

1 **Hydro Plants Facility Rehabilitation, Schedule B, (\$1,222,000) [sic \$1,122,000]**  
2

3 **Q. Has NP evaluated the cost of each of its hydroelectric generating plant investments**  
4 **against its purchase cost of replacement energy as well as Holyrood replacement**  
5 **energy cost? If so please provide the results?**  
6

7 A. Newfoundland Power has evaluated the cost of upgrades to its hydroelectric generating  
8 plants against the purchase cost of replacement energy for projects where the investment  
9 is substantial enough to warrant this type of analysis.  
10

11 This year's investment of \$1,122,000 is comprised of eight projects ranging in cost from  
12 under \$50,000 to \$407,000. The plants associated with these projects generate annual  
13 energy ranging from 7.2 GWh to 69.4 GWh. With purchased energy valued at 4.789  
14 cents per kWh and replacement energy at Holyrood valued at 5.13 cents per kWh, these  
15 relatively small capital expenditures are readily justified.  
16

17 For example, the largest in this group of eight projects is the \$407,000 project at Rattling  
18 Brook. Rattling Brook plant generates 69.4 GWh of energy annually, that is valued at  
19 approximately \$3,560,220 in terms of replacement energy at Holyrood. With two  
20 generators contributing equally to the 69.4 GWh plant total, each generator produces 34.7  
21 GWh annually. The generator receiving the \$407,000 investment is responsible for  
22 displacing \$1,780,011 in annual purchased power cost. Investing this level of capital to  
23 maintain this energy supply is very economical.  
24

25 For major capital expenditures such as the New Chelsea Project an analysis comparing  
26 the levelized cost of energy from the hydro plant against purchased power cost and  
27 Holyrood energy was completed, as outlined in Volume II, Energy Supply, Appendix 2,  
28 Attachment A, Appendix E.