

1 **Q. (Reference Application Schedule B, page 22 of 98) It is stated with regard to the**
 2 **Transmission Line Rebuild (Clustered) project “Rebuilding transmission line 124L**
 3 **in 2021 is necessary to replace deteriorated and deficient infrastructure identified**
 4 **through an inspection in 2020.” Please quantify risk, reliability and rate impacts on**
 5 **customers if this project were deferred by two years. With respect to risk, please**
 6 **identify the probability of failure and the consequences of failure and how this risk**
 7 **analysis was undertaken.**

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 9 A. The *Transmission Line Rebuild* project includes rebuilding a 30 kilometre section of
 10 Newfoundland Power’s 138 kV transmission line 124L.¹

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 12 Transmission line 124L is part of the 138 kV transmission system in Central
 13 Newfoundland which connects Newfoundland and Labrador Hydro’s (“Hydro”)
 14 Sunnyside and Stony Brook terminal stations.² It also provides the sole source of supply
 15 for Newfoundland Power’s Glovertown, Terra Nova and Port Blandford substations
 16 serving approximately 3,700 customers. The consequences of a failure of transmission
 17 line 124L are high considering the number of customers served.

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 19 Newfoundland Power relies upon its annual inspection and maintenance programs as well
 20 as engineering assessments to assess the condition and risk of failure of transmission
 21 infrastructure. An inspection and engineering assessment of 124L was completed in
 22 2020. The assessment concluded that: (i) 83% of the poles are deteriorated and at risk of
 23 failure; and (ii) 53% of the ball link eye bolts are deteriorated and at risk of failure.³ A
 24 failure of any of these deteriorated components is likely to lead to customer outages and
 25 costs related to the restoration of power. As a result, the proposed work to rebuild 30
 26 kilometres of transmission line 124L is justified on the obligation to provide reliable
 27 service to customers at least cost and cannot be deferred.

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 29 Forecast revenue requirement is the primary determinant of customer rates.⁴ The *pro-*
 30 *forma* rate impact of this project on the Company’s 2021 and 2022 revenue requirement
 31 is approximately 0.05%.⁵

¹ Transmission line 124L was originally constructed in 1964 and is approximately 86km in length. See *2021 Capital Budget Application, Volume 2, report 3.1 2021 Transmission Line Rebuild* for detailed information regarding the proposed rebuild of a 30 kilometre section of transmission line 124L.

² The 138kV transmission system in Central Newfoundland provides support to the main 230kV transmission corridor in the province. It also provides service to approximately 32,000 Newfoundland Power customers in Central Newfoundland as well as Hydro’s customers located on Fogo Island.

³ Ball link eye bolts are steel hardware components of transmission lines that connect insulators to the transmission line crossarms.

⁴ See *2021 Capital Budget Application, Volume 1, Capital Plan, Section 2.3 Capital Investment and Customer Costs*. The *pro-forma* revenue requirement estimates provided by the Company are practically limited as they do not include potentially higher revenues from customer growth projects, or the long-term effect that fully justified capital expenditures have on minimizing aggregate costs and thus revenue requirements.

⁵ The *pro-forma* revenue requirement impact of the proposed expenditures in 2021 and 2022 is \$0.2 million and \$0.5 million, respectively. Current customer rates were approved by the Board in Order No. P.U. 31 (2019) and are based on the Company’s adjusted 2020 revenue requirement of approximately \$754 million $((\$0.2 \text{ million} + \$0.5 \text{ million}) / (\$754 \text{ million} + \$754 \text{ million}) = 0.00046)$.