

1 Q. **Reliability and Resource Adequacy Study Update, November 15, 2019**

2 ***TGS Study Reports***

3 Regarding the TGS Technical Notes' identification of the need for up to 120MW of generation on  
4 the Avalon Peninsula, please:

- 5 a. State when Hydro will complete the analysis of options and make the results available.
- 6 b. Describe the next steps (nature, issues to be addressed, expected questions to be answered)  
7 in assessing optimum means for determining and meeting such needs, and address  
8 specifically any role of the Holyrood units in those next steps.
- 9 c. State when Hydro expects to have completed such efforts and make results available.

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12 A. a. Analysis of this issue is complete. The issue was presented in Section 3.2.3 of the Stage 4D:  
13 Transition to High Power Operation Study as filed with the Board of Commissioners of Public  
14 Utilities on April 15, 2020.<sup>1</sup> As presented in Table 1, the requirement for generation on the  
15 Avalon Peninsula is to avoid voltage collapse during peak load conditions and is a function of  
16 system load and the availability of the synchronous condensers at Soldiers Pond Terminal  
17 Station ("SOP"). As indicated, the requirement for generation ranges from 0 MW when all  
18 three SOP synchronous condensers are in service up to 120 MW if the three synchronous  
19 condensers were unavailable and system load were to exceed 1,750 MW.

20 During peak load conditions it is anticipated that all three SOP synchronous condensers and  
21 the Holyrood Gas Turbine would be available for operation. In the event of an unplanned  
22 outage to one or more SOP synchronous condensers during peak load conditions, the  
23 availability of the Holyrood Gas Turbine would ensure sufficient capacity to avoid customer  
24 impact. Newfoundland and Labrador Hydro will incorporate these contingency requirements

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<sup>1</sup> Technical Note TN1205.71.07, "Stage 4D: Transition to High Power Operation Study," TransGrid Solutions Inc., April 7, 2020.

1 in its operational protocols and, in the event that operation of the Holyrood Gas Turbine is  
 2 forecast in the operating horizon, this will be identified in the Day Ahead unit dispatch  
 3 tables.

**Table 1: Minimum Avalon Thermal Generation required to be in-service to prevent Voltage Collapse following Labrador-Island Link Bipole Trip**

Island Interconnected System Demand (MW)	Avalon Generation (MW)			
	0 SOP Syncs	1 SOP Sync	2 SOP Syncs	3 SOP Syncs
1,750 to 1,850	120	70	40	None
1,700 to 1,750	70	15	None	None
1,600 to 1,700	30	None	None	None

4 b. Please refer to Hydro’s response to part a.

5 c. Please refer to Hydro’s response to part a.