

1 Q. **Re: RRAS, 2019 Update, Vol. I, page 3 (29 pdf)**

2 Citation:

3 Proposed changes included:

4 The migration to planning on a regional and sub-regional basis⁷;

5 Note 7 : From a capacity planning perspective, the Island Interconnected System and the
6 Labrador Interconnected System form a planning region called the Newfoundland and
7 Labrador Interconnected System, and Island Interconnected System forms a subregion. For
8 additional detail, please refer to Hydro's 2018 Filing.

9 a) Please confirm (or correct) that, in this context, the term "regional" refers to the provincial
10 level, and that the IIS and the LIS are considered as "sub-regions".

11 b) Please confirm (or correct) that Hydro now considers the IIS and the LIS to form a single
12 planning region (the NLIS) for capacity planning purposes. If so, please explain in detail the
13 implications of this new approach. More specifically, does it mean that:

14 i. Capacity needs on the Island can be met either on the Island or in Labrador?

15 ii. Capacity needs in Labrador can be met either on the Island or in Labrador?

16 iii. A capacity shortfall in either Labrador or on the Island could, if unremedied, result in
17 unserved load in either sub-region?

18 c) Please describe in detail the reasons that led Hydro to propose carrying out capacity
19 planning on a regional basis (the NLIS), instead of on a subregional basis.

20 d) Please describe the differences, in both planning and operational terms, between conceiving
21 of the NLIS as a single system, for capacity purposes, and conceiving of the IIS and the LIS as
22 two distinct systems, with a reserve-sharing arrangement in place.

23 e) Please confirm that, due to transmission constraints, capacity planning will nevertheless be
24 carried out separately for Labrador East and Labrador West.

- 1 A. a) It is confirmed.
- 2 b) Newfoundland and Labrador Hydro (“Hydro”) has proposed two planning reserve margins; a
3 planning reserve margin for the Newfoundland and Labrador Interconnected System
4 (“NLIS”), and a planning reserve margin for the Island Interconnected System. If capacity is
5 required to meet the planning reserve margin proposed for the NLIS incremental resources
6 could be located anywhere in the province as all resources located on the IIS and the LIS are
7 included in the calculation of the NLIS reserve margin. If capacity is required to meet the
8 planning reserve margin proposed for the IIS it could be located anywhere in the province
9 until the point that the Labrador-Island Link (“LIL”) is fully utilized. Once the LIL is fully
10 utilized, incremental capacity required to satisfy the IIS planning reserve margin can only be
11 located on the island portion of the province. A capacity shortfall in either of the NLIS or the
12 Island Interconnected System would result in increased exposure for unserved load if not
13 remedied.
- 14 c) It is not accurate that Hydro is planning to conduct capacity planning solely on a regional
15 basis. Hydro has proposed reliability-driven planning reserve margins for both the NLIS and
16 the IIS. As such, Hydro is proposing that to ensure sufficient reliability for customers capacity
17 planning be done on a regional basis for the NLIS and a sub-regional basis for the IIS.
18 Capacity planning analysis is required for the IIS on a sub-regional basis due to the
19 transmission capacity of the LIL. If there is sufficient existing supply in Labrador to fully
20 utilize the LIL, any additional capacity installed in Labrador would improve the NLIS reserve
21 margin, as the installed capacity would increase relative to the total system load, but would
22 not improve system reliability, as the additional capacity would not be able to be delivered
23 to the Island given that the LIL is already fully utilized. By adopting a separate requirement
24 for the IIS, the planning process ensures that reliability in both the province and on the
25 Island is in line with customer expectations.
- 26 Hydro’s proposed approach to capacity planning will result in least-cost system planning and
27 the economic dispatch of all assets to achieve the lowest overall system cost. This is
28 consistent with Hydro’s mandate under Section 3 (b) (iii) of the *Electrical Power Control Act*,
29 1994 which states “It is declared to be the policy of the province that all sources and
30 facilities for the production, transmission and distribution of power in the province should

1 be managed and operated in a manner that would result in power being delivered to
2 consumers in the province at the lowest possible cost consistent with reliable service.” As
3 such, future capacity requirements will be supplied by the source which results in the lowest
4 total system cost and which satisfies specified reliability requirements. Hydro notes that
5 prior to the in-service of the LIL the Island Interconnected System was electrically isolated
6 from the Labrador Interconnected System. As such, it was not possible to plan on a regional
7 basis for the NLIS before the in-service of the LIL.

8 d) Considering the NLIS as a single system allows Hydro to fully optimize the full provincial
9 system, both from an operational and planning perspective. This will result in least cost
10 provincial resource planning and dispatch, as required by Hydro’s mandate. While it may be
11 technically possible to have physically separate systems for the Labrador Island System and
12 the Island Interconnected System with a reserve-sharing arrangement, this would result in
13 decreased operational efficiency, duplication of effort for both operational and planning
14 analyses, and an overall higher cost of dispatch resulting from less efficient dispatch of
15 resources. Further, this mode of operation may result in other incremental costs within the
16 operation. Finally, in this arrangement there could be incremental costs to Island
17 Interconnected System and Labrador Interconnected System customers required to
18 facilitate the reserve sharing agreement.

19 e) Transmission planning is conducted by the NLSO and is a separate process from resource
20 planning.

21 Currently there is no reliability-driven requirement for sub-regional planning criteria for the
22 Labrador Interconnected System. Existing supply in Labrador is supplied from Churchill Falls
23 by two sources; the TwinCo¹Block and Recapture Energy.^{2,3} As requirements supplied under
24 these agreements has priority of dispatch at the Churchill Falls Generating Station, the

¹ Twin Falls Power Corporation Limited (“TwinCo”).

² The power referred to as the TwinCo block of power is a firm 225 MW block of power and energy, capable of supplying 1,971 GWh per year for use in Labrador West.

³ The Recapture Energy is a source of 300 MW of capacity at a 90 percent monthly load factor available at Point A. The amount of Recapture Energy available at the Churchill Falls bus is different from the 300 MW stated at the border due to the difference in location. The original Hydro Québec 1969 Power Contract has the delivery point for the 300 MW as “the point in Labrador on the transmission lines from the CF(L)Co Plant towards the Province of Québec which is at the height of land, about opposite present Mile 148.8 on the Québec North Shore and Labrador Railway, which is the presumed watershed between the St. Lawrence River and the Churchill River.

1 capacity and energy made available under these agreements is considered to be 100%
2 reliable from a generation planning perspective.⁴ Given that the available capacity exceeds
3 what can be delivered in the current system, there has been no requirement to complete
4 separate capacity-driven generation planning activities for the Labrador Interconnected
5 System.

⁴ Transmission planning analysis is conducted separately and is subject to existing transmission planning practices.