits from
9 additional temporal differentiation to warrant a different rate structure.