

1 **Q. (Reference Application Volume 2, Topsail Hydro Plant Refurbishment) Please**
 2 **demonstrate how NP has incorporated customer preferences, planning criteria,**
 3 **system reliability, asset condition and benchmarking for this project. Please identify**
 4 **the risk impacts of not proceeding with this project in 2021 both in terms of the**
 5 **probability of failure and the consequences of failure.**
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7 A. See the response to Request for Information CA-NP-008 for information on how
 8 Newfoundland Power incorporates customer preferences into its *2021 Capital Budget*
 9 *Application*.

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 11 See the response to Request for Information CA-NP-007 for information on how
 12 Newfoundland Power incorporates benchmarking into its *2021 Capital Budget*
 13 *Application*.

14
 15 The *Topsail Hydro Plant Refurbishment* project includes expenditures comprising a
 16 multi-year project to be completed in 2020 and 2021, which was approved by the Board
 17 in Order No. P.U. 5 (2020). The 2021 expenditures for which approval is sought in the
 18 *2021 Capital Budget Application* are for the replacement of the intake gate (\$220,000)
 19 and overhaul of the turbine runner (\$240,000).
 20

21 In its order approving the multi-year project, the Board stated:
 22

23 *“The Board believes that the evidence demonstrates that the proposed Petty*
 24 *Harbour Hydro Plant Refurbishment and Topsail Hydro Plant Penstock*
 25 *Refurbishment projects are necessary to ensure continued reliable and safe*
 26 *operation of the plants and should not be delayed. In addition, approval of these*
 27 *projects is consistent with the provision of least-cost reliable service. The*
 28 *engineering reports confirm that the woodstave penstocks and steel cradles have*
 29 *reached or passed the end of useful life and are in poor or very poor condition.*
 30 *In addition ice build-up represents a public safety hazard. The economic analysis*
 31 *which was done by Newfoundland Power and Mitchelmore Engineering Company*
 32 *showed that continued operation of both plants is economically justified. The*
 33 *Board does not believe that the deferral or delay of these projects is in keeping*
 34 *with the provision of least-cost reliable service. The Board is satisfied that the*
 35 *expenditures associated with these hydro plant refurbishments have been justified*
 36 *and this project should be approved.”¹*

37
 38 The portions of the *Topsail Hydro Plant Refurbishment* project involving the intake gate
 39 and the turbine runner are supported by inspections and engineering assessments of the
 40 relevant plant and equipment.² They are economically justified on the basis of the low

¹ See Order No. P.U. 5 (2020), Page 7, lines 4-14.

² See *2020 Capital Budget Application, Report 1.4 Topsail Hydro Plant Penstock Replacement* for details pertaining to the need to replace the Topsail Hydro Plant penstock. See *2021 Capital Budget Application, Volume 2, 1.2 Topsail Hydro Plant Refurbishment* for the assessment relating to the Topsail Hydro Plant intake gate and turbine runner.

1 cost energy and capacity support for the Island Interconnected System provided by the
2 Topsail Hydro Plant.³ An economic analysis was provided in support of the continued
3 operation of the Topsail Hydro Plant. The results of the analysis show that the continued
4 operation of the plant, including the proposed 2021 capital expenditures, is economical
5 over the long term.⁴
6

7 The Topsail Hydro Plant is not currently in service and the proposed 2021 capital
8 expenditures are necessary to return the plant to safe, reliable operation. Once returned to
9 service, the plant will contribute to low cost energy production and capacity support on
10 the Island Interconnected System.⁵ The consequence of not proceeding with this project
11 in 2021 would be a need to replace the production of the plant with more expensive
12 sources of supply for Newfoundland Power's customers. The probability of customers
13 incurring higher supply costs as a result of this project not proceeding is high.

³ See the response to Request for Information PUB-NP-010 for information on how Newfoundland Power's hydro plants contribute to the production of low cost energy and capacity support on the Island Interconnected System.

⁴ See *2021 Capital Budget Application, Volume 2, 1.2 Topsail Hydro Plant Refurbishment, Section 4.2 Economic Analysis*. See also the response to Request for Information CA-NP-105 for the results of an updated economic analysis that includes updated marginal costs.

⁵ Annual production from the Topsail plant equates to approximately 13.3 GWh.