

The analysis highlights that for the simultaneous loss of one pole of the LIL and loss of the largest generator on the Island, there is an expected generation capacity shortfall on the Island Interconnected System beginning in 2022. A review of NERC transmission planning standards suggest that for events resulting in the loss of two or more elements (i.e., a line and a generator), controlled loss of load is acceptable. This scenario is covered under NERC transmission planning standards TPL-003-0b and TPL-004-0a as Category C and/or Category D events standards. However, in this case it is difficult to ascertain how the trip of one pole of the LIL would result in simultaneous loss of Unit 7 at Bay d’Espoir and vice versa.

In contemplating the scenario that one pole of the LIL is out of service and there is a subsequent loss of Bay d’Espoir Unit 7, the NPCC Directory #1 Design and Operation of the Bulk Power System contemplates the reliability requirement in section 5.4 Transmission Design Criteria. This requires the bulk power system to have sufficient transmission capability to serve forecasted demand for single contingencies following the loss of a critical element such as a generator or transmission line assuming generation and power flows are adjusted between the outages by use of ten-minute reserves, phase angle regulator control and HVdc control as required. In this context, Table 1 above denotes a generation capacity deficit for the scenario beginning in the year 2022. Although this is an n-2 contingency, where customer load loss is acceptable, Hydro has a number of options to avoid load loss in this hypothetical scenario, including:

- Industrial and commercial interruptible load arrangements;
- Customer demand side management initiatives; and
- Imports from the Maritimes/New England.

1 Further, in the event of a capacity shortfall, the *Electrical Power Control Act 1994*,
2 Part III Power Emergencies, enables the Lieutenant Governor in Council to declare a
3 state of emergency and appoint an emergency controller who may redirect all
4 generation and transmission assets in the province to supply the most critical and
5 essential loads to minimize the overall impact of any shortfall.