

- 1 **Q. (Reference NLH-NP-020 and NLH-NP-021, page A-14 of Application) Benefits are**
 2 **listed under "Marginal Energy Costs" for years that include 2023, 2034 and 2036 but**
 3 **these are years for which Attachment C shows there would be significant capital**
 4 **expenditures on the plant.**
- 5 a) **Would plant output in those years be affected or even halted for a time as the**
 6 **work is done?**
- 7 b) **If so, should not the marginal energy costs figures for those years be adjusted**
 8 **downward? If they have not been adjusted then please provide the revised**
 9 **figures.**
- 10 c) **Please calculate the levelized value of energy benefits (described as "Levelized**
 11 **Value of Export Energy" in the table on page A-14) assuming that the plant**
 12 **becomes stranded at the end of 2041 and production ceases thereafter. Please**
 13 **ensure any appropriate adjustment based on the response to (b) is**
 14 **incorporated in the calculation. Please provide the detailed calculations in an**
 15 **Excel file.**
- 16
- 17 A. a) Page A-7 of Attachment A to report *1.2 Sandy Brook Penstock Replacement*
 18 provides a summary of capital cost for the period 2022 to 2047.¹ The capital
 19 expenditures in 2023 relate to the penstock replacement and other capital work
 20 associated with civil, mechanical and electrical infrastructure.² The \$325,000 in
 21 capital expenditures in 2034 relate to civil infrastructure at the dams, spillways
 22 and gates, along with a small amount of work associated with the AC/DC
 23 electrical systems inside the powerhouse. The \$370,000 in capital expenditures in
 24 2036 relate to civil and mechanical infrastructure work inside the powerhouse and
 25 an upgrade to the programmable logic controller system.
- 26
- 27 The work planned for 2023 will involve a 24-week plant outage and is anticipated
 28 to result in a net reduction in plant output of 12.8 GWh in 2023.³ The small
 29 projects planned for 2034 and 2036 will not involve extended plant outages that
 30 impact annual production.
- 31
- 32 b) Newfoundland Power's analysis did not adjust marginal energy costs to reflect the
 33 plant outage required to execute the capital project in 2023. A plant outage
 34 required to execute a capital project does not generally have a material impact on
 35 the levelized cost of plant production, which is evaluated over long-term time
 36 horizons. Additionally, given the risk of plant outages due to the deteriorated
 37 condition of the penstock, plant outages due to the capital project are not
 38 necessarily incremental. Only incremental costs and benefits should be included
 39 in the analysis.

¹ This information was supplemented with response to Request for Information CA-NP-077 which provided additional capital expenditures anticipated for 2061. The capital expenditures in 2061 impacted the levelized cost of production by approximately 1% or 0.01 ¢/kWh.

² See response to Request for Information CA-NP-140.

³ See response to Request for Information CA-NP-139.

1 Table 1 demonstrates the minimal impact on the results of the economic
 2 evaluation when assuming a decrease in plant production in 2023 due to execution
 3 of the capital project.

Table 1
Economic Evaluation Results
50 Year Analysis and Production Decrease in 2023

	Original 50-Year Analysis		2023 Production Decrease	
	Levelized Value	Net benefit	Levelized Value	Net benefit
Cost of Plant Production	3.22 ¢/kWh		3.30 ¢/kWh	
Benefits of Production (Run of River)				
Value of Energy	5.67 ¢/kWh		5.67 ¢/kWh	
Value of Capacity	<u>4.59 ¢/kWh</u>		<u>4.59 ¢/kWh</u>	
Total	10.26 ¢/kWh	7.04 ¢/kWh	10.26 ¢/kWh	6.96 ¢/kWh
Benefits of Production (Fully Dispatchable)				
Value of Energy	5.67 ¢/kWh		5.67 ¢/kWh	
Value of Capacity	<u>7.76 ¢/kWh</u>		<u>7.76 ¢/kWh</u>	
Total	13.43 ¢/kWh	10.21 ¢/kWh	13.43 ¢/kWh	10.13 ¢/kWh

4 Under this scenario, the levelized cost of production would increase from 3.22
 5 ¢/kWh to 3.30 ¢/kWh, an increase of 0.08 ¢/kWh or 2%.

6
 7 c) See response to Request for Information CA-NP-161.