

IN THE MATTER OF the *Public Utilities Act*, RSN 1990, Chapter P-47 (the "Act"); and

IN THE MATTER OF a General Rate Application (the Application) by Newfoundland and Labrador Hydro for approvals of, under Section 70 of the Act, changes in the rates to be charged for the supply of power and energy to Newfoundland Power, Rural Customers and Industrial Customers; and under Section 71 of the Act, changes in the Rules and Regulations applicable to the supply of electricity to Rural Customers.

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"), As Amended; And

IN THE MATTER OF An Investigation And Hearing Into Supply Issues And Power Outages On The Island Interconnected System.

### **REQUESTS FOR INFORMATION**

### **THE NEWFOUNDLAND AND LABRADOR PUBLIC UTILITIES BOARD**

#### **GRK-NLH-58 to GRK-NLH-75**

GRAND RIVERKEEPER LABRADOR INC. (GRK)

Issued September 28, 2014

(numbering revised Oct. 21, 2014)

**GRK-NLH-58**

**Re: GRK-NLH-003**

Preamble: The response to GRK-NLH-002 provides a link to the full text of the MFPPA, but the response to GRK-NLH-003 does not describe NLH's rights to energy and capacity under Article 3 of that Agreement.

Please provide a concise summary of NLH's rights to energy and capacity under the MFPPA.

**GRK-NLH-59**

**Re: GRK-NLH-004**

Citation:

"Through its generation planning process, Hydro will maintain levels of reserve generation throughout the combined Labrador and Island power system reflecting generator forced outage probabilities for all generating units in the province, including the units at Muskrat Falls."

Please specify the forced outage probabilities used in Hydro's planning for Muskrat Falls.

**GRK-NLH-60**

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

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

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

**GRK-NLH-61**

**Re: GRK-NLH-031**

Preamble: The response provides a link to the full text of the framework agreement, but does not provide a concise summary of Nalcor's energy delivery obligations under the Maritime Link Agreements.

Please provide a concise summary of Nalcor's energy delivery obligations under the Maritime Link Agreements.

## GRK-NLH-62

Re: GRK-NLH-31, MF PPA

Citation 1 (PPA, p. 64 of 76):

### 15.2 Allocation of MF Plant Output

If the MF Plant is unable because of a Forgivable Event to generate Energy and Capacity at the MF Plant Capacity in any hour during which Energy has been Scheduled by NLH for delivery pursuant to this Agreement, then to the extent the MF Plant is able to generate any Energy and Capacity during such hour, Muskrat shall allocate the available Energy output from the MF Plant on the basis of the following priorities:

- (a) Energy deliveries in respect of all non-firm or interruptible sales from the MF Plant shall be curtailed first; and
- (b) to the extent that the Curtailments described in Section 15.2(a) are insufficient to resolve a shortage in available Energy or Capacity, deliveries in respect of all firm or non-interruptible sales from the MF Plant, including those in respect of the Commissioning Period Energy, Base Block Energy, Supplemental Block Energy, the NS Block and Contracted Commitments, shall be curtailed next on a pro-rata basis, based on the scheduled delivery at the time of Curtailment for all subsequent hours.

Citation 2 (PPA, p. 4 of 76):

**“Contracted Commitments”** means firm commitments by or on behalf of Muskrat as permitted by this Agreement to sell Energy and Capacity in External Markets under contracts for prescribed amounts of such Energy and Capacity for fixed durations, and includes the NS Block;

Please confirm that, in the event of the inability of the MF Plant to meet all of its firm or non-interruptible sales, its available capacity and energy will be shared, on a pro rata basis, between Hydro’s Native Load on the Island, Nalcor’s commitments to Nova Scotia under the Maritime Link Agreement, and also to any additional firm commitments that may have been made by Muskrat Falls in the meantime.

## GRK-NLH-63

Re: GRK-NLH-31, MF PPA

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

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

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

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

If Muskrat Falls were to be unable to provide the Base Block Energy in one or more years due to the unavailability of the power and energy foreseen under the Water Management Agreement in the event of a judicial decision modifying, abrogating or interfering with the expected operation of said

Agreement, would this be considered to be a Force Majeure event, under section (e) of the definition? If not, please explain how such an event would be treated under the PPA.

**GRK-NLH-64**

Re: GRK-NLH-31, MF PPA

Citation (pp. 25 and 26 of 76)

3.1 Energy Allocation

(c) NLH Deferred Energy - Throughout the Term, Muskrat shall maintain an account of Energy for NLH which shall never be less than zero (the "NLH Deferred Energy"), that:

(i) shall be increased (A) during the Commissioning Period, by the amount of Energy designated by NLH to be deferred pursuant to Section 3.3(a), and (B) at the end of each Operating Year until the end of the 50th Operating Year, by the amount of Energy by which the Delivered Energy in such Operating Year is less than the aggregate of Base Block Energy and Supplemental Block Energy;

Preamble: Under the PPA, any failure of Muskrat Falls to provide the amounts of energy called for therein (Base Block Energy and Supplemental Block Energy) will result in increasing the NLH Deferred Energy account, to be delivered at a later time, but will result in no other penalties, monetary or otherwise.

Please confirm or correct the statement in the Preamble.

**GRK-NLH-65**

Re: GRK-NLH-31, MF PPA

Please explain in detail the consequences under the PPA should Muskrat Falls be unable to provide, at one time or another, the capacity required by NLH and duly scheduled according to the provisions of the PPA.

**GRK-NLH-66**

Re: GRK-NLH-033

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

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

**GRK-NLH-67**

Re: GRK-NLH-34

Preamble: The RFI requested Hydro's "worst-case estimate" for the duration of an iceberg-related forced outage of the HVDC line under the Straits of Belle-Isle. In its response, Hydro stated that it

“believes it is highly improbable that more than one cable could be out of service for the same period of time due to an iceberg-related forced outage.”

Please provide NLH’s worst-case estimate for the duration of an iceberg-related forced outage of the HVDC line under the Straits of Belle-Isle.

**GRK-NLH-68**

Re: PUB-NLH-217

Citation (p. 8):

A full loss of the LIL, referred to as a permanent bipole failure, will result in immediate curtailment of the export of the Nova Scotia capacity and loss of a maximum of 673 MW of capacity on the Island Interconnected System. The loss of 673 MW to the Island Interconnected System will require load shedding of up to 673 MW in order to rebalance on Island generation with load and return system frequency to normal. This load shedding scheme is under study to determine appropriate trigger levels and allocation across the Island.

Please describe, in general terms, the impacts of a sudden loss of 673 MW of capacity on the Island Interconnected System, and indicate when the load shedding scheme will be provided.

**GRK-NLH-69**

Re: PUB-NLH-217

Citation (p. 9):

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

- 1013 to 1043 MW of on Island hydro-electric (variation due to reservoir levels);
- 276 MW of on Island thermal generation;
- Up to 300 MW of import via the Maritime Link; and
- Potential interruptible customer loads of 60 MW or more.

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

**GRK-NLH-70**

Re: GRK-NLH- PUB-NLH-217

Does the Maritime Link Agreement guarantee Hydro access to 300 MW of imports from Nova Scotia when requirement to respond to an emergency situation? If so, please provide a precise reference to the relevant clauses of the Maritime Link Agreement.

**GRK-NLH-71**

Re: GRK-NLH- PUB-NLH-217

If a complete LIL outage were to occur, and if it were to last for two weeks or more, please describe Hydro's options for securing 300 MW of imports over the Maritime Link.

**GRK-NLH-72**

Re: GRK-NLH- PUB-NLH-217

If a complete LIL outage were to occur and Hydro had to secure 300 MW of imports over the Maritime Link, is any agreement in place with Nova Scotia Power or any other entity to provide that power, or to ensure that transmission is available to deliver it through Nova Scotia? If so, please describe these arrangements in detail.

**GRK-NLH-73**

Re: PUB-NLH-217

If a complete LIL outage were to occur and Hydro had to secure 300 MW of imports over the Maritime Link at market rates, please describe the costs it would be likely to occur.

Would Nalcor be under any obligation to cover these costs, given section 3.1(c) of the Muskrat Falls PPA?

**GRK-NLH-74**

Re: PUB-NLH-217

Citation (p. 9):

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

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

**GRK-NLH-75**

Re: GRK-NLH-037

Citation:

In the event of an HVdc transmission forced outage between Muskrat Falls and Soldier's Pond resulting in a limitation of available transmission capacity, the transmission of all or a portion of the energy scheduled under the Energy Access Agreement (EAA) will be discontinued first to the extent necessary to ensure delivery of energy under the firm arrangements of the Muskrat Falls Power Purchase Agreement and the Energy and Capacity Agreement (ECA). Once all of the EAA deliveries are discontinued, any remaining available transmission capacity from Muskrat Falls will be allocated on a pro-rata basis between the scheduled requirement of Hydro to use this transmission path to serve its Newfoundland customers and the scheduled delivery of the Nova Scotia Block under the ECA.

Please confirm that, in the event that a forced outage reduced deliveries from Muskrat Falls, some deliveries to Nova Scotia would continue, even if service was being curtailed in Newfoundland.

**DATED** at Happy Valley/Goose Bay, in the Province of Newfoundland and Labrador, this 29<sup>th</sup> day of September, 2014.

Charles O'Brien

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