



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

2015-04-17

ELECTRONIC DISTRIBUTION

Mr. Geoff Young
Newfoundland and Labrador Hydro
P. O. Box 12400
Hydro Place, Columbus Drive
St. John's, NL A1B 4K7
E-mail: gyoung@nlh.nl.ca

Dear Sir:

Re: Newfoundland and Labrador Hydro – Amended General Rate Application – Prudence Review – Requests for Information

Enclosed are Information Requests PR-PUB-NLH-50 to PR-PUB-NLH-85 regarding the above-noted application. The deadline for filing the responses to the Requests for Information is Monday, April 27, 2015.

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 by telephone, 709-726-6781.

Yours truly,

Cheryl Blundon
Board Secretary

/bds
Encl.

ecc. **Newfoundland & Labrador Hydro**
Mr. Fred Cass, E-mail: fcass@airdberlis.com
Consumer Advocate
Mr. Thomas Johnson, E-mail: tjohnson@odeaearle.ca
Ms. Colleen Lacey, E-mail: clacey@odeaearle.ca
Mr. Raman Balakrishnan, E-mail: rbalakrishnan@odeaearl.ca
Vale Newfoundland and Labrador Limited
Mr. Thomas O'Reilly, QC, E-mail: toreilly@coxandpalmer.com
Mr. Denis Fleming, E-mail: dfleming@coxandpalmer.com
Innu Nation
Ms. Nancy Kleer, E-mail: nkleer@oktlaw.com
Mr. Senwung Luk, E-mail: sluk@oktlaw.com
Nunatsiavut Government
Ms. Genevieve Dawson, E-mail: gdawson@bensoffett.com
Mr. Tom Sheldon, E-mail: tom_sheldon@nunatsiavut.com
Ms. Christina Goldhar, E-mail: christina_goldhar@nunatsiavut.com
Mr. Christopher Henderson, E-mail: chenderson@lumcosenergy.com
Grand Riverkeeper® Labrador Inc.
Mr. Charles O'Brien, E-mail: bluegreenlaw@gmail.com
Mr. Philip Raphals, E-mail: Philip@centrehelios.org

Newfoundland Power Inc.
Mr. Gerard Hayes, E-mail: ghayes@newfoundlandpower.com
Mr. Liam O'Brien, E-mail: lobrien@curtislaw.com
Island Industrial Customer Group
Mr. Paul Coxworthy, E-mail: pcoxworthy@stewartmckelvey.com
Mr. Dean Porter, E-mail: dporter@pa-law.ca
Towns of Labrador City, Wabush, Happy Valley-Goose Bay and North West River
Mr. Dennis Browne, Email: dbrowne@bfma-law.com
Mr. Edward Hearn, QC, E-mail: miller&hearn@crstv.net
Ms. Melanie Dawe, E-mail: mdawe@bfma-law.com
Yvonne Jones MP, Labrador
Ms. Yvonne Jones, MP Labrador, E-mail: Yvonne.Jones.A1@parl.gc.ca
Yvonne.Jones.C1@parl.gc.ca
Mr. Danny Dumaresque
Mr. Danny Dumaresque, E-mail: danny.liberal@gmail.com
Mr. William Kennedy, E-mail: wkennedy@kennedylawoffice.ca
Sierra Club Canada
Mr. Fred Winsor, E-mail: winsorf@nl.rogers.com

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

6
7 **IN THE MATTER OF** a general rate application
8 filed by Newfoundland and Labrador Hydro on
9 July 30, 2013; and

10
11 **IN THE MATTER OF** an amended general rate
12 application filed by Newfoundland and Labrador
13 Hydro on November 10, 2014; and

14
15 **IN THE MATTER OF** a prudence review relating to
16 certain actions and costs of Newfoundland and Labrador Hydro.

**PUBLIC UTILITIES BOARD
REQUESTS FOR INFORMATION**

PR-PUB-NLH-50 to PR-PUB-NLH-85

Issued: April 17, 2015

- 1 **PR-PUB-NLH-050** Please describe whether Hydro's maintenance and testing of transformers
2 employs techniques capable of identifying bushing conditions or defects.
3 If the answer is yes, describe the techniques and describe and quantify the
4 likelihood that any such conditions or defects would have been identified
5 had maintenance on T1 transformer been conducted prior to the
6 transformer failure and had such conditions or defects existed at that time.
7
- 8 **PR-PUB-NLH-051** With respect to the 6-year maintenance that was 5 months overdue when
9 the Sunnyside B1L03 breaker malfunctioned, please provide any
10 documentation, as of the time that maintenance became overdue and up to
11 the January 2014 incidents, that indicated when Hydro did plan to conduct
12 6-year maintenance on the air blast circuit breaker. If there was no such
13 plan, describe what Hydro's plans at that time were for maintenance prior
14 to replacement in 2015.
15
- 16 **PR-PUB-NLH-052** Please explain how and on what basis Hydro determined to defer 6-year
17 maintenance work on some terminal station transformers and air blast
18 circuit breakers. In the response include how specifically Hydro identified
19 those transformers and air blast circuit breakers whose maintenance was to
20 be deferred, the number of months of deferral and the basis for
21 determining that amount for deferral of maintenance on each transformer
22 and air blast circuit breaker for which maintenance was deferred.
23
- 24 **PR-PUB-NLH-053** Please describe all efforts prior to 2014 to formally examine the
25 transmission system for N-2 contingency conditions (including but not
26 limited to a coincidental transformer and 230kV breaker failure) including
27 the actions identified to take to minimize the effects of N-2 events. If no
28 studies or analyses were completed, state whether Hydro concludes that all
29 N-2 events are too unlikely to warrant mitigating measures, even if they
30 may cause cascading outages.
31
- 32 **PR-PUB-NLH-054** Please state whether Hydro plans to conduct N-2 contingency studies in
33 the future.
34
- 35 **PR-PUB-NLH-055** Please state whether Hydro would be required to correct N-2 contingency
36 studies if and when it becomes subject to NERC requirements.
37
- 38 **PR-PUB-NLH-056** Please list the facilities, dates and causes of all 125MVA 230/138kV
39 transformer failures from 2000 through the present.
40
- 41 **PR-PUB-NLH-057** Please describe all activity that took place at Western Avalon Terminal
42 Station on January 4, 2014, between the time breaker B1L37 tripped three
43 times and when L01L03 was used to energize T5 transformer before its
44 diverter switch failed.

- 1 **PR-PUB-NLH-058** Please explain how Hydro eventually determined that the bus from breaker
2 B1L37 feeding the T5 transformer was not being energized on one phase.
3
- 4 **PR-PUB-NLH-059** Please describe what Hydro determined to be the cause of the malfunction
5 of Western Avalon breaker B1L37.
6
- 7 **PR-PUB-NLH-060** Please state whether and on what basis Hydro agrees or disagrees that the
8 cause of malfunction of Western Avalon breaker B1L37 would have been
9 identified and corrected if 6-year maintenance had been conducted prior to
10 the malfunction.
11
- 12 **PR-PUB-NLH-061** Please state when and how Hydro became aware that the Western Avalon
13 DFR was not functional and describe the extent of the malfunction (partial
14 or total).
15
- 16 **PR-PUB-NLH-062** Please explain whether Hydro would have identified the loss of voltage on
17 one phase on the bus fed by breaker B1L37, had the DFR been fully
18 functional.
19
- 20 **PR-PUB-NLH-063** Further to PR-PUB-NLH-037, please provide justification for the \$26,600
21 spent on overtime costs for overhauling Sunnyside breaker B1L03.
22
- 23 **PR-PUB-NLH-064** In reference to PR-PUB-NLH-037, please provide justification for the
24 \$49,000 spent on overtime costs for overhauling Holyrood breaker B1L37.
25
- 26 **PR-PUB-NLH-065** Please describe whether and on what basis Hydro agrees or disagrees that
27 the cause of the latching mechanism or a DC control trip circuit problem
28 that caused the Sunnyside breaker B1L03 malfunction would have been
29 identified and corrected if 6-year maintenance had been conducted prior to
30 the malfunction.
31
- 32 **PR-PUB-NLH-066** In reference to Holyrood breaker B1L17, please state the dates in 2013
33 when the breaker was disassembled and then reassembled for applying the
34 silicone coating on the insulators and if the duration was more than 3 days,
35 explain why Hydro allowed the breaker to be dissembled for an extended
36 time.
37
- 38 **PR-PUB-NLH-067** Further to PR-PUB-NLH-066, describe the method used by Hydro to seal
39 the exposed bottom parts on Holyrood breaker B1L17 left on site in the
40 weather from rain and describe how the method used to seal the exposed
41 breaker parts from the weather failed to prevent water from entering the
42 breaker.
43
- 44 **PR-PUB-NLH-068** Further to PR-PUB-NLH-066, describe any Hydro inspections of the
45 exposed portions of the Holyrood breaker B1L17 before reassembly and

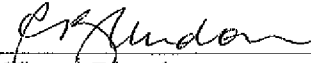
- 1 explain why the electrical tests Hydro conducted following the reassembly
 2 did not determine internal dryness of the breaker.
 3
- 4 **PR-PUB-NLH-069** Please explain why the response to PR-PUB-NLH-30 states, for the
 5 Sunnyside Replacement Project, total costs of \$5,080,000, minus the
 6 \$1,826,000 covered by insurance, but the amount approved by Order No.
 7 P.U. 29(2014) was \$8,464,200.
 8
- 9 **PR-PUB-NLH-070** Further to the response to PR-PUB-NLH-30, please separate the costs in i,
 10 j and k to provide those related only to the new transformer breaker and
 11 the breaker failure protection.
 12
- 13 **PR-PUB-NLH-071** Please explain why the cost (\$160,900) to repair Sunnyside B1LO3 stated
 14 in the response to PR-PUB-NLH-30 was included with the "*Sunnyside*
 15 *Replacement Equipment*" application approved by Order No. P.U.
 16 29(2014) when this cost was also included in the application for
 17 "*Overhaul of the Sunnyside B1LO3 230kV Breaker and Overhaul of the*
 18 *Holyrood B1L17 230kV Breaker*" approved by Order No. P.U. 23(2014).
 19
- 20 **PR-PUB-NLH-072** Please state whether one of the 6-year transformer maintenance and testing
 21 activities is conducting power factor tests on transformer bushings to
 22 detect incipient bushing insulation defects.
 23
- 24 **PR-PUB-NLH-073** Please provide the number of terminal station bushing defects that have
 25 been identified by power factor testing and the number of bushings that
 26 have failed in service, since 2000.
 27
- 28 **PR-PUB-NLH-074** Please provide Hydro's justifications for determining that major
 29 maintenance should be performed on service-aged terminal station
 30 transformers and on service-aged air blast circuit breakers every six years
 31 rather than some other interval. In the response include any references or
 32 recommendations from manufacturers and from consultants Hydro
 33 considered in determining the appropriate timing and provide comparisons
 34 with what Hydro understands other electric utilities to do.
 35
- 36 **PR-PUB-NLH-075** Please describe each terminal station transformer defect (since 2000) that
 37 resulted in replacing the transformer or replacing major transformer
 38 components and list each major issue detected by DGA testing, 6-year
 39 testing, or by the failure of the transformer (or tripping of the transformer
 40 protection).
 41
- 42 **PR-PUB-NLH-076** Please describe each air blast circuit breaker defect or malfunction that
 43 affected the generation or transmission system operations from 2000
 44 through 2013.

- 1 **PR-PUB-NLH-077** Further to the response to PR-PUB-NLH-035, please verify that the actual
2 cost for the Western Avalon Terminal Station T5 Tap Changer
3 Replacement was \$1,013,900 rather than the amount of \$1,452,500
4 approved by Order No. P.U. 32(2014).
- 5 **PR-PUB-NLH-078** Please verify that Hydro had not conducted 6-year maintenance on
6 Western Avalon B1L37 since 2005 and state whether and when Hydro
7 formally scheduled 6-year maintenance on this breaker for 2014, 2015, or
8 later.
9
- 10 **PR-PUB-NLH-079** Please verify that, after the Western Avalon B1L37 initial trip on January
11 4, 2014, had operators disconnected the T5 transformer and other
12 transformers fed by that breaker and re-energized only the bus, that the
13 voltages on each of the three phases could be read by operators locally and
14 system operators in the EEC.
15
- 16 **PR-PUB-NLH-080** Please provide the number of times Hydro had overhauled type DLF
17 breakers before the Holyrood B1L17 overhaul in 2014.
18
- 19 **PR-PUB-NLH-081** For the Holyrood B1L17 overhaul, state whether Hydro used \$108,200 of
20 consultant labor because Hydro personnel were not qualified for the DLF
21 overhaul work, because Hydro lacked the resources because of other work
22 at that time, or for some other reason and explain the response.
23
- 24 **PR-PUB-NLH-082** For the Labrador City Terminal Stations project, please provide all
25 forecasted and actual annual peak demands for the Labrador City system
26 prepared from 2005 through 2013 and state how and when Hydro became
27 aware of increased mining and economic activity and resulting increase in
28 loads. In the response explain all identified causes of the increased loads,
29 such as the increased mining, commercial and residential loads.
30
- 31 **PR-PUB-NLH-083** For the Labrador City Terminal Stations project, provide the approximate
32 percentage of increase in civil, mechanical and electrical contractor unit
33 costs from 2005 to 2013 and explain if and how construction activity, in
34 general, in Labrador changed each year from 2005 through 2013 and how
35 that construction activity affected the project.
36
- 37 **PR-PUB-NLH-084** Please provide for the record a copy of Hydro's "*Upgrade Circuit*
38 *Breakers*" report dated July 2012 which Liberty received on March 25,
39 2015.
40
- 41 **PR-PUB-NLH-085** Please confirm that one of the reasons Hydro did not re-size the Black
42 Tickle plant's capacity as a result of the fish plant closing was because
43 Hydro did not want to preclude a potential future re-opening of the plant.
44 If the answer is confirmed describe the basis for this decision, provide
45 Hydro's basis for believing a future re-opening was possible, describe any

1 knowledge Hydro has of such plants being restarted in similar
2 communities and summarize all discussions Hydro had on this topic with
3 fish plant management or other local people.

DATED at St. John's, Newfoundland this 17th day of April 2015.

BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

Per 
Cheryl Blundon
Board Secretary