Q. With regard to the response to CA-NP-179:

(a) Does Hydro have a reliability policy for generation such that when the expectation of lost load exceeds a specified level, they apply to construct new generation facilities? Please provide this policy if it exists.

(b) Does Hydro have a reliability policy for transmission such that when there is an expectation that the system will go unstable (i.e., go in to an emergency operating state) when a critical element of the system is forced out of service (i.e., n-1 criteria), they apply to construct new transmission facilities, or in some instances, new generation facilities to relieve the constraint? Please provide this policy if it exists.

(c) Does NP have a similar reliability policy for distribution that drives its decisions to apply for construction of new distribution facilities?

(d) What percentage of customer unreliability is driven by the generation and transmission system versus the distribution system on the Island Interconnected System?

A. (a) Attachment A provides Hydro's Island Interconnect Generation Planning Criteria.

(b) Attachment B provides Hydro's Bulk Transmission Planning Criteria and Radial Transmission System Planning Criteria.

(c) Newfoundland Power planning practices for its distribution system are similar to Hydro's radial transmission system planning criteria. The Company does not refer to these practices as a "reliability policy".[1] Newfoundland Power ensures its distribution system can supply peak load with all system elements in service. A single contingency loss of a distribution system element will result in an interruption to some or all of the customers on the system. In assessing single contingencies, Newfoundland Power gives consideration to the potential time and cost to make repairs and restore power. Distribution planning has led to decisions to relocate aerial distribution lines closer to roadways and install new distribution underground infrastructure to ensure timely response in the event of a distribution line failure.

[1] Newfoundland Power manages system reliability through capital investment, maintenance practices and operational deployment. On an ongoing basis, Newfoundland Power examines its actual distribution reliability performance to assess where targeted capital investments are warranted to improve service reliability. Through this process, the Company identifies the worst performing feeders. Engineering assessments are completed for each of the worst performing feeders, and, where appropriate, the Company makes capital investments to improve the reliability of these feeders.

(d) The percentage of Newfoundland Power customer unreliability driven by the generation and transmission system, commonly referred to as loss of supply, for the period 2004 to 2008 is included in Table 1.

Table 1
SAIDI
Loss of Supply as Percent of Total

2004	2005	2006	2007	2008
35%	29%	27%	20%	28%

Hydro's Island Interconnect Generation Planning Criteria

Island Interconnected Generation Planning Criteria

Hydro has established criteria related to the reliability of the total Island Interconnected System and the timing of generation additions. These criteria set the minimum level of reserve capacity and energy installed in the system.

Energy

The Island Interconnected System should have sufficient generating capability to supply all of its firm load requirements with firm system capability.

Capacity

The Island Interconnected System should have sufficient generating capacity to satisfy a Loss of Load Expectation (LOLE) target of not more than 2.8 hours per year.

Hydro's Bulk Transmission Planning Criteria and Radial Transmission System Planning Criteria

Bulk Transmission Planning Criteria

- Hydro's bulk transmission is planned to be capable of sustaining the single contingency loss of any transmission element without loss of system stability.
- In the event a transmission element is out of service, power flow in all other elements of the power system should be at or below normal rating.
- The Hydro system is planned to be able to sustain a successful single pole reclose for a line to ground fault based on the premise that all system generation is available.

Transformer Capacity

- Transformer additions at all major terminal stations (i.e. two or more transformers per voltage class) are planned on the basis of being able to withstand the loss of the largest unit.
- For single transformer stations there is a back-up plan in place which utilizes Hydro's and/or Newfoundland Power's mobile equipment to restore service.

Operating Voltages

- For normal operations, the system is planned on the basis that all voltages be maintained between 95% and 105%.
- For contingency or emergency situations 90% to 110% is considered acceptable.

Radial Transmission System Planning Criteria

- Radial transmission systems are planned to supply peak load with all elements in service
- The single contingency loss of certain transmission elements could result in an interruption to some or all of the customers served by that system.
- The Corporate Business Continuity Planning process has defined Maximum Acceptable down times for the various elements of the Radial systems and plans are in place to ensure service restoration within these timeframes

Transformer Capacity

- Most radial systems employ only single transformer stations. There is a back-up plan in place which utilizes Hydro's and/or Newfoundland Power's mobile equipment to restore service.
- In areas where suitable backup transformation cannot be identified Installed redundancy is applied

Operating Voltages

- For normal operations, the system is planned on the basis that all voltages be maintained between 95% and 105%.
- For contingency or emergency situations 90% to 110% is considered acceptable.