Q. On page 21 of the Upgrade Transmission Line Corridor Report it is noted that the Hardwoods gas turbine can be started to alleviate an overload condition on a transmission line in a post contingency situation. Is this solution to an overload permitted under the NERC reliability standards?

A. Hydro has not yet adopted NERC or NPCC reliability criteria as a method to plan the transmission systems on the Island and in Labrador. Hydro follows a number of transmission planning criteria to ensure a reliable, least cost transmission system. Hydro operates transmission lines such that in the event of a single contingency outage, any transmission line thermal overloads would be relieved by standby generation or spinning reserve within a ten-minute window.

As a result, during normal operation power transfer limits are placed on transmission lines and generation scheduled to ensure that in the event of a loss of a single transmission element, the thermal rating of the remaining in service transmission lines are not exceeded with standby generation in service. The thermal rating of each transmission line varies with the ambient air temperature. As a result, transfer limits and generation schedules are adjusted accordingly.

By comparison, the Northeast Power Coordinating Council (NPCC) refers to the use of a ten-minute reserve to adjust system flows between contingencies under NPCC Reference Directory #1, section 5.4:

- *The portion of the bulk power system in each Planning Coordinator Area and in each Transmission Planning Area shall be designed with sufficient transmission capability to serve forecasted demand under the conditions*

noted in Sections 5.4.1 and 5.4.2. These criteria will also apply after any critical generator, transmission circuit, transformer, series or shunt compensating device or HVdc pole has already been lost, assuming that the Planning Coordinator Area generation and power flows are adjusted between outages by the use of ten-minute reserve and where available, phase angle regulator control and HVdc control.

- *Anticipated transfers of power from one Planning Coordinator Area to another, as well as within Planning Coordinator Areas, shall be considered in the design of transmission facilities. Transmission transfer capabilities shall be determined in accordance with the conditions noted in Sections 5.4.1 and 5.4.2.*

As a result, it is clear that Hydro's System Operation and Planning Division's usage of a ten-minute generator reserve to relieve transmission line overloads post contingency is prudent and in line with good utility practice.