

1 **Q. (Reference Application Schedule B, Rebuild Distribution Lines, page 44 of 99) It is**
 2 **stated “This project is justified on the obligation to provide reliable service to customers**
 3 **at least cost and cannot be deferred.”**
 4

- 5 **a) Please provide evidence based on reliability criteria that Newfoundland Power**
 6 **will be unable to provide reliable service at least cost if it were to delay this project.**
 7 **b) Please quantify the impact on the following if the project were delayed by two**
 8 **years: 1) reliability, 2) cost, and 3) the risk and consequences of failure.**
 9 **c) Please indicate when the Rebuild Distribution Lines project began. What**
 10 **efficiency improvements have been made in the administration of the program**
 11 **and how much have these improvements decreased the costs of the program?**
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- 13 a) Newfoundland Power manages its capital expenditures in a manner that balances both
 14 the cost and reliability of the service provided to its customers.¹ The Company is
 15 focused on maintaining current levels of overall service reliability for its customers at
 16 the lowest possible cost.² The 2022 *Rebuild Distribution Lines* project is consistent
 17 with this objective.
 18

19 The *Rebuild Distribution Lines* project is part of Newfoundland Power’s annual
 20 preventative maintenance program for its distribution lines. Distribution lines are
 21 inspected on a 7-year cycle in accordance with the criteria outlined in the Company’s
 22 *Distribution Inspection and Maintenance Practices*.³ These practices establish that:
 23

- 24 (i) Deficiencies identified through inspections are to be recorded in the
 25 Company’s computerized asset management system, Avantis.
 26 (ii) All key components of a distribution line shall be inspected in accordance
 27 with the guidelines provided. For example, poles are inspected for their
 28 condition, including any splits, cracks or rot.
 29 (iii) Inspection personnel must assign a Maintenance Priority for each deficiency
 30 identified, indicating whether the work is required immediately, within the
 31 current year, or within the next budget cycle.
 32

33 Deficiencies identified for the next budget cycle are completed under the annual
 34 *Rebuild Distribution Lines* project.⁴
 35

36 The 2022 *Rebuild Distribution Lines* project involves the planned replacement of
 37 deteriorated structures and hardware on 43 of the Company’s distribution feeders.⁵
 38 This will include the selective replacement of line components or, in some cases, the

1 See response to Request for Information NLH-NP-042.

2 See response to Request for Information CA-NP-014.

3 It has been found that these inspection and maintenance practices are good utility practice. See section 7.2.3 of the Board’s Phase One Report, September 29, 2016, in the Investigation and Hearing into Supply Issues and Power Outages on the Island Interconnected System.

4 Higher-priority deficiencies are completed under the annual *Reconstruction* project during the year in which they are identified.

5 See the 2022 *Capital Budget Application, Schedule B*, page 40.

1 planned rebuilding of sections of line. The 2022 budget estimate for this project is
2 based on recent requirements for addressing deterioration on the distribution system.

3
4 The 2022 *Rebuild Distribution Lines* project is consistent with maintaining current
5 levels of service reliability for customers at the lowest possible cost, as further
6 described in part b).

- 7
8 b) Delaying the *Rebuild Distribution Lines* project by 2 years would effectively suspend
9 Newfoundland Power's preventative maintenance program for its distribution system.
10 Suspending preventative maintenance increases the risk of component failures on the
11 distribution system. The primary consequences of component failures on the
12 distribution system is reduced service reliability for customers and increased costs.⁶

13
14 A 2-year delay in preventative maintenance would create backlogs of deficiencies
15 identified during inspections. Failing to address identified deficiencies increases the
16 risk that deteriorated poles or hardware will result in customer outages. The
17 consequences of this can be significant. For example, the distribution feeders to be
18 addressed in 2022 serve over 30,000 customers, with upwards of approximately 2,200
19 customers per feeder.

20
21 Creating backlogs of deficiencies for 2 years would simply increase costs to
22 customers in the future as capital expenditures would still be required to address
23 identified deficiencies.

24
25 Additionally, failing to address identified deficiencies would result in more
26 unplanned maintenance as components fail. Unplanned maintenance is generally
27 more costly than planned maintenance. This is because planned maintenance can be
28 organized such that multiple deficiencies at a site are addressed at once, maximizing
29 efficiencies in executing the work. Unplanned maintenance often occurs on an
30 emergency basis outside of normal business hours. This can result in higher labour
31 and contractor costs, as well as higher materials costs if the necessary materials are
32 not readily available.

33
34 Delaying the 2022 *Rebuild Distribution Lines* project would therefore be inconsistent
35 with the delivery of reliable service to customers at the lowest possible cost.

- 36
37 c) The *Rebuild Distribution Lines* project was introduced as an annual capital project in
38 2004. Expenditures under this project have been reasonably stable since 2004. On an
39 inflation-adjusted basis, expenditures for this project were approximately \$4.6 million
40 in 2004, compared to a 2022 budget of approximately \$4.3 million.

41
42 Newfoundland Power has improved the efficiency of its distribution inspection and
43 maintenance practices through the use of technology. For example, the Company has

⁶ For information on Newfoundland Power's approach to quantifying risks and benefits, see response to Request for Information CA-NP-014.

1 implemented a mobile software application as part of its asset management system.
2 The mobile application is used by Planners completing inspections to capture
3 deficiencies, pictures and job planning data in the field. The mobile application is
4 also used to create work orders to address identified deficiencies, which reduces the
5 manual re-keying of information once Planners return to the office.
6

7 Additionally, the Company has implemented a mobile Geographic Information
8 System (“GIS”). This application provides Planners with a map of a feeder and
9 allows them to track inspection progress. Regional operations also use the mobile
10 GIS to note any damage to distribution structures observed when patrolling a feeder.
11 This information is automatically provided to operations employees to permit
12 efficient repair or replacement planning.