

1 Q. Reference: ***Combustor Inspection Major and Overhaul, Holyrood Combustion***
2 ***Turbine report, August 29, 2016, page 8***

3 *“After the March 4, 2015 power outage event, Hydro implemented practices and*
4 *strategies which impacted the utilization of standby generation on the Island*
5 *Interconnected System, especially on the Avalon Peninsula.”*

6 The practices and strategies implemented by Hydro after the March 4, 2015 power
7 outage event have resulted in increased operation of the Holyrood CT. When does
8 Hydro intend to provide evidence that the operation of the Holyrood CT is
9 consistent with the least cost economic dispatch of Hydro’s generation?

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12 A. Hydro believes that the operation of the Holyrood CT is consistent with the reliable
13 and least cost dispatch of Hydro’s generation. Hydro operates its generation
14 resources to position the system to withstand the single worst contingency. To this
15 end, daily reserves assessments are performed and generation (including standby)
16 is dispatched as required. As indicated in Attachments 1 and 2 included with
17 Hydro’s response to NP-NLH-002, Hydro dispatches its resources in order of least
18 cost. As indicated in the response to NP-NLH-008, Hydro has also performed an
19 economic analysis specific to the operation of Avalon resources and determined
20 ‘breakpoints’ or thresholds of Avalon load where it is more economical to operate
21 an additional Holyrood unit rather than the Holyrood CT for the same reliability
22 benefit.

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24 Hydro’s reliance on standby generation to provide for reliable service to customers
25 has increased significantly in recent years. Standby units make up a critical portion
26 of the overall Island generation fleet. With the load growth in recent years, the use
27 of standby generation is required to maintain adequate reserves for the Island

1 interconnected and Avalon systems. The following table illustrates the composition
2 of the Island generation (assuming full unit availability) as reported to the Board:
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Source	Total MW
Hydroelectric ¹	1,130
Thermal ²	490
Purchases ³	89
Standby ⁴	301
Total generation	2,010

Notes:

1. NLH and Customer owned
2. Holyrood
3. NLH purchases (includes Exploits)
4. NLH owned, NP owned and Vale

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5 As indicated in Table 1, standby generation comprises 15% of the overall total
6 Island generation. To further illustrate the critical role of standby generation in
7 maintaining reserves, the forecast P50 Island peak load for the upcoming winter
8 (2016/2017) is 1,733 MW¹. In order to maintain spinning reserves to cover the loss
9 of the single largest unit (typically a Holyrood unit at 170 MW), operation of up to
10 190 MW of standby generation would be required during the peak hours, even with
11 no issues or outages to the remaining generation. The available reserve target of
12 240 MW² can be said to be made up entirely by standby generation at peak (not
13 accounting for interruptible load arrangements). Similarly, the provision of
14 contingency reserves on the Avalon is also highly dependent on standby generation.
15 The realization of a P90 peak load forecast and / or issues with the other generation

¹ Refer to Table 2 of Hydro's *Energy Supply Risk Assessment* filed with the Board in May 2016.

² Refer to Page 4 of Hydro's *Energy Supply Risk Assessment* filed with the Board in May 2016.

1 or Avalon transmission would only increase Hydro's reliance on standby generation
2 in maintaining reliable service to customers. Hydro's intent in dispatching standby
3 generation is to cover the full load expectations of its customers with due regard for
4 contingency events.