

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 2013 is \$56.9 million. In addition, there is a decrease in greenhouse gas
23 emissions (GHGs) of 335,000 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 0.819 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			2013 (Incremental) Scenario		
			Base Case ⁽⁵⁾	Wind Included	Nalcor Exploits Generation and Wind Included ⁽⁷⁾
Holyrood Production	GWh		1,715	1,534	1,127
Holyrood Efficiency	kWh/bbl		630	625	612
Holyrood Fuel Use	x 1000 bbls		2,723	2,455	1,842
Holyrood Cost	\$/kWh		0.1719	0.1729	0.1777
Holyrood Cost ⁽¹⁾	\$ Million		294.8	265.2	200.3
Star Lake and Exploits River Partnership Production	GWh		290.6	289.5	n/a
Star Lake and Exploits River Partnership Rate ⁽²⁾	\$/kWh		0.0778	0.0777	
Star Lake and Exploits River Partnership Cost	\$ Million		22.6	22.5	
Wind Production	GWh		n/a	189.0	189.0
Wind Energy Rate ⁽³⁾	\$/kWh			0.06674	0.06674
Wind Energy Cost	\$ Million			12.6	12.6
Nalcor Exploits and Star Lake Production	GWh		n/a	n/a	762.5
Nalcor Exploits and Star Lake Rate ⁽⁴⁾	\$/kWh				0.04
Nalcor Exploits and Star Lake Cost	\$ Million				30.5
Total Supply Costs	\$ Million		317.4	300.3	243.4
Incremental Savings	\$ Million			17.1	56.9
Total Savings over Base Case	\$ Million			17.1	74.0

Notes:

1. Uses the current 2013 GRA Fuel Price Assumptions
2. Uses the former blended Star Lake winter/summer and Exploits River Partnership PPA rates escalated to 2013
3. Uses the effective 2013 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 2013 GRA Filing