

1 Q. **B-2, Upgrade Gas Turbine Plant Life Extension, 2010 - \$1,304,500, 2011 -**
2 **\$1,323,600, Beyond - \$3,366,600**

3 In Table 3, Alternatives, p. 14, of the report provided in Tab 1, Volume II, NLH
4 provides the Capital Cost Estimate of each of the alternatives. Please reconcile
5 these figures with those provided in response to the Request For Information CA-
6 NLH-4, page 9.1 of the Stantec report, regarding the application from NLH for
7 approval for the refurbishment of the gas turbine at Stephenville.
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10 A. Table 3, Alternatives, at page 14 of the report contains the capital cost of each
11 option. Page 9.1 of the Stantec report shows a table (also found on page E15 of
12 Appendix E filed with the report in the 2010 Capital Budget Application) with the
13 Cumulative Present Worth (CPW) of all alternatives, and includes amounts related
14 to all of the assumptions stated on page E8 of Appendix E. A detailed reconciliation
15 is not readily available, but the increases from the capital cost to the CPW are
16 primarily related to fuel costs, operating and maintenance costs and the refurbish
17 versus replace costs assumed in each sub-case, as specified on page E8. See table
18 below. When reviewing this table the reader should be aware that Alternative 4 is
19 not a viable option. When developing a list of alternatives, the consultant suggested
20 this alternative if only one of the two principal operating modes of operation should
21 be required in future. This gas turbine plant is capable of providing both voltage
22 support (when operating as a synchronous condenser) and energy (when operating
23 as a generator) to the Island Interconnected System. Although this plant spends the
24 great majority of its operating time in synchronous condensing mode, it is one of
25 Hydro's generating plants and an important asset. If Alternative 4 should be
26 selected, 50 MW of generating capacity would be removed from Hydro's generating
27 asset base, which would advance the requirement for construction of the next

1 source of generation. Given the requirement for this plant to operate both as a
2 generator and synchronous condenser into the future, Alternative 4 is not
3 considered to be a viable option.

Alternative	Description	Capital Cost Estimate (\$000)	CPW		CPW minus Cap. Cost	
			Sub-Case 1	Sub-Case 2	Sub-Case 1	Sub-Case 2
1A	Refurbish existing equipment – Hardwoods. Includes optional gas turbine rental allowance.	7,814	16,011	29,895	8,197	22,081
1B	Refurbish existing equipment – Hardwoods.	4,507	11,468	26,931	6,961	22,424
1	New gas turbine engines and power turbines. Refurbish balance of equipment.	26,420	33,089	36,222	6,669	9,802
2	New alternator/exciter. Refurbish balance of equipment.	7,163	16,249	28,574	9,086	21,411
3	New gas turbine facility, including fuel forwarding module, controls and electrical auxiliary equipment. Dismantle existing gas turbines and use as spares.	36,900	38,146	38,146	38,146	38,146
4	Replace Hardwoods with new dynamic Volts-Amperes reactive (VAR) compensator.	10,000 ¹	8,996	8,996	-1,004	-1,004

¹ Ball park estimate, as more detailed study required.