

1 **Reference: "2023 Capital Budget Application," Newfoundland Power Inc., June 29,**  
 2 **2022, Schedule B, p. 8, para. 2 (Distribution Reliability Initiative).**

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 4 **Q. Newfoundland Power has proposed a targeted refurbishment of**  
 5 **Summerford ("SUM") Substation distribution feeder SUM-01 for**  
 6 **2023 and 2024, which will include:**

- 7  
 8 (i) **Replacing 6.5 kilometres of deteriorated conductor;**  
 9  
 10 (ii) **Replacing poles, structures and other components identified**  
 11 **during inspection as being in poor condition, including**  
 12 **crossarms and insulators;**  
 13  
 14 (iii) **Installing an automated downline recloser on the two-phase**  
 15 **tap supplying the Virgin Arm/Moreton's Harbour area; and**  
 16  
 17 (iv) **Replacing the existing hydraulic-style downline recloser, SUM-**  
 18 **01-R3, with a fully automated recloser.**

- 19  
 20 a) **What would be the reliability improvement associated with each**  
 21 **individual upgrade listed?**  
 22  
 23 b) **If only a subset of these upgrades is performed, would this system**  
 24 **meet Newfoundland Power's average reliability indices? Please**  
 25 **explain.**  
 26  
 27 c) **Please explain why installing and replacing the reclosers is expected to**  
 28 **improve reliability and why it needs to be included as part of these**  
 29 **upgrades.**

30  
 31 A. a) Newfoundland Power cannot predict the reliability improvement associated with  
 32 any of the listed individual upgrades in isolation from the remaining upgrades.

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 34 The proposed upgrades are targeting a 6.5 kilometre section of the  
 35 100 kilometres of distribution line on distribution feeder SUM-01. This 6.5  
 36 kilometre section has been identified to have 140 deficiencies, including 79  
 37 deteriorated poles as well as deteriorated 2/0 Aluminum Conductor Steel  
 38 Reinforced ("ACSR") conductor.<sup>1</sup>

39  
 40 The individual upgrades that are identified are required to be completed together  
 41 to ensure that reliability improvements are realized for customers supplied by  
 42 distribution feeder SUM-01.

- 43  
 44 b) Completing only a subset of the identified upgrades would not be expected to  
 45 result in distribution feeder SUM-01 meeting Newfoundland Power's average

<sup>1</sup> See the *2023 Capital Budget Application*, report 1.1 *Distribution Reliability Initiative*.

1 reliability indices. For example, replacing conductor without replacing  
2 deteriorated poles, crossarms, insulators and other line components would not  
3 sufficiently address the cause of the poor reliability performance of distribution  
4 feeder SUM-01.<sup>2</sup>  
5

- 6 c) The installation of fully automated downline reclosers would provide automatic  
7 fault isolation and fault information to Newfoundland Power crews during an  
8 outage situation, which would result in a more focused approach to patrolling the  
9 line to identify the cause of an outage. This, in turn, would result in shorter  
10 outages.  
11

12 For example, the two-phase tap supplying the Virgin Arm/Moreton's Harbour  
13 area on distribution feeder SUM-01 is approximately 21 kilometres in length. The  
14 installation of a fully automated downline recloser on the tap would isolate any  
15 faults on that section of feeder and avoid outages to customers supplied by the  
16 remaining 80 kilometres of distribution line on the feeder. The recloser would  
17 also significantly reduce outage patrol and restoration times for customers  
18 supplied from the tap. This is particularly beneficial given the geographic  
19 location of the feeder, which can result in prolonged response times and longer  
20 duration outages to customers.

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<sup>2</sup> See the response to Request for Information NLH-NP-012 for a breakdown of outage causes by equipment type on distribution feeder SUM-01.