

- 1 **Q.** (Reference 2022 Capital Expenditure Report, Appendix A, Transmission Line
 2 Rebuild (124L), page 2 of 8) NP indicates that the budgeted Transmission Line
 3 Rebuild (124L) was 43% higher than the budget estimate. The budget set out
 4 in the NP 2022 CBA was \$6,021,000. The Actual Cost turned out to be
 5 \$8,626,000. With respect to the 43% cost overrun, it is stated "*Materials and*
 6 *construction labour costs were higher than anticipated for the rebuild of*
 7 *Transmission Line 124L as a result of increased site work requirements. This*
 8 *was primarily the result of the requirement to install a larger number of bog*
 9 *structures and dead-end structures than anticipated due to terrain conditions*
 10 *and unanticipated environmental conditions. There were also construction*
 11 *delays and additional contractor labour costs due to additional environmental*
 12 *permitting and approval requirements."*
- 13 a) As this project was a rebuild, would its planning process have included
 14 inspections or engineering reviews?
- 15 b) What portion of the overage was due to material and labour costs and why
 16 did NP do such a poor job of estimating these costs?
- 17 c) How much money was included in the budget for such "bog structures and
 18 dead-end structures"?
- 19 d) What amount of money was included in the budget to cover contingencies?
- 20 e) Why were terrain and environmental conditions not anticipated?
- 21 f) What additional environmental permitting and approval requirements were
 22 needed and why were they not anticipated?
- 23 g) As Transmission Line Rebuild (124L) was a "planned project" did NP obtain
 24 any environmental, geophysical or similar studies to determine the terrain
 25 over which it was planning to rebuild line 124L?
- 26 h) Were any field studies of the terrain over which line 124L was built
 27 undertaken by NP, or was the planning process for Line 124L done by
 28 desktop only?
- 29 i) When was the Transmission Line Rebuild Program initiated? Has
 30 Newfoundland Power experienced cost overruns of this magnitude in the
 31 past?
- 32 j) As the planning process for Transmission Line Rebuild 124L appears to have
 33 been deficient, would NP agree that ratepayers should not be responsible
 34 for this deficiency?
- 35 k) Does a 43% overage show that NP needs to change its estimating process
 36 to a methodology consistent with that documented in the Provisional
 37 Capital Budget Guidelines, or some other estimating methodology?
- 38 l) Please advise when the project was proposed and undertaken, and any
 39 further updates on this project.
- 40 m) Please provide a detailed cost comparison of budget and actual costs
 41 expended on this project. Please include details of every construction delay
 42 and each and every additional contractor labour cost.
- 43
- 44 **A.** a) The planning process for the rebuild of 124L included inspections and engineering
 45 reviews on the condition of the existing transmission line. See Newfoundland
 46 Power's 2022 Capital Budget Application, report 3.1 2022 Transmission Line Rebuild.

1 b) Materials and labour accounted for 68% of the overage on this project. The overage
2 on materials was caused by an increase in the price on raw materials. In addition,
3 Newfoundland Power saw increased labour rates from its transmission line
4 contractor.

5
6 These cost increases resulted from material shortages and higher price escalation
7 than could have been reasonably anticipated at the time the budget estimates were
8 developed.

9
10 c) Approximately \$631,000 was included in the budget amount to account for bog
11 structures and dead-end structures.

12
13 d) Newfoundland Power used a 20% contingency on this project.

14
15 e) The terrain on 124L was covered in heavy timber making it difficult to determine the
16 state of the terrain without completing brush clearing operations. Newfoundland
17 Power does not clear bush on transmission line rights-of-way in advance of seeking
18 project approval.

19
20 As of 2024, the Company anticipates using multi-year projects more extensively for
21 its larger transmission line rebuild projects.¹ With the multi-year project approach,
22 planning and detailed design will be completed in the first year of the project with
23 construction following in the second and subsequent years. In the planning year
24 brush clearing, surveying, design and all applicable permitting would be completed.
25 This would allow Newfoundland Power to identify any risks to the budget and
26 schedule heading into the second year of the project.

27
28 Since the 124L project has been completed Newfoundland Power has also
29 commenced using light detection and ranging ("Lidar") technology. Lidar technology
30 uses eye-safe laser beams to create images in three dimensions, providing a more
31 accurate representation of the surveyed environment. Lidar technology allows the
32 Company to obtain topographic data under heavy tree cover.

33
34 f) Transmission Line 124L was one of the first transmission lines that Newfoundland
35 Power was required to file an environmental assessment for the project. The
36 environmental assessment required additional environmental permitting and
37 procedures to be adhered to by the Company's and contractors' staff on site.

38
39 g) No, Newfoundland Power does not prepare environmental, geophysical, field studies
40 or similar studies in advance of seeking project approval. The Company completed

¹ For example, Transmission Line 146L is proposed to be rebuilt as a multi-year project. In 2024, the work consists of engineering and pre-construction activities, including securing environmental and development permits and approvals, acquiring property rights, completing brush clearing of the new right-of-way, collecting topographic data, finalizing the engineering design, and ordering materials. In 2025, the work consists of establishing construction contracts and completing construction of the new line.

1 an engineering assessment of field conditions which informed the budget estimate
2 for the project.²

3
4 h) See part g).

5
6 i) The *Transmission Line Rebuild Strategy* was initiated in Newfoundland Power's *2006*
7 *Capital Budget Application*, with report *3.1 Transmission Line Rebuild Strategy*. Over
8 the 15-year period from 2006 to 2020 the largest variance recorded was in 2018 at
9 32%. Over this period annual variances ranged from -31% in 2016 to 32% in 2018.
10 In aggregate, over the 15-year period the average variance was virtually zero.³

11
12 j) Newfoundland Power does not agree that the planning process for Transmission Line
13 Rebuild 124L was deficient. Transmission Line 124L is a critical transmission line in
14 the Central Newfoundland 138 kV transmission loop. Significant and serious
15 deficiencies existed on the transmission line that had to be addressed.⁴ The
16 Company's planning process for the *2022 Capital Budget Application* incorporated
17 the best information available.

18
19 k) See the response to Request for Information CA-NP-120.

20
21 l) The Transmission Line 124L rebuild project was approved in Newfoundland Power's
22 *2022 Capital Budget Application*, report *3.1 2022 Transmission Line Rebuild*. The
23 project was undertaken in 2022. This project is completed and the new transmission
24 line is in service.

25
26 m) The Transmission Line 124L project budget estimate was \$6,021,000 with the actual
27 cost for the project \$8,624,000.

28
29 Table 1 provides a breakdown of budgeted amounts and actual expenditures.

Table 1 Transmission Line 124L Breakdown of Budget and Actual (\$000s)		
Description	Budget	Actual
Contract Labour per Kilometre	96	124
Conductor per kilometre ⁵	12	27
Pole Cost per Structure	3.3	3.5
Framing Material per Structure	5.8	6.7

² An example of work completed as part of the engineering assessment included the selection of the right-of-way.

³ In aggregate, there was \$100,430,000 budgeted with total expenditures of \$100,189,000.

⁴ See Newfoundland Power's *2022 Capital Budget Application*, report *3.1 Transmission Line Rebuild*, page 3, Table 2 for a list of deficiencies.

⁵ The increased cost per kilometre for conductor was due to the increase cost of base metals, including aluminum.

- 1 Actual pole and framing costs per structure were on budget. Material and contract
 2 labour costs were higher than budget.
 3
 4 Construction delays on Transmission Line 124L were primarily due to delays in the
 5 construction of the Glovertown Substation and a request by municipal authorities to
 6 complete outages overnight.⁶
 7
 8 Newfoundland Power does not track each and every additional contractor labour
 9 cost. The Company can provide details on additional contractor labour costs it does
 10 have readily available.
 11
 12 Table 2 lists some of the additional contract labour costs associated with the project.

Table 2 124L Additional Contract Labour Items (\$000s)	
Reason for expense	Amount
Nine Additional Bog Structures	173
Nine Additional Dead-end Structures	143
Temporary Tie 121L to 124L	50
Relocate Section of GLV-01 ⁷	43
Mobilization for Tie In/Additional Crews	95
Total	504

⁶ Transmission Line 124L had to be terminated at Glovertown Substation. Without a final 138 kV bus structure to terminate the transmission line, work to finish the line was delayed. This required the transmission contractor to demobilize, and then remobilize when Newfoundland Power was ready to terminate the line.

⁷ The overall cost of this change order was split between the GLV substation project and the 124L transmission line rebuild project.