

1 **Q. Re: Hydro Plant Production Increase, Schedule B, Pages 4, 5 and 6 of 93**

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3 **Newfoundland Power outlines at pages 4 and 5 the costs of the new runners for New**
4 **Chelsea (\$653,000.00) and Pittmans Pond (\$475,000.00). Newfoundland Power also**
5 **outlines the efficiency increases for both. New Chelsea is forecast to have a best**
6 **efficiency increase of 6% and a maximum load efficiency of 2% compared to**
7 **Pittmans at 16% and 18% respectively. Does Newfoundland Power have an**
8 **efficiency increase it considers to be justifiable when proposing these projects? Is**
9 **there an industry standard and if so, what is it?**

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11 **A.** Newfoundland Power does not have a specific efficiency increase that it uses to justify a
12 runner replacement. Also there is no industry standard for justifying runner replacements
13 based on the efficiency increase from a turbine runner replacement. Runner replacements
14 are normally justified for one or both of the following reasons:

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16 1. *Condition* – If an engineering condition assessment report indicates a runner is in
17 poor physical condition then a runner may be replaced. For example, in 2008 the
18 runner at Heart's Content plant was replaced due to wear on the runner which eroded
19 the runner blades and caused holes to form in the metal (reference NP 2008 Capital
20 Budget).
- 21 2. *Production Increase* – If testing or modeling shows that improved runner efficiency
22 will result in a production increase the cost effectiveness of the runner upgrade will
23 be evaluated. The cost effectiveness of a runner replacement is primarily based on
24 the amount of production increase, the cost of the runner upgrade, and the costs
25 avoided by the production increase. Currently, a hydro plant production increase will
26 avoid producing energy from the oil fired Holyrood Generating Plant.

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28 The New Chelsea and Pitmans Pond runner replacements are justified based on
29 production increases. The levelized costs of the runner replacements are shown in the
30 Response to the *Request for Information* PUB NP 004.