

- 1 **Q. (Reference Application, 2.1 2025 Substation Refurbishment and**
 2 **Modernization, Appendix C: Lockston Substation Refurbishment and**
 3 **Modernization)**
 4 **a) It is indicated in Table C-3 (page 13) that this project cost is \$305,000 in**
 5 **2025 and \$4,521,000 in 2026 for a total project cost of \$4,826,000 but in**
 6 **Attachment A-1: Summary of Capital Costs as well as in Attachment A-4:**
 7 **Calculation of Levelized Costs and Benefits, page 2, substation**
 8 **refurbishment costs are given as \$28,000 and \$1,170,000, respectively.**
 9 **Please reconcile, and in particular explain how the \$4,826,000 project cost**
 10 **is incorporated in the analysis.**
 11 **b) Please confirm that the discount rate used for the economic analysis was**
 12 **6.65% based on 45% common equity and 55% debt with respective**
 13 **returns of 8.50% and 5.12% over the entire period. Why did NP assume**
 14 **an 8.5% return on equity and for the next 50 years in the analysis?**
 15 **c) To allow for uncertainty please provide revised Tables A-3 and A-4 based**
 16 **on a 9% discount rate (i.e., use a discount rate composed of the 6.65%**
 17 **weighted cost of incremental capital plus 2.35% for uncertainty).**
 18
 19 **A. a) Newfoundland Power introduced its *Substation Refurbishment and Modernization***
 20 ***Plan* as part of its *2007 Capital Budget Application*. This plan focuses on the**
 21 **refurbishment and modernization of individual substations based on the condition of**
 22 **core infrastructure and equipment. The Lockston Substation is one of the substations**
 23 **the Company is proposing to refurbish and modernize under this plan.**
 24
 25 **The capital cost for the *Lockston Substation Refurbishment and Modernization***
 26 **project is \$305,000 in 2025 and \$4,521,000 in 2026, for a total project cost of**
 27 **\$4,826,000. This includes capital costs for plant equipment, as well as transmission**
 28 **and distribution equipment.**
 29
 30 **The economic analyses in Attachment A-1 and Attachment A-4 only consider the**
 31 **capital costs associated specifically with the Lockston hydroelectric development (the**
 32 **"Plant"). This includes \$28,000 in 2025 and \$1,170,000 in 2026, for a total Plant**
 33 **allocation of \$1,198,000. The economic analysis was provided on the capital**
 34 **expenditure associated with the Plant to confirm that capital investment in the Plant**
 35 **continued to be economically beneficial to customers.**
 36
 37 **b) It is confirmed. The Company used 8.50% for its return on equity in its economic**
 38 **analysis as that is the rate that is currently approved by the Board.¹**

¹ See Order No. P.U. 3 (2022) Amended No. 2.

- 1 c) Table 1 provides the results of a revised lifecycle analysis of the Plant based on a
2 9% discount rate.

Table 1: Lifecycle Analysis Results		
	50-Year Levelized Value	Net Benefit
Lifecycle Cost of the Development	5.80 ¢/kWh	
Cost of Replacement Production (Run-of-River)		
Energy Costs	3.83 ¢/kWh	
Capacity Costs	<u>5.81 ¢/kWh</u>	
Total	9.64 ¢/kWh	3.84 ¢/kWh
Cost of Replacement Production (Fully Dispatchable)		
Energy Cost	3.83 ¢/kWh	
Capacity Cost	<u>11.67 ¢/kWh</u>	
Total	15.50 ¢/kWh	9.70 ¢/kWh

- 3 Using levelized values based on 50 years and using a 9.0% discount rate, the cost to
4 replace the Plant's production will exceed the Plant's cost by between 3.84 ¢/kWh
5 and 9.70 ¢/kWh.

1 Table 2 provides a revised present value sensitivity analysis based on a 9% discount
2 rate.

Table 2: Present Value Sensitivity Analysis Results (\$2025)				
Scenario	Cost of Continued Operation (\$M)	Cost of Replacement Production		Net Savings (\$M)
		Run-of-River (\$M)	Fully Dispatchable (\$M)	
Base Case ²	5.3	8.8	14.2	3.5 – 8.9
Scenario 1A	3.1	5.9	9.5	2.8 – 6.4
Scenario 1B	5.3	8.4	13.4	3.1 – 8.1
Scenario 1C	5.3	8.6	14.0	3.3 – 8.7
Scenario 2	5.3	7.5	11.5	2.2 – 6.2
Scenario 3	5.3	8.0	13.3	2.7 – 8.0

3 The revised sensitivity analysis shows that the cost of continuing to operate the
4 Plant will provide an economic benefit under all scenarios.

² The base case provides the results of the levelized costs provided in Table 1 expressed as present value of costs as opposed to the levelized cost per kWh.