

- 1 **Q. (Reference Application, 4.1 Mount Carmel Pond Dam Refurbishment, Appendix**
 2 **A) With respect to the economic analysis:**
 3 **a) Please reconcile the total annual capital costs given in Attachment A:**
 4 **Summary of Capital Costs with the capital costs given in Attachment D:**
 5 **Calculation of Levelized Costs and Benefits, Table D-2.**
 6 **b) Please provide a revised Table A-3 giving levelized values based on 20**
 7 **years**
 8 **c) To allow for uncertainty please provide revised Tables A-3 and A-4**
 9 **(Appendix A, page 7) based on a 9% discount rate (i.e., use a discount rate**
 10 **composed of the 6.65% weighted cost of incremental capital plus 2.35%**
 11 **for uncertainty).**
 12
 13 **A. a) Table 1 provides the reconciliation of total annual capital costs in Attachment A:**
 14 **Summary of Capital Costs with Attachment D: Calculation of Levelized Cost and**
 15 **Benefits, Table D-2.**

Table 1: Reconciliation of Total Annual Capital Costs	
	Amount (\$000s)
Attachment A: Summary of Capital Costs	30,316
Forecast Inflationary Increases (2030 – 2070) ¹	<u>11,897</u>
Attachment D: Calculation of Levelized Costs and Benefits	42,213

¹ Based on GDP deflators for Canada provided in the Conference Board of Canada's long term forecast dated December 18, 2023.

- 1 b) Table 2 provides the results of a revised lifecycle analysis of the Cape Broyle-Horse
2 Chops ("CBHC") Hydroelectric Development using levelized values based on 20 years.

Table 2: Lifecycle Analysis Results		
	20 Year Levelized Value	Net benefit
Lifecycle Cost of the Development	2.58 ¢/kWh	
Cost of Replacement Production (Run-of-River)		
Energy Costs	3.66 ¢/kWh	
Capacity Costs	<u>5.18 ¢/kWh</u>	
Total	8.84 ¢/kWh	6.26 ¢/kWh
Cost of Replacement Production (Fully Dispatchable)		
Energy Cost	3.66 ¢/kWh	
Capacity Cost	<u>5.32 ¢/kWh</u>	
Total	8.98 ¢/kWh	6.40 ¢/kWh

- 3 Using levelized values based on 20 years, the cost to replace CBHC Development's
4 production will exceed the CBHC Development's cost by between 6.26 ¢/kWh and
5 6.40 ¢/kWh.

- 1 c) Table 3 provides the results of a revised lifecycle analysis of the CBHC Hydroelectric
2 Development based on a 9% discount rate.

Table 3: Lifecycle Analysis Results		
	50 Year Levelized Value	Net benefit
Lifecycle Cost of the Development	2.96 ¢/kWh	
Cost of Replacement Production (Run-of-River)		
Energy Costs	3.87 ¢/kWh	
Capacity Costs	<u>5.52 ¢/kWh</u>	
Total	9.39 ¢/kWh	6.43 ¢/kWh
Cost of Replacement Production (Fully Dispatchable)		
Energy Cost	3.87 ¢/kWh	
Capacity Cost	<u>5.67 ¢/kWh</u>	
Total	9.54 ¢/kWh	6.58 ¢/kWh

- 3 Using levelized values based on 50 years and using a 9.0% discount rate, the cost to
4 replace CBHC Development's production will exceed the CBHC Development's cost by
5 between 6.43 ¢/kWh and 6.58 ¢/kWh.

1 Table 4 provides a revised present value sensitivity analysis based on a 9% discount
2 rate.

Table 4: 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	26.5	84.1	85.4	57.6 – 58.9
Scenario 1A	19.3	56.9	57.8	37.6 – 38.5
Scenario 1B	26.5	80.1	81.3	53.6 – 54.8
Scenario 1C	26.5	82.5	83.8	56.0 – 57.4
Scenario 2	26.5	71.7	72.7	45.2 – 46.2
Scenario 3	26.5	75.4	76.7	48.9 – 50.2

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

² The base case provides the results of the levelized costs provided in Table 3 expressed as present value of costs as opposed to the levelized cost per kWh.