

1 Q. **Reference: RRAS, 2019 Update, Vol. III, page 22 (138 pdf)**

2 Citation:

3 Looking forward through the medium-term (i.e., one to five years) there are several
4 developments that will positively influence provincial economic activity, both in
5 Labrador and on the island. In late 2018, Greig NL's Placentia Bay aquaculture project
6 was released from environmental assessment and the project is expected to be fully
7 operational by 2025. Increased interest in aquaculture is expected to expand the overall
8 fishing and aquaculture industry.

9 The mining sector also announced encouraging developments, including Vale's
10 announcement that it will proceed with the development of two underground mines at
11 Voisey's Bay, resulting in a large capital investment and a long-term source of nickel
12 concentrate for the Long Harbour Processing Plant. Additionally in 2018, Tacora
13 Resources secured funding to restart the former Wabush Mines, with operations
14 resuming in 2019.

15 Preamble:

16 The 2019 Update makes no mention of potential growth of cryptocurrency mining (data
17 centre loads) in Labrador.

18 a) Please confirm (or correct) LIG's understanding that Hydro has received some 300 MW of
19 service requests for new cryptocurrency mining customers.

20 b) Please describe in detail Hydro's view of the implications of each of the following factors on
21 the expected demand for electricity by existing and new cryptocurrency mining customers in
22 Labrador, and what the expected system requirements are for serving them:

23 i. The various possible outcomes of the ongoing debates concerning the adoption of a
24 new Network Addition Policy for Labrador;

25 ii. The creation of a new customer class for cryptocurrency mining with obligatory
26 curtailment provisions;

- 1 iii. The market price of bitcoin; and
- 2 iv. Any other factors.
- 3 c) Taking these uncertainties into account, please provide Hydro’s best estimates (medium,
4 high and low scenarios) of new cryptocurrency mining loads in Labrador over the 10-year
5 planning horizon.
- 6 d) For each of these three scenarios, please indicate at what point during the 10-year planning
7 horizon Labrador requirements for i) capacity and ii) energy would exceed available
8 resources (i.e. Recall Power and the Twinco Block).
- 9 e) Please indicate (with reference to filed documents or to other RFI responses, if appropriate)
10 to what resources Hydro would turn once the Recall Power and Twinco Block are exhausted,
11 in order to maintain least-cost service for the Labrador Interconnected System.
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- 14 A. a) A detailed listing of data centre service request is provided in LAB-NLH-008, Attachment 1.
- 15 b) i. As the review of the proposed Labrador Network Additions Policy (“NAP”) is ongoing by
16 the Board of Commissioners of Public Utilities, the possible outcomes are either an
17 approved NAP, an approved NAP with some modification by agreement of the parties, or
18 denial of the proposed NAP. The NAP was not created, and is not intended, to impact the
19 demand for electricity by any customer; it is intended to address the costs of network
20 additions and their impact on Labrador customers. Specifically, its purpose is to fairly
21 determine the recovery of the cost of investment in new transmission assets between
22 existing customers and the customers requesting additional capacity. As such,
23 Newfoundland and Labrador Hydro (“Hydro”) has not studied and cannot provide data
24 regarding the impact on expected demand for electricity of the approval or denial of the
25 proposed NAP, nor the expected system requirements, other than those found in the
26 Labrador Transmission Expansion Plan.

- 1 ii. Hydro does not believe current legislation enables it to refuse to serve cryptocurrency
2 customers or to implement a separate policy with respect to a dissuasive rate or
3 contribution policy that only applies to cryptocurrency customers. However, Hydro notes
4 that in April 2019, Government announced the potential for a data centre rate to support
5 rate mitigation on the Island Interconnected System. Government can legislate a separate
6 rate for cryptocurrency customers. Special treatment of cryptocurrency customers is subject
7 to Government direction. Hydro has not studied and cannot provide data regarding the
8 impact on expected demand for electricity of a potential data centre rate or other
9 Government direction, nor the expected system requirements of such impacts.
- 10 iii. The market price of bitcoin, as with the market price of any commodity, can impact the
11 investment in that industry. As there is an extremely wide range of possibilities with respect
12 to the market price of bitcoin, and as this industry is relatively new and changes in the
13 industry other than the price of bitcoin, such as changes in computer technology, could
14 materially change the customers' demand requirements, Hydro is unable to speculate
15 regarding the impact on expected demand, nor the expected system requirements of such
16 impacts.
- 17 iv. As Hydro has noted above, there are any number of factors that could impact
18 cryptocurrency demand. Hydro is unable to speculate regarding the impact on expected
19 demand, or the expected system requirements of such impacts.
- 20 c) Please see Hydro's response to LAB-NLH-008, part b), iv.
- 21 d) Please see Hydro's responses to LAB-NLH-008, part b), i-iv. Hydro does not have the
22 necessary data to provide a response.
- 23 e) Please refer to Hydro's responses to LAB-NLH-002 and LAB-NLH-003.

Customer requests on hold due to Regulation 17

Request Identifier	Date of Request	Location	Connected Capacity (kW)	Peak Capacity (kW)	Annual Energy Consumption (kWh)	Type of Activity	Duration of Service Contract	Requested in Service Date	Formal / Informal Request*
A	5-Jun-16	Happy Valley-Goose Bay	Not Available	Not Available		Data Centre	Not Available		Formal
B	7-Dec-17	Happy Valley-Goose Bay	Not Available	820		Data Centre	Not Available		Formal
C	4-Jan-18	Happy Valley-Goose Bay	Not Available	750		Data Centre	Not Available		Formal
D	10-Jan-18	Happy Valley-Goose Bay	Not Available	400		Data Centre	Not Available		Formal
E	18-Jan-18	Happy Valley-Goose Bay	Not Available	3,194		Data Centre	Permanent		Formal
F	18-Jan-18	Happy Valley-Goose Bay	Not Available	19,200		Data Centre	Permanent		Formal
G	25-Jan-18	Happy Valley-Goose Bay	Not Available	800		Data Centre	Not Available		Formal
H	26-Feb-18	Happy Valley-Goose Bay	Not Available	800		Data Centre	Not Available		Formal
I	1-Mar-18	Happy Valley-Goose Bay	Not Available	941		Data Centre	Not Available		Formal
J	2-May-18	Happy Valley-Goose Bay	Not Available	300		Data Centre	Not Available		Formal
K	3-May-18	Happy Valley-Goose Bay	Not Available	1,558		Data Centre	Not Available		Formal
L	23-May-18	Happy Valley-Goose Bay	Not Available	180		Warehouse	Not Available		Formal
M	18-Jun-19	Happy Valley-Goose Bay	Not Available	1,600		Data Centre	Not Available		Formal
N	21-Jun-19	Happy Valley-Goose Bay	Not Available	1,600		Data Centre	Not Available		Formal
O ¹	17-May-20	Labrador West	165	165	1,432,704	Data Centre	Not Available	TBD	Formal
P ¹	17-May-20	Labrador West	165	165	1,432,704	Data Centre	Not Available	TBD	Formal
Q ²	9-Oct-19	Labrador West	6,000	5,760	50,457,600	Data Centre	20 Years	9-Oct-19	Formal
R ²	9-Oct-19	Labrador West	20,000	Not Available	Not Available	Data Centre	20 Years	9-Oct-19	Formal
S ³	18-Oct-19	Labrador West	400	385	3,356,826	Data Centre	20 Years	1-Nov-19	Formal
T ⁴	1-Mar-20	Labrador West	Not Available	5,000	Not Available	Data Centre	Not Available	TBD	Informal
U ⁵	1-May-18	Labrador	50,000 to 200,000	50,000 to 200,000	Not Available	Data Centre	Not Available	TBD	Formal
V ⁶	1-Apr-19	Labrador	Minimum 100,000	Minimum 100,000	Not Available	Data Centre	Not Available	TBD	Formal
W ⁷	26-Feb-18	Happy Valley-Goose Bay	100,000	100,000	Not Available	Data Centre	Not Available	Fall 2018	Formal

- 1) These two requests are from the same customer. Hydro has indicated they can be approved for up to 200 kW, but not both 165 kW requests.
 - 2) These two requests are from the same customer. Request Q was a request for temporary interruptible service, with the long term service (Request R) to be a permanent service for 20,000 kW.
 - 3) This customer's request was refused under Regulation 17. The customer revised their request for one with a peak capacity of less than 200 kW and was approved by Hydro.
 - 4) Hydro received a number of informal requests for a location in Labrador West that had been used by a previous Data Centre customer.
 - 5) Initial contact made with Hydro in May 2018. Subsequent follow up discussions occurred into 2019.
 - 6) Initial contact made with Hydro in April 2019. Subsequent follow up discussions occurred into 2020.
 - 7) Initial contact made with Hydro in Feb 2018. Subsequent follow up discussions occurred into 2020.
- * Informal requests of a single phone call or email are not currently tracked by Hydro. Should the customer continue with a follow up, they are asked to submit a formal request.