



NEWFOUNDLAND AND LABRADOR
BOARD OF COMMISSIONERS OF PUBLIC UTILITIES
120 Torbay Road, P.O. Box 21040, St. John's, Newfoundland and Labrador, Canada, A1A 5B2

E-mail: gyoung@nlh.nl.ca

2014-09-16

Mr. Geoffrey Young
Newfoundland and Labrador Hydro
P.O. Box 12400
St. John's, NL A1B 4K7

Dear Sir:

Re: Newfoundland and Labrador Hydro - the Board's Investigation and Hearing into Supply Issues and Power Outages on the Island Interconnected System – Requests for Information PUB-NLH-438 to PUB-NLH-449

Enclosed are Information Requests PUB-NLH-438 to PUB-NLH-449 regarding the above-noted matter. Responses to these Requests for Information (RFIs) must be filed by Wednesday, October 15, 2014.

If Hydro determines that it cannot meet the response date for any of these RFIs, Hydro must advise the Board and provide an explanation as to why it cannot respond to each RFI for which it is requesting an extension to file a response. Hydro must request an extension of time to file responses, if it intends to do so, by Friday, September 26, 2014.

If you have any questions, please do not hesitate to contact the Board's Legal Counsel, Ms. Jacqui Glynn, by email, jglynn@pub.nl.ca or telephone, (709) 726-6781.

Yours truly,

Bobbi Sheppard
Assistant Board Secretary

Encl.

cc. **Newfoundland Power Inc.**

Mr. Gerard Hayes, E-mail: ghayes@newfoundlandpower.com
Mr. Ian Kelly, QC, E-mail: ikelly@curtislaw.com

Island Industrial Customer Group

Mr. Paul Coxworthy, E-mail: pcoxworthy@stewartmckelvey.com
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Grand Riverkeeper® Labrador Inc.

Ms. Roberta Frampton Benefiel, E-Mail: rebni@gmail.com
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Consumer Advocate

Mr. Thomas Johnson, E-mail: tjohnson@odeacarte.ca
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Mr. William Kennedy, E-mail: wkennedy@kennedylawoffice.ca

1 **IN THE MATTER OF**
2 the *Electrical Power Control Act, 1994*,
3 SNL 1994, Chapter E-5.1 (the “*EPCA*”)
4 and the *Public Utilities Act*, RSNL 1990,
5 Chapter P-47 (the “*Act*”), as amended; and
6

7 **IN THE MATTER** of the Board’s Investigation
8 and Hearing into Supply Issues and Power Outages
9 on the Island Interconnected System.

**PUBLIC UTILITIES BOARD
REQUESTS FOR INFORMATION**

PUB-NLH-438 to PUB-NLH-449

Issued: September 16, 2014

- 1 **PUB-NLH-438** Will the Labrador Island Link be designed so that it can be operated
2 continuously or for several hours with reduced dc voltage? If continuous
3 operations with low dc voltage will be possible, please state the
4 continuous power rating for this operating condition.
5
- 6 **PUB-NLH-439** Further to PUB-NLH-438 what would be the impact on the Island
7 Interconnected System of the Labrador Island Link operating for extended
8 periods with reduced dc voltage?
9
- 10 **PUB-NLH-440** Please provide an estimate of the percentage of the year that the Island
11 Interconnected System would be at risk of load shedding when operating
12 with two 175 MVA synchronous condensers in service, assuming that the
13 time to restoration of full power after a temporary bipole fault were to
14 exceed 250 ms. In the response, include how the percentage of the year
15 will vary during the life of the Labrador Island Link, i.e. from initial
16 operation when loading may be low until conventional generation is shut
17 down.
18
- 19 **PUB-NLH-441** Please explain how the operation of the Labrador Island Link would be
20 affected by a 3 phase fault at the Holyrood Plant, which is understood
21 could result in prolonged ac voltage oscillation including voltage below
22 0.8pu.
23
- 24 **PUB-NLH-442** Please explain whether the dc switchgear at the converter stations and the
25 converter stations themselves will be designed such that the Labrador
26 Island Link can operate in metallic return mode, i.e. use the HVdc
27 conductor on the pole that is out of service as a return conductor, if long
28 term operation with ground return becomes prohibited.
29
- 30 **PUB-NLH-443** Please explain what the inertia requirements would be during the
31 permanent loss of a pole on the Labrador Island Link while operating in
32 bipolar operation at maximum power.
33
- 34 **PUB-NLH-444** Further to PUB-NLH-443 what impact would commutations failures in the
35 remaining pole have on the frequency and the need for load shedding on
36 the Island Interconnected System, assuming that persistent commutation
37 failures (during which no power could be transmitted) would take place
38 for 50 ms, 100 ms or 250 ms.
39
- 40 **PUB-NLH-445** Please state how many synchronous condensers will be operated on the
41 Island Interconnected System: (i) when the Maritime Link is in operation
42 and (ii) when the Maritime Link is not in operation.
43
- 44 **PUB-NLH-446** If only two synchronous condensers are in operation on the Island
45 Interconnected System, how long will it take to start up the third
46 synchronous condenser?

- 1 **PUB-NLH-447** Please explain the impacts that the operation or non-operation of the
2 Maritime Link could have on the operation of the Island Interconnected
3 System, i.e. in respect of spinning reserve and the risks to the system
4 immediately after a trip of the Maritime Link.
5
- 6 **PUB-NLH-448** Please provide the PSS/E versus PSCAD/EMTDC or similar benchmark
7 results for the Labrador Island Link configuration, including the test cases
8 for at least the following faults: close three phase faults at Muskrat Falls
9 and at Soldiers Pond and monopole and bipole HVdc line faults.
10
- 11 **PUB-NLH-449** Please explain what impact the trip of one pole on the Labrador Island
12 Link would have on the power transfer of the Maritime Link. If the change
13 is not immediate, please state the rate of change and the impact that this
14 has on the Island Interconnected System and the requirement for inertia
15 and spinning reserve.

DATED at St. John's, Newfoundland this 16th day of September 2014.

BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

Per. B. Sheppard
Bobbi Sheppard
Assistant Board Secretary