

January 19, 2015

Ms. G. Cheryl Blundon
Board of Commissioners of Public Utilities
120 Torbay Road, P.O. Box 12040
St. John's, NL A1A 5B2

Ladies & Gentlemen:

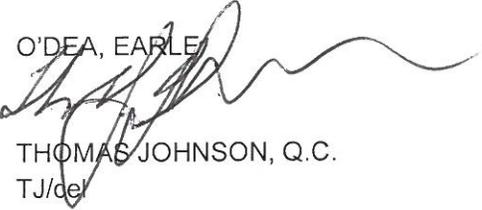
Re: The Board's Investigation and Hearing into supply Issues and Power Outages on the Island Interconnected System – Submissions of the Consumer Advocate

Please find enclosed one (1) original and twelve (12) copies of the Consumer Advocate's Submissions on Motions filed by Newfoundland and Labrador Hydro and Grand Riverkeeper Labrador Inc.

If you have any questions please feel free to contact the undersigned.

Yours very truly,

O'DEA, EARLE



THOMAS JOHNSON, Q.C.

TJ/del
Encl.

cc: Newfoundland and Labrador Hydro
Attention: Geoffrey P. Young

Newfoundland Power
Attention: Gerard Hayes

Island Industrial Customers Group
Attention: Mr. Paul Coxworthy (Stewart McKelvey)

Mr. Danny Dumaresque

Grand Riverkeeper Labrador Inc.
Attention: Ms. Roberta Frampton

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

AND IN THE MATTER OF an Application
By Newfoundland and Labrador Hydro
Pursuant to Subsections 41(3) of the Act, for
The approval of refurbishment of the marine terminal at the Holyrood Thermal Generating Station.

**CONSUMER ADVOCATE SUBMISSIONS ON MOTIONS FILED BY
NEWFOUNDLAND AND LABRADOR HYDRO AND GRAND RIVERKEEPER
LABRADOR INC.**

1 **Part A: Background**

2 In Order No. P.U. 41 (2014), (the Order) dated October 16, 2014, the Board made
3 determinations as it related to a motion filed by Hydro on July 7, 2014 to strike certain
4 RFIs filed by Mr. Dumaresque and Grand Riverkeeper Labrador Inc. (GRK).

5
6 On October 21, 2014, Hydro provided a new motion to the Board relating to
7 GRK-NHL-60 and GRK-NLH-63. Hydro made comments on GRK-NLH-63, setting out
8 its position that the RFI was vague and hypothetical and as such, sought a
9 determination by the Board as to whether it was required to reply to this RFI.

10
11 Subsequently, Hydro filed a Reply to GRK-NLH-060 on January 6, 2015. As such, in its
12 correspondence of January 6, 2015, Hydro's motion is now in relation to GRK-NLH-63
13 only.

1 GRK filed its own motion on December 22, 2014 seeking an order from the Board to
2 compel Hydro to provide “complete” responses to several RFIs. GRK provided
3 additional comments on January 7, 2015 to its motion, and in particular as it related to
4 Hydro’s Reply to GRK-NLH-60.

5
6 The Board has provided parties an opportunity to provide comments on the motions
7 filed by Hydro and GRK. Hydro filed its submissions on the GRK’s motion on January
8 14, 2015.

9
10 **Part B: Consumer’s Advocate Position**

11
12 GRK in its December 22, 2014 motion states that GRK-NLH-21; 24; 45; 46; 57; 66; 69; and
13 74 were inadequately answered by Hydro, and sets out its reasons.

14
15 Some of these RFIs were specifically considered by the Board in the Order, in particular,
16 GRK-NLH-21, 24, 45, 46, and 57. In relation to these specific RFIs, the Board
17 determined the following:

18
19 **As discussed earlier in this decision the Board finds that the details of the**
20 **Quebec litigation, including the schedule and issues being addressed, are not**
21 **relevant in this proceeding. This is the substance of the information sought in**
22 **GRK-NLH-16 to 20, 28 and 29. Nevertheless the Board acknowledges that the**
23 **consequences of an unfavourable ruling in relation to this litigation may be**
24 **relevant to the issue of reliable and adequate power on the Island**
25 **Interconnected system. The Board notes that GRK-NLH-23 requires that**
26 **Hydro assume alternate circumstances for 2012 and create new information.**
27 **The Board does not believe it is reasonable to require Hydro to create**
28 **information based on a hypothetical scenario as it is not clear how it would be**
29 **of assistance and may be an undue burden to produce. The Board notes that, to**
30 **the extent that the information sought in GRK-NLH-21, 22, 24, 25 and 26 relates**
31 **to the implications on the power available on the Island Interconnected system**
32 **if the results of the Quebec litigation are unfavorable, some aspects of these**

1 questions may be relevant. Therefore the Board accepts Hydro's motion with
2 respect to GRK-NLH-16 to 20, 23, 28 and 29 but does not accept Hydro's motion
3 with respect to GRK-NLH-21, 22, 24, 25 and 26, to the extent that the responses
4 can address consequences regarding the availability of a reliable and adequate
5 supply of power to the Island Interconnected system associated with the risks
6 of the scenarios outlined.

7 ...

8
9 The Board believes that the detailed technical information in relation to the
10 North Spur of the Muskrat Falls Project sought in GRK-NLH-42, and 47 to 50 is
11 not relevant to the issues in this proceeding. This proceeding will not involve
12 an analysis of engineering and construction issues associated with the
13 Muskrat Falls Project but rather will address whether Hydro has secured a
14 reliable and adequate supply of power for the Island Interconnected system
15 and has fully addressed any risks to this supply. The Board finds that, to a
16 large extent, GRK-NLH-43 to 46 also seek very specific information in relation
17 to the technical issues associated with the North Spur at the Muskrat Falls
18 Project site, which is beyond the scope of this proceeding. Nevertheless, to the
19 extent that the information sought may relate to issues associated with the
20 risks to the adequate and reliable supply on the Island Interconnected system
21 and how these risks have been addressed, this information may be relevant.
22 The Board therefore rejects Hydro's motion with respect to GRK-NLH-43 to 46
23 and will allow the questions. However it is not necessary for Hydro to provide
24 detailed technical information or reports related to engineering and
25 construction issues but rather should direct its response to the risks and
26 consequences to the Island Interconnected system of the scenarios and issues
27 raised. The Board accepts Hydro's motion in relation to GRK-NLH-42 and
28 GRK-NLH-47 to 50.

29 ...

30
31 The Board does not believe that these requests should be excluded on the
32 basis of procedural issues associated with the filing. The Board notes that the
33 request for information aspect of the proceeding is ongoing and Hydro did not
34 demonstrate any prejudice with respect to the filing of these requests. The
35 Board believes that the information requested generally goes beyond what
36 would be relevant and useful in this proceeding, seeking detailed technical
37 data and reports in relation to the work to be done to stabilize the North Spur.
38 However the information requested in GRK-NLH-55 and 57 may be relevant to
39 the issue of assessment of risk. The Board therefore accepts Hydro's motion
40 with respect to GRK-NLH-53, 54 and 56. The Board rejects Hydro's motion

1 with respect to GRK-NLH-55 and 57 to the extent that the responses can
2 address the consequences regarding the availability of a reliable and adequate
3 supply of power to the Island Interconnected system.

4
5 (Emphasis added)

6
7 Given the foregoing, the Board has already determined that certain RFIs Hydro
8 previously sought to strike should be answered, subject to the parameters set out by the
9 Board in the above passages. Hydro has filed Replies to these RFIs. The motion by
10 GRK goes to the adequacy of those Replies.

11
12 GRK-NLH-21 and GRK-NLH-24

13
14 In its submissions dated January 14, 2015, Hydro prepared revised Replies to each of
15 these RFIs which the Consumer Advocate submits responds to the questions raised by
16 GRK in these RFIs.

17
18 GRK-NLH-45

19 **...It is therefore important to know whether the appropriate safety factors have**
20 **been considered in evaluating the risk of failure at the North Spur, and its**
21 **consequences regarding the reliability of power from the Muskrat Falls**
22 **generating station. Have any studies been performed including progressive**
23 **failure analysis in the North Spur? If so, please provide the complete analysis.**
24 **If not, why not?**

25
26 **A. In Board Order P.U. 41 (2014), 1 the Board indicated that information**
27 **provided in the response to this RFI should “relate to issues associated with**
28 **the risks to the adequate and reliable supply on the Island Interconnected**
29 **system and how these risks have been addressed...” and that “detailed**
30 **technical information in relation the North Spur of Muskrat Falls Project...is**
31 **not relevant to the issues in this proceeding.”**

32
33 Please also refer to Hydro's response to GRK-NLH-044.

34
35 GRK submits that Hydro's Reply "...does not respond to these questions, nor does that

1 of GRK-NLH-44, to which reference is made.”

2
3 Hydro, in its submissions dated January 14, 2015, states that it has answered the RFI
4 within the limits of the Order:

5
6 **With respect to the Board's ruling that information regarding risks associated**
7 **with the North Spur as it goes to the provision of the reliable and adequate**
8 **provision of power may be within the scope of this proceeding (page 15 of**
9 **Order P.U. 41), in its response Hydro has cross referenced to its response to**
10 **GRK-NLH-044 which specifically addresses this issue by describing in detail**
11 **the options available to Hydro in the very unlikely event of a dam breach at**
12 **Muskrat Falls. A progressive failure of the North Spur would have a similar**
13 **impact to a dam breach in that the ultimate result could be the loss of all or**
14 **substantially all of the output from Muskrat Falls. Thus Hydro submits that it**
15 **has provided an appropriate response to GRK-NHL-045.**

16
17 The Order considered this RFI and determined that Hydro should respond with the
18 limitation of not being required to provide detailed technical information or reports
19 related to engineering and construction issues. The Reply should focus on the risks
20 and consequences to the Island Interconnected system.

21
22 Given that the Board has already considered submissions on this RFI and outlined the
23 scope of Hydro’s response, the Consumer Advocate submits that Hydro should answer
24 the specific question of whether any studies including progressive failure analysis in the
25 North Spur have been completed and if not, why not. However, pursuant to the
26 Order, no analysis reports need to be produced. It should be noted that Hydro in
27 GRK-NLH-44 states that dam breach studies based on final design information,
28 including the North Spur are required to be filed prior to impoundment. Hydro
29 outlines that these will be completed.

30
31 **GRK-NLH-46**

1 **Q. Has NLH or its parent company evaluated the risk of retrogressive spreads,**
2 **downhill progressive landslides or “bottleneck slides” at the North Spur site?**
3 **If so, please provide a summary of its conclusions, and copies of any studies**
4 **referred to.**

5
6 **A. Please refer to Hydro's response to GRK-NLH-044.**

7
8 GRK submits that Hydro’s response is a non-response.

9
10 Hydro submits that its comments made in response to GRK-NLH-45 equally apply in
11 this question, given that retrogressive spreads, downhill progressive landslides or
12 bottleneck slides at the North Spur site would have similar impact to a dam breach.

13
14 Similar to GRK-NLH-45, this RFI was also previously considered by the Board and
15 subject to the limits outlined in the Order, should be answered. It is also clear from the
16 Order that technical documents relating to engineering and construction issues are not
17 relevant and need not be produced.

18
19 The Consumer Advocate submits that similar to GRK-NLH-45, Hydro should answer
20 the specific question of whether Hydro or its parent company have evaluated the risk of
21 retrogressive spreads, downhill progressive landslides or “bottleneck slides” at the
22 North Spur site. Given the terms of the Order, there is no requirement to provide
23 detailed technical information or reports related to engineering and construction.
24 However, if Hydro, or its parent company, have evaluated the risk of retrogressive
25 spreads, downhill progressive landslides or “bottleneck slides” at the North Spur site, it
26 should provide a summary of its conclusions.

27
28 **GRK-NLH-57**

29
30 **Q. Has the new North Spur stabilization plan been subjected to independent**

1 third party review? If so, please provide details of who carried out the review,
2 when, and the results of their review. If not, are there any plans for such
3 independent review? If not, why not?
4

5 **A. With respect to this RFI, the Board noted in Order P.U. 41(2014) that Hydro**
6 **was to respond "to the extent that the responses can address the consequences**
7 **regarding the availability of a reliable supply of power to the Island**
8 **Interconnected System."**

9 Please see Hydro's response GRK-NLH-044.
10

11 GRK submits in its Motion:

12
13 **The response quotes P.U. 41(2014), which *rejected* Hydro's motion with respect**
14 **to this question. No argument whatsoever is made suggesting that answering**
15 **the question as to whether or not the new North Spur stabilization plan been**
16 **subjected to independent third party review would in some way exceed the**
17 **limits set by the Board.**
18

19 Hydro outlines it has already answered this RFI, again referencing GRK-NLH-044 and
20 states that it has previously provided an independent engineering report in
21 PUB-NLH-210.
22

23 The Consumer Advocate again notes that this RFI was previously considered by the
24 Board in the Order, with a determination that this information may be relevant to the
25 issues of assessment of risk, and ordered that Hydro respond "...to the extent that the
26 responses can address the consequences regarding availability of a reliable and
27 adequate supply of power to the Island Interconnected system."
28

29 The Consumer repeats his comments on GRK-NLH-45 and 46 above and submits that
30 Hydro should answer the specific question of whether the new North Spur stabilization
31 plan has been subjected to independent 3rd party review and if not, whether there are
32 any plans for such a review and if not, why not.
33

1 GRK-NLH-60

2
3 Please explain the forced outage probabilities used in Hydro's planning for
4 Muskrat Falls, distinguishing between the probabilities of forced outage
5 related to:

- 6
7 - Mechanical or electrical faults at the MF generating station;
8 - Events concerning the integrity of the MF reservoir (e.g. a North Spur
9 slide);
10 - Outages related to the aerial transmission lines in Labrador;
11 - Outages related to the submarine lines;
12 - Outages related to the aerial transmission lines in Newfoundland; and
13 - Outages related to energy interchanges with CF(L)Co, based on the Water
14 Management Agreement.

15 If, for any of the risks mentioned, Hydro considers the outage probability to
16 be zero, please so indicate.

17
18 A. From an Interconnected Island scenario point of view, the AC side of the
19 converter station at Soldier's Pond is the interconnection point between
20 Muskrat Falls and the island system. Given this, the forced outage rate for
21 Muskrat Falls is the composite reliability of the Muskrat Falls plant and the
22 Labrador-Island Link (LIL).

23
24 The forced outage rate of the LIL is a combination of forced outage rates for
25 loss of the bipole (complete outage) and for reduced power capability modes
26 (loss of one pole).

27
28 **LIL - Bipole Reliability**

29
30 **Table 3-2: Composite Island Link Bipole Reliability** (please see Hydro's
31 response to PUB-NLH-124) gives reliability figures for loss of the bipole link.
32 The Labrador -Island HVdc Link converter specification includes a maximum
33 permissible design value bipole forced outage rate of ≤ 0.1 per bipole per year,
34 or no more than one bipole outage in ten years for both converters. Given this
35 performance requirement, the summary Table 3-2 was adjusted for the BP
36 failure rates (i.e., 0.05per converter). Please see Hydro's response to
37 PUB-NLH-124 for a more detailed explanation.

38 ...

39

1 LIL - Reduced Power Capability Modes

2
3 Table 3-3: Reduced Power Capability Modes (please see Hydro's response to
4 PUB NLH-124) gives the forced outage rates for loss of a single pole, leading to
5 a reduced power capability mode.

6 ...

7
8 LIL - Combined – Forced Outage Rates

9
10 Table: Combined – Forced Outage Rates is the combination of Table 3-2 and
11 Table 3-3, giving the combined forced outage rates for:

12
13 Outages related to the aerial transmission lines in Labrador;

14
15 Outages related to the submarine cables;

16
17 Outages related to the aerial transmission lines in Newfoundland; and

18
19 Outages related to the converter stations.

20
21 Muskrat Falls Generating Station

22
23 Mechanical or electrical faults at the MF generating station. The plant is being
24 designed to have independent systems for each unit and to have redundancy
25 in common systems. Therefore, forced outages to each unit are assumed to be
26 independent. Regarding forced outage rates for the Muskrat Falls generating
27 station, assuming that having three or more units in-service is a reasonable full
28 and/or reduced power capability, then if a forced outage rate of 0.9% is
29 assumed for each unit, the forced outage rate for two or more units out
30 simultaneously would be 0.05%.

31
32 Events concerning the integrity of the MF reservoir (e.g., a North Spur slide).
33 As stated in Board Order P.U. 41(2014), at page 15, this proceeding does not
34 involve a technical review of any aspects of the construction of the Muskrat
35 Falls Project and it would not be relevant or useful in this proceeding to
36 require the production of detailed technical information in relation to physical
37 risks associated with the Muskrat Falls development. Please also refer to
38 Hydro's response to GRK-NLH-044.

39
40 Outages related to energy interchanges with CF(L)Co, based on the Water

1 **Management Agreement. Outages to interchanges with CF(L)Co would be**
2 **limited to the simultaneous outage of both 315 kV transmission lines between**
3 **Churchill Falls and Muskrat Falls. The forced outage associated with this**
4 **outage would be quite low (i.e., < 0.05%)**

5
6 GRK states in its supplemental filings for its Motion dated January 6, 2015 that it takes
7 issue with Hydro's Reply. Specifically:

8
9 **On its face, the response fails to respond to the question. The RFI does not**
10 **request "detailed technical information in relation to physical risks associated**
11 **with the Muskrat Falls development," but simply requests Hydro's estimate of**
12 **the likelihood of their occurring.**

13 **It should be noted that, in Tables 3-2 and 3-3, as well as the unnumbered table**
14 **on page 4 of the response, NLH was able to provide forecast Downtime (in**
15 **hr/yr) and Forced Outage Rate (%) for various aspects of the LIL, without**
16 **producing "detailed technical information in relation to physical risks" to the**
17 **LIL. It has presented no valid reason why it should not be able to do the same**
18 **for events concerning the integrity of the MF reservoir.**

19 **Furthermore, NLH has misunderstood the last bullet. "Outages related to**
20 **energy interchanges with CF(L)Co, based on the Water Management**
21 **Agreement" does not refer to outages related to the transmission lines between**
22 **MF and Churchill Falls, but rather outages related to the possibility that NLH**
23 **would be unable to impose its understanding of the Churchill Falls Power**
24 **Contract on CF(L)Co and its shareholder Hydro-Québec, and that said**
25 **inability would prevent NLH from fully providing the expected power and**
26 **energy to the Island.**

27 **As this risk could profoundly affect reliability on the Island after Muskrat**
28 **Falls commissioning, GRK considers it essential that NLH provide its answer**
29 **to this question.**

30 **As noted in the last sentence of the RFI, if, for any of the risks mentioned,**
31 **Hydro considers the outage probability to be zero, it should so mention.**

32
33 Hydro has clarified its Reply in its correspondence of January 14, 2015, stating:

34
35 **Regarding the 2nd bullet, in its response Hydro referred, as noted by the GRK**
36 **in its Supplemental Motion, to Order P.U. 41's statement that it would not be**

1 relevant or useful in this proceeding to require the production of detailed
2 technical information in relation to physical risks associated with the Muskrat
3 Falls development and then cross referenced to Hydro's response to
4 GRK-NLH-044. As noted above, Hydro's response to GRK-NLH-044
5 specifically describes in detail the options available to Hydro in the very
6 unlikely event of a dam breach at Muskrat Falls. Other than to consider a
7 potential dam breach at Muskrat Falls to be very unlikely, Hydro has not
8 assigned a forced outage probability to "events concerning the integrity of the
9 MF reservoir". Hydro likewise does not assign a forced outage probability to
10 catastrophic events concerning the integrity of any of its dams. Hydro notes
11 that the Muskrat Falls dam is being designed similar to all other Hydro dam
12 facilities so that the probability of risk of failure is negligible.

13
14 Regarding the 6th bullet, the GRK has now clarified that this bullet was meant
15 to refer to "the possibility that NLH would be unable to impose its
16 understanding of the Churchill Falls Power Contract on CF(L)Co and its
17 shareholder Hydro-Quebec, and that said inability would prevent NLH from
18 fully providing the expected power and energy to the Island". Hydro does not
19 assign forced outage probabilities to matters of contractual interpretation or
20 the implications thereof and does not believe that forced outage rates are
21 meaningful in such regard. As such, Hydro has not assigned a forced outage
22 probability to this item.

23
24 Thus Hydro submits that as further clarified by the foregoing statements it has
25 provided appropriate responses to the 2nd and 6th bullets of GRK-NHL-060.

26
27 The Consumer Advocate submits that Hydro should file an updated Reply to this RFI
28 containing the clarification for the 2nd and 6th bullets in GRK-NLH 60 as set out in its
29 January 14, 2015 correspondence. On that basis, the Consumer Advocate submits the
30 Reply and amended Reply would address all questions raised in this RFI.

31
32 **GRK-NLH-66**

33
34 **Re: GRK-NLH-033**

35 **Preamble: The RFI requested Hydro's "worst-case estimate" for the duration of**
36 **an ice-related forced outage of the HVDC line through the Northern**
37 **Peninsula". The response stated that there is "an objective to limit the repair**
38 **duration to two weeks"**

1 Please provide NLH's worst-case estimate for the duration of an ice-related
2 forced outage of the HVDC line through the Northern Peninsula.

3
4 **A. Please refer to Hydro's response to PUB-NLH-299.**

5
6 GRK submits:

7
8 **It is important to note that PUB-NLH-299 asked a related but different
9 question:**

10 **PUB-NLH-299: Further to the response to GRK-NLH-033 explain why a repair
11 duration of two weeks was selected as the objective for the restoration plans
12 which are to be developed and provide the information relied on to support
13 that the two weeks objective is appropriate.**

14
15 **The response explains why "The two-week repair time was selected as a
16 reasonable repair time". However, our question was not about estimating a
17 "reasonable repair time", but about a worst-case estimate.**

18 **No information relevant to our request was provided.**

19
20 PUB-NLH-299 outlines the rationale for Hydro determining that a repair time of 2
21 weeks was selected as the objective for restoration plans. The Reply to PUB-NLH-299
22 does not outline what Hydro considered to be the "worst case estimate" for the
23 duration of an ice related forced outage.

24
25 In its submission of January 14, 2015, Hydro has confirmed that it does not have a worst
26 case planning estimate in excess of two weeks for the situation in the question.

27
28 Given Hydro's clarification, Hydro should file a revised RFI Reply confirming that it
29 does not have a worst case estimate in excess of two weeks, at which time the
30 Consumer Advocate submits that Hydro will have fully addressed the specific question
31 posed by GRK.

32
33 **GRK-NLH-69**

1 Re: PUB-NLH-217

2
3 Citation (p. 9):

4
5 In the event of a complete LIL outage, capacity available to supply Island load
6 would include approximately:

7
8 1013 to 1043 MW of on Island hydro-electric (variation due to reservoir levels);

9
10 276 MW of on Island thermal generation;

11
12 Up to 300 MW of import via the Maritime Link; and

13
14 Potential interruptible customer loads of 60 MW or more.

15
16 Please indicate for how many hours a year NLH can count on 1013 to 1043 MW
17 from Island hydro-electric generation.

18
19 A. The ability of the hydro-electric generation on the island to supply
20 maximum output for extended periods of time is dependent, to a large degree,
21 on the reservoir storage levels at the time of the Labrador - Island HVdc Link
22 (LIL) outage, the expected inflows post outage and the required reservoir
23 storage levels necessary to ensure the supply of energy in the post outage
24 period.

25
26 As noted in Hydro's response to PUB-NLH-212, Hydro has set the maximum
27 LIL bipole outage duration at two weeks for loss of the overhead line. The
28 worst case two-week outage window with respect to capacity to supply the
29 load would occur during the winter peak load period. Hydro has large
30 multi-year storage reservoirs designed to enable sustained production levels
31 during dry periods and to capture as much water as economically possible
32 without spilling. As a result of this storage capability, the plants have
33 significant operating flexibility to adjust to changing production
34 requirements.

35
36 A review of the average hydrology for the Hydro island hydro-electric
37 generation indicates that there would be in excess of 1400 GWh of storage in
38 the hydro reservoirs. Using hourly data from Hydro's Energy Management
39 System, an hourly load shape for the worst-case two-week outage window in
40 the year 2025 was developed. A typical hydro-electric dispatch to follow the

1 load pattern for the two week outage was found to result in generation of 262.3
2 GWh of energy. Operating the hydro-electric generation at the maximum level
3 for the entire two-week outage period is found to result in an 87.2 GWh
4 increase in energy production. Given the storage position in the reservoirs,
5 there is no issue with operating the hydro generation continuously at
6 maximum output for a two-week LIL outage.

7
8 GRK's position is as follows:

9
10 **The response is limited to discussing availability to during a two-week outage.**
11 **The broader question raised in the RFI – how many hours a year these power**
12 **levels are available – was ignored.**

13
14 Hydro outlines the difficulty in providing a response to this RFI in its submission of
15 January 14, 2015:

16
17 **Hydro submits that the complete response provides a meaningful response to**
18 **the RFI based on relevant assumptions. Hydro is unable to simply reply**
19 **generically as to how many hours it can count on 1013 to 1043 MW from island**
20 **hydro-electric generation, and thus responded under the applicable**
21 **assumptions which formed the premise of the RFI and allowed for a**
22 **meaningful response. However, to be of further assistance, Hydro notes that as**
23 **indicated in its response to GRK-NLH-069, on average in excess of 1,400 GWh**
24 **of energy would be in storage in Hydro's on Island reservoirs. Assuming no**
25 **inflows (which is a conservative assumption), 1,400 GWh is sufficient to**
26 **generate 1,000 MW for a period of approximately two (2) months. Hydro**
27 **submits that it has provided an appropriate response to GRK-NHL-069.**

28
29 The Consumer Advocate agrees that Hydro, in light of its submission in its letter of
30 January 14, 2015, has provided a meaningful response to this RFI. The Consumer
31 Advocate would recommend that Hydro file the pertinent parts of its submission in
32 response to GRK-NLH-69 as a further or revised Reply.

33
34 **GRK-NLH-74**

35
36 **Re: PUB-NLH-217**

37
38 **Citation (p. 9):**

1
2 In the unlikely event of a sustained bipole outage during peak, the existing
3 system with a continued 60 MW interruptible arrangement, Hydro will have
4 sufficient installed capacity to supply full load until at least 2025.
5

6 In the unlikely event of a sustained bipole outage, would Hydro have
7 sufficient energy resources to supply full load throughout the winter, when
8 energy available from the Island hydro system is limited? In support of your
9 answer, please provide a spreadsheet showing month-by-month energy
10 availability from each resource owned by or available to Hydro, and its
11 monthly energy requirements through 2025.
12

13 A. From Hydro's response to PUB-NLH-212 Attachment 1: "Technical Note
14 Labrador – Island HVdc Link and Island Interconnected System Reliability"
15 dated October 30, 2011, it is assumed that the longest sustained bipole outage
16 would be two weeks. In the 2018 to 2025 period, the island system would have
17 sufficient energy resources to supply the additional energy that would have
18 come from the Labrador-Island Link (LIL), for any two week period from
19 November to April.
20

21 Table 1 shows the potential additional generation available from Hydro's
22 major hydro-electric plants should it be needed to replace energy that would
23 have come from the LIL. This value is the difference between the average
24 expected generation during that period and the maximum capability of those
25 units.
26

27 Table 2 1 shows the additional energy available from Hydro's and
28 Newfoundland Power's thermal generation and the Maritime Link (ML) at a
29 50% capacity factor (conservatively low).
30

31 Table 3 shows the maximum energy that the island system is expected to
32 receive over the LIL in the 2018 to 2025 period by month (28 to 31 days) and
33 then over a two week period (14 days). As well, Table 3 compares the
34 maximum energy required in any two week period with the maximum
35 additional generation available from hydro and thermal sources combined.
36 The result shows that there is sufficient energy available to supply the
37 additional energy that would have come from the LIL, in case of a bipole
38 outage for any two-week period from November to April, from 2018 to 2025.
39

40 Table 4 shows the average energy in reservoir storage, for the winter months,

1 from 2018 to 2025, which demonstrates sufficient energy in storage to be able
2 to run the island hydroelectric resources at higher than average winter
3 capacities.

4
5 In response to this Reply from Hydro, GRK submits:

6
7 **The RFI requested “a spreadsheet showing month-by-month energy
8 availability from each resource owned by or available to Hydro, and its
9 monthly energy requirements through 2025.”**

10
11 **This information was not provided, probably because NLH believed we were
12 inquiring about its analyses based upon its “assum[ption] that the longest
13 sustained bipole outage would be two weeks.” While we understand the basis
14 upon which NLH makes this assumption, we believe it is important to also
15 understand the reliability implications of a longer outage, should one occur.
16 The information requested is required for that purpose, and we request that it
17 be provided.**

18
19 Hydro indicates in its January 14, 2015 submission that it will be preparing and filing
20 additional information on energy availability:

21
22 **The GRK requested that Hydro provide a "spreadsheet showing
23 month-by-month energy availability from each resource owned or operated by
24 or available to Hydro, and its monthly energy requirements through 2025". The
25 respond to this RFI is scenario dependent as explained above in relation to
26 GRK-NLH-069 and thus Hydro responded in reference to its assumption that
27 the longest sustained bipole outage would be two weeks. As part of its
28 in-depth response Hydro provide in Table 1 the potential additional
29 generation available from Hydro's major hydro-electric plants should it be
30 needed to replace energy that would have come from the LIL (values are
31 monthly averages from 50 hydrologic scenarios of the period January 2018 to
32 December 2025) and in Table 4 the average energy in reservoir storage, for the
33 winter months, from 2018 to 2025. Tables 2 and 3 were based on the relevant
34 two week maximum outage assumed by Hydro. Hydro has thus responded in
35 relation to the assumptions it is utilizing and is not in a position to simply
36 provide a generic response in relation to potential LIL outages of unknown
37 duration. However, in order to be of further assistance Hydro will prepare and
38 file additional information on energy availability.**

39

1 As such, the Consumer Advocate has does not have any submissions on this RFI and
2 Reply at this time.

3
4 **GRK-NLH-63**

5
6 The Reply to this RFI remains outstanding as part of Hydro’s motion of October 21,
7 2014.

8
9 **GRK-NLH-63**
10 **Re: GRK-NLH-31, MF PPA**

11
12 **Citation 1 (PPA, p. 8 of 76):**

13
14 **“Force Majeure” means an event, condition or circumstance (each an “Event”)**
15 **beyond the reasonable control and without fault or negligence of the Party**
16 **claiming the Force Majeure, which, despite all commercially reasonable**
17 **efforts, timely taken, of the Party claiming the Force Majeure to prevent its**
18 **occurrence or mitigate its effects, causes a delay or disruption in the**
19 **performance of any obligation (other than the obligation to pay monies due)**
20 **imposed on such Party. Provided that the foregoing conditions are met, “Force**
21 **Majeure” may include: ...**

22
23 **(e) a revocation, amendment, failure to renew or other inability to maintain in**
24 **force any order, permit, licence, certificate or authorization from any**
25 **Authorized Authority, unless such inability is caused by a breach of the terms**
26 **thereof or results from an agreement made by the Party seeking or holding**
27 **such order, permit, licence, certificate or authorization;**

28
29 **Preamble: Schedule 2 of the PPA sets out the Base Block Energy in GWh for**
30 **each year from Operating Year 1 to 51.**

31
32 **If Muskrat Falls were to be unable to provide the Base Block Energy in one or**
33 **more years due to the unavailability of the power and energy foreseen under**
34 **the Water Management Agreement in the event of a judicial decision**
35 **modifying, abrogating or interfering with the expected operation of said**
36 **Agreement, would this be considered to be a Force Majeure event, under**
37 **section (e) of the definition? If not, please explain how such an event would be**
38 **treated under the PPA.**

1 Hydro, in its correspondence of October 23, 2014, provides its basis for challenging this
2 RFI:

3
4 **With respect to GRK-NLH-63 the GRK has requested Hydro to provide a legal**
5 **interpretation of a provision of the Muskrat Falls Power Purchase Agreement**
6 **in the context of a widely stated hypothetical involving the "unavailability of**
7 **the power and energy foreseen under the Water Management Agreement in**
8 **the event of a judicial decision modifying, abrogating or interfering with the**
9 **expected operation of said Agreement". In its Motion Order the Board stated**
10 **that "questions that are too broad or detailed so as to be unhelpful and**
11 **potentially burdensome to produce should not be allowed". Hydro**
12 **respectfully submits that without knowing the specific terms or impact of any**
13 **hypothetical judicial decision it is unable to provide a reasoned response to**
14 **RFI GRK-NLH-63 and furthermore that the question calls for a legal**
15 **interpretation that would need to be fully analysed in the specific context and**
16 **cannot be properly or helpfully answered in the case of a vague hypothetical**
17 **situation.**

18
19 The Consumer Advocate agrees with Hydro's submissions that GRK is seeking a legal
20 interpretation or determinations in respect of a term in the Muskrat Purchase Power
21 Agreement.

22
23 Legal questions surrounding the construction or development of Muskrat Falls were
24 not within the scope of this inquiry. On April 30, 2014 the Board issued Order No. P.U.
25 15(2014), which addressed the application by GRK for intervenor status. The Board
26 stated:

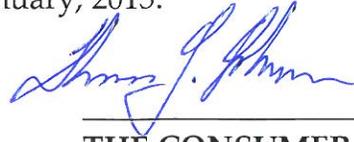
27 **The Board has determined that it would address adequacy and reliability of**
28 **the Island Interconnected system following the interconnection with Muskrat**
29 **Falls. The Board agrees with Newfoundland Power, Hydro and the Consumer**
30 **Advocate that the issues in the matter should not be extended to the**
31 **construction, legal, contractual and physical risks of the Muskrat Falls**
32 **development, as raised by Grand Riverkeeper Labrador, Inc.**

33 (Emphasis added)

34
35 The Consumer Advocate submits this RFI is beyond the scope of this investigation. As

1 such, the Consumer Advocate agrees with Hydro's position on this RFI.

2
3 **RESPECTFULLY SUBMITTED AND DATED** at St. John's, in the Province of
4 Newfoundland and Labrador, this 19th day of January, 2015.



7 **THE CONSUMER ADVOCATE**
8 Thomas J. Johnson, Q.C.
9 O'Dea, Earle Law Offices
10 323 Duckworth Street
11 P.O. Box 5955
12 St. John's, NL A1C 5X4
13 Telephone: (709)726-3524
14 Facsimile: (709)726-9600
15 Email: tjohnson@odeaearle.ca