

1 Q. **2013 General Rate Application, Exploits Generation**

2 Page 1.7, lines 11-17 - The calculation for the savings associated with wind
3 purchases is provided. Provide the calculation for the savings associated with the
4 purchases from Exploits Generation forecast for 2013.

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7 A. To determine the energy benefits of the new sources of renewable energy supply
8 since the 2007 test year, Hydro developed base and incremental benefit cases using
9 its hydraulic generation (VISTA) model. The model determined the incremental
10 energy benefits^{1,2} of:

11 i. New Wind Supply

12 ii. New Exploits Supply (the generation formerly used to supply Abitibi's Grand
13 Falls- Windsor paper mill operations)

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15 Fuel conversion rates, fuel consumption and costs, in addition to the benefit of the
16 reduced pricing for the Exploits Generation (formerly owned by the Exploits River
17 Hydro Partnership and Star Lake Hydro Partnership) were determined outside of
18 the hydraulic generation model.

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20 The benefit analysis is summarized in the table on the following page. The
21 incremental benefit or fuel savings associated with the Exploits Generation forecast
22 in 2015 is \$59.5 million. In addition, there is a decrease in greenhouse gas
23 emissions (GHGs) of 395,000 tonnes³.

¹ The benefit is in reduced production requirements at the Holyrood generating station.

² No capacity benefits were assumed but exist. The new sources of generation defer the installation of future combustion turbines (CTs) and reduces the operational requirements of existing CTs.

³ Using the latest five-year emissions intensity rate of 0.826 kg/kWh for Holyrood.

1 It should be noted that the overall benefit of the sources of generation is partially
2 offset by reduced energy conversion performance at the Holyrood generating
3 station. As production requirements from the station decrease so do the average
4 unit loadings and corresponding fuel conversion rates.

Table 1 - Evaluation of New Sources Benefits

Energy Supply Cost Summary		2015 (Incremental) Scenario		
		Base Case ⁽⁵⁾	Wind Included	Nalcor Exploits Generation and Wind Included ⁽⁷⁾
Holyrood Production	GWh	2,265	2,071	1,593
Holyrood Efficiency	kWh/bbl	620	617	607
Holyrood Fuel Use	x 1000 bbls	3,653	3,357	2,624
Holyrood Cost	\$/kWh	0.1498	0.1508	0.1537
Holyrood Cost ⁽¹⁾	\$ Million	339.4	312.3	244.9
Star Lake and Exploits River Partnership Production	GWh	292.3	292.6	n/a
Star Lake and Exploits River Partnership Rate ⁽²⁾	\$/kWh	0.0790	0.0789	
Star Lake and Exploits River Partnership Cost	\$ Million	23.1	23.1	
Wind Production	GWh	n/a	189.0	189.0
Wind Energy Rate ⁽³⁾	\$/kWh		0.06729	0.06729
Wind Energy Cost	\$ Million		12.7	12.7
Nalcor Exploits and Star Lake Production	GWh	n/a	n/a	775.7
Nalcor Exploits and Star Lake Rate ⁽⁴⁾	\$/kWh			0.04
Nalcor Exploits and Star Lake Cost	\$ Million			31.0
Total Supply Costs	\$ Million	362.5	348.1	288.6
Incremental Savings	\$ Million		14.4	59.5
Total Savings over Base Case	\$ Million		14.4	73.9

Notes:

1. Uses the current 2015 GRA Fuel Price Assumptions
2. Uses the former blended Star Lake winter/summer and Exploits River Partnership PPA rates escalated to 2015
3. Uses the effective 2015 GRA wind energy rate (netting out Ecoenergy Incentive Payments)
4. Uses the (\$0.04/kWh) rate
5. The Base Case was modelled with Exploits Base generation (see note 6 below) and Wind generation excluded.
6. Exploits Base generation is the generation formerly used to supply Abitibi Paper Mill Operations in Grand Falls-Windsor
7. This scenario is identical to the 2015 GRA Filing