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June 11, 2019

The Board of Commissioners of Public Utilities
Prince Charles Building
120 Torbay Road, P.O. Box 21040
St. John's, NL A1A 5B2

Attention: Ms. Cheryl Blundon
Director Corporate Services & Board Secretary

Dear Ms. Blundon:

Re: Cost of Service Methodology Review - Requests for Information

Enclosed please find the original plus eight copies of Newfoundland and Labrador Hydro's Requests for Information NLH-PUB-001 to NLH-PUB-029.

Should you have any questions, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

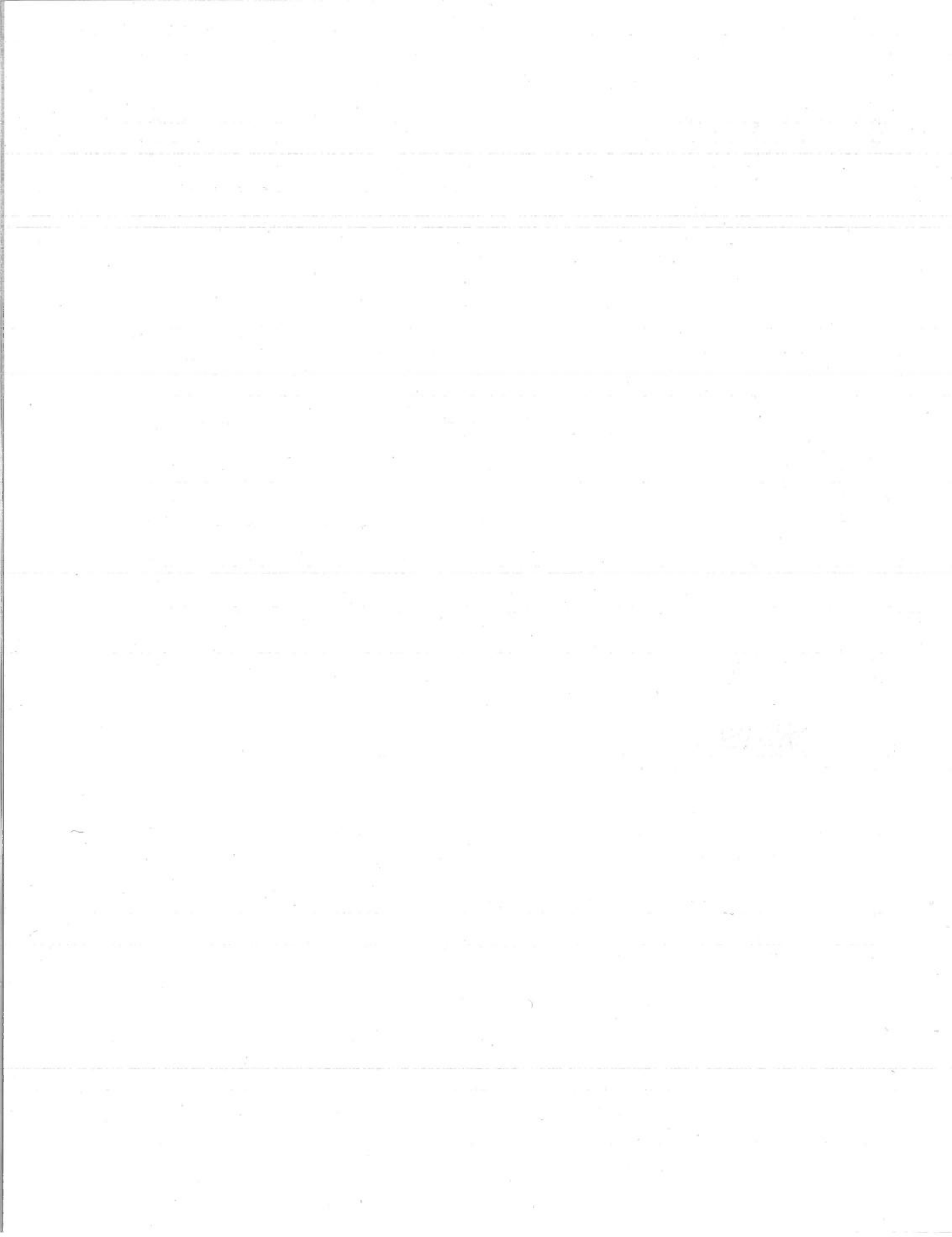


Shirley A. Walsh
Senior Legal Counsel, Regulatory
SAW/sk

Encl.

cc: Gerard Hayes, Newfoundland Power
Paul Coxworthy, Stewart McKelvey
ecc: Dean Porter, Poole Althouse
Senwung Luk, Olthuis Kleer Townshend LLP

Dennis Browne, Q.C., Browne Fitzgerald Morgan & Avis
Denis Fleming, Cox and Palmer
Gregory Moores, Stewart McKelvey



IN THE MATTER OF the *Electrical Power Control Act, 1994*, SNL 1994, Chapter E-5.1 (the “*EPCA*”) and the *Public Utilities Act, RSNL 1990, Chapter P-47* (the “*Act*”);

AND IN THE MATTER OF an Application by Newfoundland and Labrador Hydro (“Hydro”) for approval of revisions to its Cost of Service Methodology pursuant to Section 3 of the *EPCA* (the “*Cost of Service Methodology Application*”) for use in the determination of test year class revenue requirements reflecting the inclusion of the Muskrat Falls Project costs upon full commissioning.

NEWFOUNDLAND AND LABRADOR HYDRO

Requests for Information

NLH-PUB-001 to NLH-PUB-029

June 11, 2019

1 **NLH-PUB-001** With respect to the development of marginal cost estimates, does the difference in
2 location prices necessarily suggest congestion within transmission networks and the
3 direction of flows?
4

5 **NLH-PUB-002** With respect to the development of marginal cost estimates, generally speaking, would
6 The Brattle Group expect system reliability to remain unchanged with respect to the
7 proximity of the sources of power supply (generation) to load centres?
8

9 **NLH-PUB-003** With respect to the development of marginal cost estimates, should the selection of
10 generation resources take account of the configuration of the underlying transmission
11 network?
12

13 **NLH-PUB-004** Under an opportunity cost-based approach, should Newfoundland and Labrador Hydro's
14 estimates of forward-looking marginal costs incorporate transmission reservation
15 charges?
16

17 **NLH-PUB-005** Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May
18 3, 2019, Exhibit II at p. 14/3-6
19

20 Regarding a single integrated system for cost of service purposes, is The Brattle Group
21 recommending that all generation assets, with the exception of Muskrat Falls, be
22 treated as common and then allocated among customer classes based on a system load
23 factor for a combined Island and Labrador system? If not, please explain The Brattle
24 Group's recommendation on the manner in which generation costs are proposed to be
25 allocated by system.
26

27 **NLH-PUB-006** Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May
28 3, 2019, Exhibit II at p. 14/3-6
29

30 Regarding a single integrated system for cost of service purposes, is The Brattle Group
31 recommending that all transmission assets, with the exception of Muskrat Falls, be
32 treated as common and then allocated among customer classes based on single

1 coincident peak for the combined Island and Labrador System? If not, please explain The
2 Brattle Group's recommendation on the manner in which transmission costs are
3 proposed to be allocated by system.
4

5 **NLH-PUB-007 Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May**
6 **3, 2019, Exhibit II at pp. 15–16**

7
8 The Brattle Group Report states: "We agree that the generation facilities at Muskrat
9 Falls should be functionalized as generation. Concerning the LIL and the LTA, however,
10 we believe that it is more appropriate to functionalize them as transmission."
11

12 a) Please confirm that Manitoba Hydro's Open Access Transmission Tariff conforms to
13 the Federal Energy Regulatory Commission criteria, but excludes the costs of its very
14 large HVdc facilities from Open Access Transmission Tariff charges as these facilities
15 are viewed as generation-related in its cost of service methodology.
16

17 b) Does The Brattle Group disagree with the cost of service approach followed in
18 Manitoba? If yes, please explain why.
19

20 **NLH-PUB-008 Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May**
21 **3, 2019, Exhibit II at p. 18/8–12**

22
23 The Muskrat Falls project is a \$10.4 billion supply project (excluding financing costs) for
24 which the generating source is located approximately 1,100 kilometres from the point of
25 delivery. Please explain whether and why The Brattle Group believes that the Federal
26 Energy Regulatory Commission methodology, regarding functionalization of
27 transmission from wind farms in the computation of an Open Access Transmission
28 Tariff, provides an applicable example to follow for the functionalization of the
29 Labrador-Island Link and the Labrador Transmission Assets.

1 **NLH-PUB-009 Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May**
2 **3, 2019, Exhibit II at p. 18/8-13**

3
4 The evidence provided in support of the interim Newfoundland and Labrador System
5 Operator transmission tariff (as referenced at p.18, fn. 14) indicates that a final
6 determination on the functionalization of the Labrador-Island Link will be determined
7 through the Cost of Service Methodology Review Hearing. Please explain why the use of
8 the forecast operating costs for the Labrador-Island Link and the Labrador Transmission
9 Assets as transmission costs on an interim basis in the Newfoundland and Labrador
10 System Operator transmission tariff should have any bearing on the Board of
11 Commissioners of Public Utilities' final decision on the functionalization of the Labrador-
12 Island Link and the Labrador Transmission Assets in the Cost of Service Methodology
13 Review Hearing.

14
15 **NLH-PUB-010 Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May**
16 **3, 2019, Exhibit II at pp. 18-19**

17
18 Recommendation 15 of the Board of Commissioners of Public Utilities' 1993 Cost of
19 Service Methodology Review Report recommends:

20
21 That transmission lines and substations in the Island Interconnected
22 system used solely or dominantly for the purpose of connecting
23 remotely-located generation to the main transmission system be
24 classified in the same manner as the generating stations they serve.^[1]
25

26 Does The Brattle Group agree that the statement by the Board of Commissioners of
27 Public Utilities reasonably reflects cost causality as a basis for cost allocation? If not, why
28 not?

¹ "Report of the Board of Commissioners of Public Utilities to the Honourable Minister of Mines and Energy Government of Newfoundland and Labrador on a Referral by Newfoundland and Labrador Hydro for the Proposed Cost of Service Methodology and a Proposed Method for Adjusting its Rate Stabilization Plan to Take Into Account the Variation in Hydro's Rural Revenues Resulting From Variations in the Rates Set by the Board to be Charged by Newfoundland Light & Power Co. Limited to its Customers," February 1993 at p. 44.

1 **NLH-PUB-011 Reference: “Embedded and Marginal Cost of Service Review,” The Brattle Group, May**
2 **3, 2019, Exhibit II at pp. 18–19**

3
4 Does The Brattle Group agree that the Labrador Transmission Assets facilities
5 connecting Churchill Falls generation and Muskrat Falls generation are being
6 constructed to maximize generation output on a consistent basis from the Muskrat Falls
7 generation facilities? If yes, please explain how functionalizing the Labrador
8 Transmission Assets facilities as 100% transmission and classifying the assets as 100%
9 demand-related is consistent with a cost-causality approach to cost allocation.

10
11 **NLH-PUB-012 Reference: “Embedded and Marginal Cost of Service Review,” The Brattle Group, May**
12 **3, 2019, Exhibit II at pp. 18–19**

13
14 In the 1993 Cost of Service Methodology Review Report, the Board of Commissioners of
15 Public Utilities states: “In the Board’s opinion all lines, terminal stations and ancillary
16 equipment dedicated to the service of a generating station should be classified in
17 conformity therewith.”² Does The Brattle Group consider its recommended approach to
18 the treatment of the Labrador Transmission Assets facilities to be inconsistent with the
19 Board of Commissioners of Public Utilities’ opinion presented in the 1993 Cost of Service
20 Methodology Review Report? If not, why not?

21
22 **NLH-PUB-013 Reference: “Embedded and Marginal Cost of Service Review,” The Brattle Group, May**
23 **3, 2019, Exhibit II at pp. 18–19**

24
25 Please confirm that The Brattle Group is recommending the same classification
26 approach for the Labrador-Island Link and the Labrador Transmission Assets costs as is
27 recommended for the costs of gas turbines (excluding fuel) which are primarily used for
28 standby generation on the interconnected system. If confirmed, please reconcile why

² “Report of the Board of Commissioners of Public Utilities to the Honourable Minister of Mines and Energy Government of Newfoundland and Labrador on a Referral by Newfoundland and Labrador Hydro for the Proposed Cost of Service Methodology and a Proposed Method for Adjusting its Rate Stabilization Plan to Take Into Account the Variation in Hydro’s Rural Revenues Resulting From Variations in the Rates Set by the Board to be Charged by Newfoundland Light & Power Co. Limited to its Customers,” February 1993 at p. 44.

1 the same recommendation is appropriate for these assets from a cost-causality
2 perspective.

3
4 **NLH-PUB-014 Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May**
5 **3, 2019, Exhibit II at pp. 18–19**

6
7 Does The Brattle Group agree that the primary purpose of the Labrador-Island Link is to
8 deliver energy from remotely-located generation to the main transmission system on
9 the Island for use in serving Island customers? If yes, does The Brattle Group agree that
10 from a cost-causality perspective it would be reasonable to classify a material portion
11 the Labrador-Island Link costs as energy related? If The Brattle Group does not agree,
12 please explain why.

13
14 **NLH-PUB-015 Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May**
15 **3, 2019, Exhibit II at p. 19/3–5**

16
17 If the Board of Commissioners of Public Utilities rules that the Labrador-Island Link and
18 the Labrador Transmission Assets should be functionalized as generation, why would it
19 be advisable to impose the restriction that these assets be classified as demand-related?
20

21 **NLH-PUB-016 Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May**
22 **3, 2019, Exhibit II at p. 20/13–17**

23
24 Regarding the functionalization of Holyrood Unit 3, how does The Brattle Group suggest
25 that Hydro identify ". . . the portion of rate base and depreciation associated with
26 Holyrood's use as a generator . . ."? Given that the generation components of the assets
27 are being retired, would it not be reasonable to change the asset's functionalization
28 entirely to reflect the change in function?

1 **NLH-PUB-017 Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May**
2 **3, 2019, Exhibit II at p. 31**

3
4 Regarding the use of either equivalent peaker or system load factor to classify Muskrat
5 Falls generation, is it The Brattle Group's opinion that the outcome or customer class
6 impact of choice of method on cost allocation should have standing in determining the
7 choice of method?

8
9 **NLH-PUB-018 Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May**
10 **3, 2019, Exhibit II at p. 32 ff.**

11
12 Newfoundland and Labrador Hydro has submitted that the equivalent peaker method
13 has a theoretical advantage over other methods, including other energy-weighting
14 methods of classification, due to its grounding in estimating shares based on system
15 planning principles. Does The Brattle Group disagree with this position?

16
17 **NLH-PUB-019 Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May**
18 **3, 2019, Exhibit II at p. 32/14-17**

19
20 Given the Muskrat Falls project's unusual attributes relative to existing supply sources
21 (i.e., scale, contractual obligation to the Island, potentially different manner of
22 operation due to export obligations, etc.), why should the use of system load factor for
23 classifying previous generation projects' costs carry weight in determining how to
24 classify the Muskrat Falls project?

25
26 **NLH-PUB-020 Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May**
27 **3, 2019, Exhibit II at pp.35/15 to 36/7**

28
29 a) Energy is a residual in the equivalent peaker calculation. Why is this of concern in
30 determining the classification approach for Muskrat Falls generation?

1 b) Does The Brattle Group agree that choosing a generation source 1,100 kilometres
2 from the delivery source was more likely based on the amount of available energy
3 rather than the requirement for capacity? If not, why not?
4

5 **NLH-PUB-021 Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May**
6 **3, 2019, Exhibit II at p. 36/8–15**

7
8 a) Why should impact on price signals be considered as an argument in favour of one
9 method over another?

10
11 b) Would proximity of price to marginal cost be a preferred criterion to "less of a
12 disincentive to conserve"? Why or why not?
13

14 **NLH-PUB-022 Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May**
15 **3, 2019, Exhibit II at pp. 36/16 to 37/5**

16
17 In The Brattle Group's reference to the Muskrat Falls power purchase agreement, is The
18 Brattle Group positing that a payment by Newfoundland and Labrador Hydro for
19 Muskrat Falls in ongoing lump sums is determinative of a need for demand-based
20 classification in preference to energy based? If so, why should system load factor be
21 preferred to a demand-only classification scheme?
22

23 **NLH-PUB-023 Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May**
24 **3, 2019, Exhibit II at p. 44/2–9**

25
26 Given that the fuel component of Newfoundland and Labrador Hydro's gas turbine units
27 is related to their peaking function, please explain why The Brattle Group disagrees with
28 Newfoundland and Labrador Hydro's practice of treating gas turbine and diesel fuel
29 costs on the Island Interconnected System as a demand-related cost.

1 **NLH-PUB-024 Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May**
2 **3, 2019, Exhibit II at p. 45/2-4**

3
4 a) The Brattle Group stated "The underlying cost characteristics of the LIL are such that
5 the main cost driver of the LIL is demand . . ."? Please explain.

6
7 b) If the Board of Commissioners of Public Utilities grants Newfoundland and Labrador
8 Hydro's claim that the Labrador-Island Link should be functionalized as generation,
9 would it not be reasonable to classify the costs of the Labrador-Island Link in the
10 same manner as the generator that the Labrador-Island Link was constructed to
11 support? If no, please explain.

12
13 **NLH-PUB-025 Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May**
14 **3, 2019, Exhibit II at p.45/11-18**

15
16 If the Board of Commissioners of Public Utilities grants Newfoundland and Labrador
17 Hydro's claim that the Labrador Transmission Assets should be functionalized as
18 generation, would it not be reasonable to classify the costs of the Labrador Transmission
19 Assets in the same manner as the generator that the Labrador Transmission Assets was
20 constructed to support? If no, please explain.

21
22 **NLH-PUB-026 Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May**
23 **3, 2019, Exhibit II at p.65 ff.**

24
25 Regarding Appendix: Marginal Cost of Service Study, please provide a copy of the
26 data/information used to construct all tables produced by The Brattle Group. These
27 include: Tables A-3, A-4, A-5, A-6, A-7, and A-8; and Figure A-2.

1 **NLH-PUB-027 Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May**
2 **3, 2019, Exhibit II at pp.78-79**

3
4 Has The Brattle Group identified whether or not the noted Total Transfer Capability on
5 the identified paths is available for purchase on a firm basis? If so, what are the
6 obligations (duration, volume, etc.) that Newfoundland and Labrador Hydro or Nalcor
7 would have to take on to secure such transmission on a firm basis?


8
9 **NLH-PUB-028 Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May**
10 **3, 2019, Exhibit II at pp.78-79**

11
12 If the Total Transfer Capability is not available on a firm basis, is The Brattle Group
13 recommending that Newfoundland and Labrador Hydro determine its marginal
14 generation capacity costs based on the availability of non-firm capacity? If not, please
15 explain.

16
17 **NLH-PUB-029 Reference: "Embedded and Marginal Cost of Service Review," The Brattle Group, May**
18 **3, 2019, Exhibit II at pp.78-79**

19
20 In The Brattle Group's experience, is it common for utilities to base marginal generation
21 capacity costs on the cost of non-firm generation capacity? Please provide examples of
22 the use of such an approach, if available.

DATED at St. John's, in the Province of Newfoundland and Labrador this 11 day of June, 2019.



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