Q. **Re: RRAS (2018), Vol. III, page 53-54 (293-294 pdf)**

Citation :

Sensitivity cases were developed to study the impact of potential large loads in Labrador (i.e. reactivation of Wabush mine, additional load requirements from DND, potential data center development)

Table 12 presents the base forecast with sensitivities for the total LIS over the study period. The base forecast reflects Hydro Rural Load Forecast, spring 2018, which includes existing data centre requirements and additional data centre requirements of customers approved for service at June 2018. The base case forecast for this planning exercise does not currently include loads associated with Wabush mine reactivation by Tacora Resources, however, sensitivity cases were developed to study the impact of potential large loads, including the reactivation of Wabush mine, data centre development in Labrador East and West, and additional load requirements for the Department of National Defence ("DND") at 5 Wing Goose Bay. Note that the cases were developed on a stand-alone basis, meaning any combination of the options presented could occur.

Table 12: Labrador Utility Electricity Load Growth Summary– 2018 Planning Load Forecast[42,43,44]

		2017-2023[45]	2017-2029
Base Case	MW	-3.5%	-2.4%
	GWh	2.1%	2.9%
Case I: Increased requirements at DND	MW	-0.9%	0.2%
	GWh	4.1%	4.8%
Case II: Data Centre Development – Lab East	MW	3.5%	4.6%
	GWh	12.1%	12.8%
Case III: Data Centre Development – Lab West	MW	8.0%	9.1%
	GWh	16.9%	17.6%
Case IV: Mine Redevelopment	MW	9.2%	10.3%
	GWh	20.1%	20.9%

As any combination of the cases could occur, the analysis was rationalized to focus on three potential load growth scenarios for Labrador; the base case, a high industrial growth case, and a case where all recapture is consumed in Labrador within the study period, detailed in Table 13. (underlining added)

a) Please provide the year-by-year load forecast (MW and GWh) for each of the three potential load growth scenario mentioned in the last paragraph of the citation (namely, the base case, a high industrial growth case, and a case where all recapture is consumed in Labrador within the study period).

b) In the 2018 RRAS, did Hydro examine any scenario in which all recapture energy was consumed before the end of the study period? If not, why not?

c) Please provide the year-by-year load forecast (MW and GWh) in the scenario where a combination of the load increases described in Cases I, II, III and IV is present. For each year, please indicate the surplus or shortfall of available resources (Recall Power and Twinco Block).

A. a) Please refer to LAB-NLH 010, Attachment 1 which includes the forecast in the base and high industrial growth cases.

As described in Newfoundland and Labrador Hydro's ("Hydro's") 2018 Filing, the Base Case reflects Hydro's Spring 2018 Rural Load Forecast, which included existing data centre requirements and additional data centre requirements of customers approved for service at June 2018 and did not include loads associated with Wabush mine reactivation by Tacora Resources Inc. ("Tacora") The High Industrial Growth Case reflected high industrial growth in the region and included loads associated with the Scully mine reactivation by Tacora n Labrador West and additional load requirements from Department of National Defence in Labrador East. A representative case which assumed all Recapture Energy was consumed in the Labrador Interconnected System was also designed to evaluate sensitivity of provincial supply to availability of remaining Recapture Energy. This scenario was not based on a forecast which consumed the entirety of the Recapture Energy block, rather this case was modelled by preventing the transmission of the unused Recapture Energy to the Island which has the same effect as consuming all recapture energy in Labrador from a reliability perspective. To date, Hydro does not have a base forecast in which the entirety of the

Recapture Energy is consumed on the Labrador Interconnected System within the study period.

b) The sensitivity case from the 2018 Reliability and Resource Adequacy filing which assumes all recapture energy is consumed in Labrador reflects a case where all of the recapture energy and the associated capacity was consumed for each year in the study period.

c) The energy and capacity balances for the base and high industrial growth load scenarios are included in LAB-NLH-010, Attachment 1. As discussed in part a of this response, the base and high industrial growth potential load growth scenarios were developed as reasonable combination of the load increases described in Cases I, II, III and IV.

Labrador Load Forecast - Base Case

Energy

Year	Lab West Utility GWh	Lab West Industrial GWh	Lab East GWh	Musrat Falls Construction GWh	Losses GWh	Total GWh	Energy Balance GWh
2019	372	1742	345	34	175	2667	1669
2020	384	1741	346	9	169	2648	1688
2021	385	1741	347	0	167	2639	1697
2022	385	1741	348	0	168	2642	1694
2023	386	1741	349	0	168	2644	1692
2024	387	1741	351	0	168	2647	1689
2025	389	1741	353	0	169	2651	1685
2026	390	1741	355	0	170	2655	1681
2027	391	1741	357	0	171	2659	1677
2028	392	1741	358	0	171	2662	1674

Capacity

Year	Lab West Utility MW	Lab West Industrial MW	Lab East MW	Muskrat Falls Construction MW	Losses MW	Total MW	Capacity Balance MW
2019	76.7	250.0	80.3	3.3	33.3	426.4	98.6
2020	77.4	250.0	80.5	0.0	32.3	423.3	101.7
2021	77.6	250.0	80.8	0.0	32.4	423.9	101.1
2022	77.8	250.0	81.0	0.0	32.6	424.5	100.5
2023	78.1	250.0	81.3	0.0	32.7	425.0	100.0
2024	78.4	250.0	81.9	0.0	32.9	426.0	99.0
2025	78.7	250.0	82.4	0.0	33.1	427.0	98.0
2026	79.0	250.0	82.9	0.0	33.3	428.0	97.0
2027	79.3	250.0	83.4	0.0	33.5	428.9	96.1
2028	79.6	250.0	83.9	0.0	33.7	429.9	95.1

Labrador Load Forecast - High Industrial

Energy

Year	Lab West Utility GWh	Lab West Industrial GWh	Lab East GWh	Muskrat Falls Construction GWh	Losses GWh	Total GWh	Energy Balance GWh
2019	372	1899	379	34	189	2872	1464
2020	384	1986	369	9	196	2944	1392
2021	385	2077	394	0	211	3067	1269
2022	385	2098	395	0	214	3092	1244
2023	386	2098	396	0	214	3095	1241
2024	387	2098	398	0	214	3098	1238
2025	389	2098	400	0	216	3102	1234
2026	390	2098	402	0	216	3106	1230
2027	391	2098	404	0	217	3110	1226
2028	392	2098	406	0	217	3113	1223

Capacity

Year	Lab West Utility MW	Lab West Industrial MW	Lab East MW	Musrat Falls Construction MW	Losses MW	Total MW	Capacity Balance MW
2019	76.7	280	83.6	3.3	36.9	462.0	63.0
2020	77.4	290	92.5	0.0	39.9	480.2	44.8
2021	77.6	298	92.8	0.0	40.7	489.2	35.8
2022	77.8	298	93.0	0.0	40.8	489.8	35.2
2023	78.1	298	93.3	0.0	40.9	490.4	34.6
2024	78.4	298	93.9	0.0	41.1	491.4	33.6
2025	78.7	298	94.4	0.0	41.4	492.4	32.6
2026	79.0	298	94.9	0.0	41.6	493.4	31.6
2027	79.3	298	95.4	0.0	41.9	494.4	30.6
2028	79.6	298	95.9	0.0	42.1	495.4	29.6