
1 Q. **2015 Capital Plan**

2 With reference to IC-NLH-6, explain, in detail, what foreseeable “emergency”,
3 “system peak”, or “voltage support” scenarios, after full commissioning of the 100
4 MW combustion turbine at Holyrood and of the Post-Isolated Island System, and
5 the conversion of Holyrood plant to synchronous condenser mode, will still need to
6 be addressed by the continued operational status of the Stephenville gas turbine?

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9 A. The Stephenville combustion turbine will continue to be an integral component of
10 Hydro’s standby generating capacity following completion of the Labrador – Island
11 HVdc Link (LIL). The Stephenville combustion turbine’s role in meeting system peak
12 during an “emergency” situation such as the loss of the LIL is outlined in Hydro’s
13 response to IC-NLH-006.

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15 In addition to providing standby/emergency capacity in the event of the loss of the
16 LIL, the Stephenville combustion turbine will continue to provide voltage support on
17 the west coast of the Island when operated in synchronous condenser mode,
18 particularly during an outage to the Maritime Link converter station.

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20 Further, the Stephenville area is normally supplied by a radial 230 kV transmission
21 line, TL209, from Bottom Brook. The Stephenville Terminal Station contains a single
22 230/66 kV, 40/53.3/66.6 MVA power transformer. The Stephenville combustion
23 turbine provides the back-up supply to the region for loss of either the Stephenville
24 transformer or TL209. Newfoundland Power maintains a 66 kV transmission
25 connection from the Stephenville area to Bottom Brook Terminal Station that is
26 capable of supplying approximately 20 MW with TL209 out of service. Given that
27 the 2015 forecast peak load for Stephenville is approximately 45 MW, if the

1 Stephenville combustion turbine were to be removed, it would be necessary to add
2 a second 230/66 kV transformer and a second transmission path capable of
3 supplying the peak load with TL209 out of service to provide a comparable level of
4 reliability to customers in Stephenville.