

- 1 **Q. Reference: “2022 Capital Budget Application,” Newfoundland Power, May 18,**
 2 **2021, Volume 1, Section 1.2, Sandy Brook Plant Penstock Replacement,**
 3 **Appendix A**
 4
 5 **a) Please provide a cost-benefit analysis for this project assuming a marginal cost**
 6 **of 25% of stated values.**
 7
 8 **b) Please provide a cost-benefit analysis for this project assuming a marginal cost**
 9 **of 50% of stated values.**
 10
 11 **c) Please provide a cost-benefit analysis for this project assuming a marginal cost**
 12 **of 75% of stated values.**
 13
 14 **A. a) Table 1 summarizes the results of the economic analysis assuming a marginal cost of**
 15 **25% of stated values.**

Table 1
Economic Evaluation Results
Marginal Costs at 25%

	50 Year Levelized Value	Net benefit
Cost of Plant Production	3.22 ¢/kWh	
Benefits of Production (Run of River)		
Value of Energy	1.42 ¢/kWh	
Value of Capacity	<u>1.15 ¢/kWh</u>	
Total	2.57 ¢/kWh	(0.65) ¢/kWh
Benefits of Production (Fully Dispatchable)		
Value of Energy	1.42 ¢/kWh	
Value of Capacity	<u>1.94 ¢/kWh</u>	
Total	3.36 ¢/kWh	0.14 ¢/kWh

- 1 b) Table 1 summarizes the results of the economic analysis assuming a marginal cost of
2 50% of stated values.

Table 2
Economic Evaluation Results
Marginal Costs at 50%

	50 Year Levelized Value	Net benefit
Cost of Plant Production	3.22 ¢/kWh	
Benefits of Production (Run of River)		
Value of Energy	2.84 ¢/kWh	
Value of Capacity	<u>2.29 ¢/kWh</u>	
Total	5.13 ¢/kWh	1.91 ¢/kWh
Benefits of Production (Fully Dispatchable)		
Value of Energy	2.84 ¢/kWh	
Value of Capacity	<u>3.88 ¢/kWh</u>	
Total	6.72 ¢/kWh	3.50 ¢/kWh

- 3 c) Table 1 summarizes the results of the economic analysis assuming a marginal cost of
4 75% of stated values.

Table 3
Economic Evaluation Results
Marginal Costs at 75%

	50 Year Levelized Value	Net benefit
Cost of Plant Production	3.22 ¢/kWh	
Benefits of Production (Run of River)		
Value of Energy	4.25 ¢/kWh	
Value of Capacity	<u>3.44 ¢/kWh</u>	
Total	7.69 ¢/kWh	4.47 ¢/kWh
Benefits of Production (Fully Dispatchable)		
Value of Energy	4.25 ¢/kWh	
Value of Capacity	<u>5.82 ¢/kWh</u>	
Total	10.07 ¢/kWh	6.85 ¢/kWh