

1 Q. **Reference: Application, Volume I, Section 4.2, Figure 4-1, p 4.4, regarding Hydro's Energy**
2 **under the Muskrat Falls PPA**

3 a) Please indicate the maximum quantities (or the rules used to calculate the maximum
4 quantities) of supplemental energy available to Hydro if it had the Island load to use this
5 power.

6 b) Please provide the year-by-year actuals and forecasts of MF Energy, Base Block Energy,
7 Deferred Energy and Supplemental Energy for 2024 to 2030.

8 c) Please describe the potential for load growth on the Island Interconnected system to
9 make use of added Base Block energy. Specifically:

10 i. Will added use in every hour of the year be supplied by added Base Block energy
11 consumption?

12 ii. If not, what conditions will lead to added Island Interconnected load not being
13 supplied from added Base Block energy (e.g., does it matter which month it
14 occurs? Or system peaks at the time of consumption?). Please be specific about
15 the conditions and likelihood that added load growth will come from other
16 sources (e.g., added Holyrood or CT generation).

17 d) Given supplemental energy is available for \$1 in future years, please describe the
18 circumstances in which Hydro would not monetize the entire deferred energy each year
19 in light of its ability to source low cost supplemental energy in future years.

20 e) Is it reasonable to conclude that Hydro's marginal generation cost for load growth that
21 is supplied by Muskrat Falls supplemental energy is effectively \$0? If not, please explain.

22 f) Section 4.3.1 indicates the Base Block Capital Costs Recovery increased by \$38.2 million
23 from 2024 to 2027 due in part to "a higher volume of energy" being provided. Please
24 provide the annual volumes of energy being referenced in this section for 2024 to 2027.

25 g) Please provide a breakdown of the revenue from exports and how they are credited to
26 Hydro regulated versus non-regulated operations.

1 h) If deferred energy is exported, the GRA appears to note that Hydro regulated operations
2 get the financial credit for this revenue. Is this the only source of export revenue to
3 Hydro regulated and all remaining power exported is credited to Hydro's unregulated
4 operations? If not, please explain.

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7 A. a) According to Article 3.1(b) of the Muskrat Falls Power Purchase Agreement ("PPA"),
8 Newfoundland and Labrador Hydro ("Hydro") can access Supplemental Energy in a given
9 year if the actual Hydro energy requirements exceed the Initial Load Forecast¹ as outlined in
10 Schedule 2 of the Muskrat Falls PPA and if the Supplemental Energy were available from the
11 Muskrat Falls Hydroelectric Generating Facility ("Muskrat Falls Plant"). The maximum
12 quantity of the Supplemental Energy available is the forecasted energy production of the
13 Muskrat Falls Plant, less the Base Block Energy entitlement to Hydro in accordance with
14 Schedule 2 of the Muskrat Falls PPA, less Contracted Commitments, which include the
15 obligated energy to deliver the Nova Scotia Block ("NS Block") to Emera Inc. ("Emera")
16 under the Energy and Capacity Agreement. With respect to Contracted Commitments,
17 Muskrat is restricted from entering into such commitments except to satisfy the NS Block
18 until Hydro has provided a 156-week forecast as noted in Muskrat Falls PPA, Article 3.1(e)(i).

19 If it were assumed that Hydro's actual energy requirements in 2027 exceeded the Initial
20 Load Forecast by 1,500 GWh, the maximum forecasted Supplemental Energy available for
21 Hydro to access in 2027 would be 1,201 GWh, which is calculated as the total forecasted
22 dispatched energy from the Muskrat Falls Plant of 4,504 GWh, less the Base Block Energy of
23 2,317 GWh, less the NS Block of 986 GWh and assuming no other Contracted Commitments
24 at that time.²

¹ Initial Load Forecast means the projected load forecast for each operating year estimated by Hydro at the effective date of the Muskrat Falls PPA, being the amount set forth in Schedule 2.

² Labrador-Island Link ("LIL") deliveries to the Island in the 2027 Test Year are forecasted to be 1,283 GWh. The ability of the LIL to deliver to the Island an increase in total energy requirements of 1,500 GWh would be subject to the limitations of the final under-frequency load shedding, LIL capacity, Island load, Maritime Link exports, and available Muskrat Falls generation.

b) Please refer to Table 1 for annual actuals and forecast of Muskrat Falls Energy, Base Block Energy, Deferred Energy, and Supplemental Energy for the years 2024 to 2030.

Table 1: Muskrat Falls Energy, Base Block Energy, Deferred Energy and Supplemental Energy (GWh)³

	Actual 2024	Actual 2025	Forecast 2026	Test Year 2027	Forecast 2028	Forecast 2029	Forecast 2030
Base Block Energy Entitlement ⁴	2,024	2,132	2,241	2,317	2,392	2,468	2,544
Supplemental Energy	-	-	-	-	-	-	-

c) i. Based on the current load growth projections for the 2027 Test Year,⁷ and under normal operating conditions, Hydro anticipates that potential load growth on the Island Interconnected System would be served through available Base Block Energy in all hours of the year, while the Holyrood Thermal Generating Station (“Holyrood TGS”) remains available for winter operation with the units online operating at minimum load. However, Hydro may be required to utilize incremental Holyrood TGS and/or standby generation when critical system assets experience forced outages, such as an unplanned outage of the LIL.

ii. Please refer to Hydro’s response to part c) i.

d) Hydro will not be able to monetize the entire Deferred Energy balance in a given year if Muskrat Falls Corporation (“Muskrat Falls”) has not sold a sufficient quantity of energy as Residual Block sales to other customers to fund payment to Hydro for the value of the Deferred Energy. As a result, the maximum amount of Deferred Energy that Hydro can monetize in a year is limited to the amount of Residual Block Energy sold by Muskrat Falls.

³ GWH in Atlantic Prevailing Time.

⁴ As defined in Schedule 2 of the Muskrat Falls PPA.

⁷ For more information regarding Hydro’s Load Forecast, please refer to “2026 General Rate Application,” Newfoundland and Labrador Hydro, May 27, 2026, vol. I, ch. 2, sec. 2.1.4, p. 2.13, Table 2-1.

1 Assuming monetization is not constrained by insufficient Residual Block sales, it is highly
2 unlikely that Hydro will elect to defer monetization of available Deferred Energy to a future
3 year. Under Article 3.1(d) of the Muskrat Falls PPA, energy is delivered in the following
4 order: Base Block Energy, Supplemental Energy, and then Deferred Energy. In addition,
5 Article 3.1(f) of the Muskrat Falls PPA provides Hydro with the option, under dry Island
6 conditions, to designate Base Block Energy from a future Operating Year to meet current-
7 year requirements. If Hydro exercises this option, the designated Base Block Energy is no
8 longer available in the future Operating Year.

9 Theoretically, Hydro could choose not to monetize all available Deferred Energy if it
10 forecasted that its energy requirements in a particular year would exceed the combination
11 of Base Block and Supplemental Energy and Hydro's other sources of supply, and it wished
12 to preserve Deferred Energy for future use. However, Deferred Energy is the last source of
13 energy supplied under the Muskrat Falls PPA, and Hydro does not currently expect to
14 require its full Base Block entitlement in the near term. Accordingly, assuming sufficient
15 Residual Block sales are available to support payment by Muskrat Falls, Hydro expects to
16 continue monetizing its Deferred Energy balance on an annual basis.

17 e) No, it is not reasonable to assume that Hydro's marginal energy costs are zero. Hydro's
18 marginal energy costs are based on opportunity costs, which represent the expected
19 electricity prices derived from the wholesale electricity market over forward periods. Further
20 information on the methodology used to calculate Hydro's marginal costs is provided in the
21 2018 Marginal Cost Study Update.⁸ Hydro updates its marginal cost estimates annually.

22 f) The annual volume of energy being referenced is the Base Block Energy from Schedule 2 of
23 the Muskrat Falls PPA. Table 2 provides the annual volumes for 2024 through 2027.

Table 2: Base Block Energy Volumes (GWh)

	2024	2025	2026	2027
Base Block Energy	2,024	2,132	2,241	2,317

⁸ "Marginal Cost Study Update – 2018 – Summary Report," Newfoundland and Labrador Hydro, November 15, 2018, <http://www.pub.nf.ca/indexreports/From%20NLH%20-%202018%20Marginal%20Cost%20Study%20Update%20-%202018-11-15.PDF>.

g) Excess energy not delivered to Hydro’s regulated business (“Hydro Regulated”) as Muskrat Falls PPA Base Block Energy or to Nova Scotia as NS Block Energy deliveries can be sold in external export markets or used for other domestic purposes (i.e., to service Labrador customers). This energy is referred to as Residual Block Energy. Muskrat Falls can sell the Residual Block Energy, through Nalcor Energy Marketing Corporation (“Energy Marketing”), to external market customers or to Hydro to use for other purposes.

As described in Chapter 4, Section 4.2.1 of Hydro’s 2026 General Rate Application, when Hydro Regulated does not require all of its Base Block Energy entitlement, it has the option to defer and later monetize the unused energy at the Average Annual Sales Price, not to exceed the value of the Residual Block sales that Muskrat Falls sold in that year. The full benefit of Hydro Regulated’s monetized deferred energy is provided to customers. The net profit from Residual Block sales that are over and above the amount that Hydro Regulated monetizes is recognized by Muskrat Falls and paid to Hydro as a dividend in its non-regulated operating segment and may be used for rate mitigation.

The breakdown of revenue from Residual Block export sales and how they are applied to Hydro Regulated and Hydro Non-Regulated is presented in Table 3.

Table 3: Breakdown of Revenue from Residual Block Export Sales (\$ Millions)⁹

	Actual 2024	Actual 2025	Forecast 2026	Test Year 2027
Residual Block Revenue	93.0	70.8	82.5	83.0
Hydro Regulated (Monetized Deferred Energy)	73.8	48.8	29.6	38.1
Hydro Non-Regulated	19.2	22.0	52.8	44.9
	93.0	70.8	82.5	83.0

h) Hydro’s Regulated operations have multiple sources of export revenue, including monetized deferred energy under the Muskrat Falls PPA, Recapture Energy as further outlined in

⁹ Numbers may not add due to rounding.

- 1 Hydro's response to LAB-NLH-010 of this proceeding, and export revenue associated with
- 2 ponding and spill avoidance.