

1 **Q. (Reference Application Schedule B, page 3 of 98) How much would it cost to retire**
2 **Horse Chops, Rattling Brook and Rose Blanche hydro generation facilities? Please**
3 **provide for these three plants: age, capacity, annual energy production, storage**
4 **capacity and levelized cost assuming the proposed capital projects proceed.**
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6 A. Newfoundland Power does not have estimates of the cost of retiring the Horse Chops,
7 Rattling Brook, and Rose Blanche hydro plants.
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9 The total system cost to retire a hydroelectric plant would include costs (i) of removing
10 existing assets, (ii) of restoring the site and environment and (iii) of replacement energy
11 and capacity. The creation of a reliable estimate of the cost of retiring a hydroelectric
12 generating plant would require a detailed site-specific analysis.¹ This is a comprehensive
13 process involving consultation with a variety of stakeholders that would only be
14 undertaken where an economic analysis indicates it may not be economically justifiable
15 to invest further in the life extension of the facility.
16

17 Newfoundland Power will develop a levelized cost estimate whenever a major project for
18 the life extension or upgrade of a generating plant is being considered.² Levelized cost of
19 energy is not calculated for *Hydro Facility Rehabilitation* projects. This is because the
20 payback of such smaller projects is quick, due to the high value of annual production of
21 the hydro plants relative to the proposed expenditures.
22

23 Table 1 on the following page shows the simple payback of the *Hydro Facility*
24 *Rehabilitation* projects proposed for the Horse Chops, Rattling Brook, and Rose Blanche
25 hydro plants.

¹ Newfoundland Power prepares decommissioning studies for all of its hydro generating plants as part of its routine depreciation studies. However, these decommissioning studies assume, in effect, that hydroelectric developments are perpetual assets and retirement costs reflect ongoing replacement of components of the development. No allowance or estimate is made of the costs necessary to return the development to the natural state that existed prior to construction of the facility. The decommissioning of a hydroelectric development would necessarily require an environmental assessment, and would include significant costs associated with restoring the site and the environment to a standard that is acceptable from an environmental perspective. In addition to environmental and other regulatory requirements, Newfoundland Power would expect that the interests of other stakeholders, such as the owners of properties adjacent to the hydro development, would have to be addressed as part of the decommissioning process.

² See the response to Request for Information CA-NP-022.

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Table 1
Hydro Facility Rehabilitation Project
Simple Payback

Plant	Annual Value of Production – Energy ³	Simple Payback
Horse Chops ⁴	\$1,780,800	1.0 months
Rattling Brook ⁵	\$3,284,400	1.9 months
Rose Blanche ⁶	\$1,037,400	2.0 months

2 The age, capacity, annual energy production and storage capacity of the Horse Chops,
3 Rattling Brook and Rose Blanche hydro plants is detailed in the response to Request for
4 Information CA-NP-022.⁷

³ The energy-related value of production is estimated using 4.2 ¢/kWh. This is the estimated energy-related value of production from the Company's hydro facilities divided by normal annual hydroelectric production. (4.2 ¢/kWh = \$18,380,000 / 439.1GWh). See the *2021 Capital Budget Application, Volume 2, 1.1 Facilities Rehabilitation, Footnote 2*.

⁴ Horse Chops hydro plant expenditures of \$150,000 related to bypass valve piping (\$150,000 / \$1,780,800/year x 12 months/year = 1.0 months).

⁵ Rattling Brook hydro plant expenditures of \$300,000 related to its surge tank and \$225,000 to replace the garage facility (\$525,000 / 3,284,400/year x 12 months/year = 1.9 months).

⁶ Rose Blanche hydro plant expenditures of \$175,000 related to the penstock (\$175,000 / \$1,037,400/year x 12 months/year = 2.0 months).

⁷ Historic levelized cost calculations for the Horse Chops and Rattling Brook hydro plants are also included in the response to Request for Information CA-NP-022. These calculations were completed when major upgrades were completed on the hydro plants.