

1 **Q. (Reference Application Volume 2, Topsail Hydro Plant Refurbishment) Please**
 2 **confirm that the evaluation of the Topsail refurbishment is based on marginal costs**
 3 **that are over 1 ½ years old and at a time when Hydro’s Reliability and Supply**
 4 **Adequacy Study has not yet been completed. What is the risk of the proposed**
 5 **investment in the Topsail plant becoming stranded before the end of its useful life**
 6 **assumed in the evaluation?**

7
 8 A. This is not confirmed. Hydro filed its Reliability and Resource Adequacy Study (the
 9 “RRA Study”) with the Board on November 16, 2018. On November 15, 2019, Hydro
 10 filed a 2019 update to the RRA Study. The Board’s review of Hydro’s RRA Study is
 11 ongoing and a further update to the RRA Study is expected from Hydro this fall.¹

12
 13 The *Topsail Hydro Plant Refurbishment* project primarily consists of the 2nd year of a
 14 multi-year project approved by the Board to replace the penstock.² At the time the
 15 *Topsail Hydro Plant Penstock Replacement* project was filed as part of the Company’s
 16 *2020 Capital Budget Application*, the economic analysis was based on the latest marginal
 17 cost update from Hydro, dated November 15, 2018.³

18
 19 Using Hydro’s 2018 marginal cost update, the forecast levelized system value of
 20 production of the Topsail plant was determined to be 12.47 ¢/kWh for fully dispatchable
 21 and 13.01 ¢/kWh for a run-of-river plant. The levelized cost of production of the plant is
 22 6.69¢/kWh.⁴ This indicates that continued operation of the Plant is economically
 23 justified and least-cost for customers.

24
 25 Hydro provided Newfoundland Power with an update to its marginal costs on
 26 April 9, 2020.⁵ For the purposes of this response, Newfoundland Power updated its
 27 economic analysis for the continued operation of the Topsail Plant based on Hydro’s
 28 2020 marginal cost update.

29
 30 Using Hydro’s 2020 marginal cost update, the forecast levelized system value of
 31 production of the Topsail plant is calculated to be 11.11 ¢/kWh for a fully-dispatchable
 32 plant, and 12.20 ¢/kWh for a run-of-river plant. The analysis therefore confirms that the

¹ In its February 25, 2020 letter to the Board, Hydro indicated that its 2020 update to its RRA Study is planned to be filed with the Board on November 15, 2020.

² The Topsail Hydro Plant Refurbishment was approved in Order No. P.U. 5 (2020) to replace the penstock at the Company’s Topsail hydroelectric development. Approximately \$8.9 million in 2021 is approved to install the new penstock. In the current application, the Company is seeking the Board’s approval to replace the intake gate (\$220,000) and refurbish the turbine runner (\$240,000) in 2021. See the *2021 Capital Budget Application, Volume 2, Report 1.2 Topsail Hydro Plant Refurbishment*.

³ A detailed project description can be found in the *2020 Capital Budget Application, Schedule B*, pages 9 to 10 and report *1.4 Topsail Hydro Plant Penstock Replacement*.

⁴ See Newfoundland Power’s *2021 Capital Budget Application, Volume 1, Schedule B*, page 5.

⁵ Hydro’s 2020 marginal cost update has been used in Newfoundland Power’s *2021 Capital Budget Application*. For example, the energy and capacity related values associated with the Company’s hydro facilities are estimated using the 2020 marginal cost update from Hydro (see the *2021 Capital Budget Application, Volume 1, Schedule B*, page 3). Further, the 2020 marginal cost update is used to evaluate the Company’s proposed *LED Street Lighting Replacement Plan* (see the *2021 Capital Budget Application, Volume 1, LED Street Lighting Replacement Plan, Appendix B, Section 1.3*, page B-2).

1 benefit of the continued operation of the Topsail Plant is greater than the levelized cost of
2 production of 6.69¢/kWh using the latest marginal cost information.
3

4 Attachment A provides the calculation of the levelized system benefit of continued
5 operation of the Topsail Hydro Plant over the 50-year analysis period, using the latest
6 marginal cost information, and includes details of the energy and capacity components of
7 the forecast levelized system value of production.
8

9 Newfoundland Power is not aware of any information that would suggest there is risk that
10 the Topsail Plant would become stranded within the next 50 years.⁶ For further
11 information on the future role of Newfoundland Power's hydro generation facilities, see
12 the response to Request for Information PUB-NP-010.

⁶ The analysis included work to be completed over the next 50 years, including 2020 and 2021. See Newfoundland Power's *2021 Capital Budget Application, Volume 2, Report 1.2 Topsail Hydro Plant Refurbishment*, page 8.

Topsail Hydro Plant Refurbishment
2020 Update of Economic Evaluation Results

Table 1
Topsail Hydro Plant Refurbishment
2020 Update of Economic Evaluation Results

	50 Year¹ Levelized Value	Net benefit
Cost of Plant Production	6.69 ¢/kWh	
Benefits of Production (Run of River)		
Value of Energy	6.25 ¢/kWh	
Value of Capacity	<u>5.95 ¢/kWh</u>	
Total	12.20 ¢/kWh	5.51 ¢/kWh
Benefits of Production (Fully Dispatchable)		
Value of Energy	6.25 ¢/kWh	
Value of Capacity	<u>4.86 ¢/kWh</u>	
Total	11.11 ¢/kWh	4.42 ¢/kWh

¹ Analysis covers the 50-year period from 2020 to 2069.