

1 Q. CA-NLH-04 Re: Volume II, Tab 5 – Overhaul Turbine Valves – Unit 2 – Holyrood
2 Referring to Table 4, Unit 2 Overhaul Maintenance History (p. 9) please explain why
3 Hydro’s costs for both major overhauls as well as valve overhauls have increased as
4 shown.

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7 A. The increase in the dollar values shown in Table 4 are related to 3 factors:

8 a. Over the 2005 to 2014 period, the costs associated with labour, materials,
9 and services escalated and resulted in increased contract work costs.

10 Historically, Hydro used information provided by Statistics Canada to
11 determine past escalations for Thermal Station work. That information is no
12 longer available and Hydro has not found another source. To illustrate some
13 of the possible impact of this escalation in costs, since 2005, Hydro has
14 determined that contractor trade labour hourly charge rates increased by
15 approximately 88% per annum while technical support labour hourly charge
16 rates increased by approximately 33% (9.7% and 3.7% per annum). This level
17 of escalation would also apply to Valve Overhaul work.

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19 b. The 2005, 2008 and 2011 overhauls were executed as part of the operating
20 maintenance program. The 2014 Major Overhaul was executed as an
21 approved capital project. For the operating maintenance work in 2005, 2008
22 and 2011, Hydro’s labour and materials for turbine overhauls were not
23 separated from other maintenance activities and, as such, were not
24 recorded in Table 4. The 2005, 2008 and 2011 costs in Table 4 are for the
25 associated Contract Work only. As the 2014 Major Overhaul was executed as
26 a capital project, all costs related to the project are recorded in Table 4. For
27 the 2014 major overhaul, approximately \$1,000,000 is related to Hydro’s

1 labour, materials and other costs, while Contract Work amounted to
2 \$4,144,000, as compared to the Contract Work in 2005 of \$2,609,000.

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4 c. The scope and cost of actual work undertaken during a turbine major
5 overhaul, and to a lesser extent a valve overhaul, can vary significantly
6 depending on the as-found condition of the components once disassembly is
7 complete. Consequently it is difficult to compare one outage to another. In
8 2014, additional activities were completed to enhance the reliability of the
9 turbine and valves.