Q. **Reference Avalon Capacity Study, Section 4:**
Please provide Hydro's estimates of the time it would take to fully restore service after a full or partial system collapse on the Avalon Peninsula caused by voltage instability or dynamic instability.

A. Newfoundland and Labrador Hydro ("Hydro") has an East Coast Restoration Plan that contemplates restoration of the Avalon Peninsula following interruption due to faults, dynamic instability, or otherwise. Presently, the time required for full restoration largely depends on the system topology and generation dispatch prior to the event. For instance, if there were no Avalon Peninsula generating units online prior to the event, restoration would be less complex and involve restoring transmission elements prior to restoring customers. If there were Avalon Peninsula generating units online prior to the event, to provide for operating reserve or System Operating Limit support, the restoration time would be lengthier. In all likelihood these units would need to be restarted and redispatched prior to the restoration of all customers. Hydro estimates that the restoration time for all customers can range from 1–2 hours under a scenario where no Holyrood Thermal Generating Station ("Holyrood TGS") generation was online prior to the event, to several hours if the start-up and redispatch of generation units is required to fully restore customers. The time for the latter scenario is highly dependent on the amount of disruption at the Holyrood TGS and restart time of the units.

To date, under low power Labrador-Island Link ("LIL") operation, Hydro has treated the LIL similar to an on-Island generating source and it is loaded as per the maximum unit loading guidelines. Hydro is currently reviewing its East Coast Restoration Plan and once the LIL is fully commissioned it will be incorporated as the primary Avalon Peninsula source in the restoration activities following full or partial system interruption on the Avalon Peninsula. This plan will be fully vetted through the Newfoundland and Labrador System Operator's Energy Management System - Operator Training Simulator. The time required to restore the Avalon Peninsula under this scenario will be more fully established once the plan is

revised and tested. It is anticipated that it will not be materially different than it is today under the Holyrood TGS scenario but the time to fully restore customers will be highly dependent on the LIL restart time and the degree of reliance on the LIL to serve the Island load at the time of disruption.