

**Reference from the Lieutenant-governor in Council
On the Muskrat Falls Project
(the “Muskrat Falls Review”)
REQUESTS FOR INFORMATION**

1 CA/KPL-Nalcor-246 Consumer Question: There is much reference in the PUB documentation
2 to the 824 MW Muskrat Falls Project. It must be clear that the PPA
3 referenced is for the Project cost. As such, the “Project” is the Muskrat
4 Falls hydro-electric plant development; the 315 kV ac transmission
5 interconnection between Muskrat Falls and Churchill Falls; and the 1100
6 km Labrador-Island Link (LIL) of 345 kV hvdc transmission from Muskrat
7 Falls to Soldiers Pond in Newfoundland. Is the PPA referenced for the
8 Project, as defined above?
9

10 CA/KPL-Nalcor-247 Consumer Question: The presentations under review mandate are all
11 referenced to DG2. However, there are many different cost figures
12 currently spoken in the public. For DG2, is it \$5.0 B in capital cost for the
13 project that is discounted and used for CPW or, is it something else, e.g.
14 \$6.2 B?
15

16 CA/KPL-Nalcor-248 Consumer Question: Further to CA/KPL-Nalcor-246, the Nalcor
17 presentations make the transparency of the costs difficult for the public
18 to digest. The PPA (for the project) is referenced as \$75.82/MWh in
19 \$2010, and \$87.96/MWh in \$2017 escalated, and rising to about
20 \$240/MWh in 2067 (after 50 years of amortization with 2% escalation/yr.
21 compounded). Very simple arithmetic, using 3000 GWh as the average
22 delivered energy to Soldiers Pond (to the Island ratepayers) over 50
23 years, at average cost of \$150/MWh throughout, would produce some
24 comparison for the public that it is getting the benefit of a 50 year
25 mortgage for a significant initial capital undertaking. In essence, that is
26 the benefit of the PPA versus COS pricing methodology. I realize this is
27 not creative accounting. An example recently (response by MHI) was how
28 Bruce Power in Ontario is being priced out in its revitalization. Is there
29 merit for PUB et al to conduct such an undertaking for purposes of this
30 review to provide better transparency to the public on what the “project”

means to the ratepayer and taxpayer of NL?

CA/KPL-Nalcor-249 Consumer Question: In the CPW analysis, retirement of hydro plants is in perpetuity and for LIL is for 50 years. There's plenty of databasing to go around and GAAP and AACE standards, etc. for hydro plants. However, although I cannot provide expert opinion here, in more recent times, I believe that to be changing, e.g. increased transformer failures with finite computer design. An examination of non-recurring capital expenses amongst Canadian utilities for in-plant assets may indeed reveal an increase in non-recurring capital expense. Perhaps, an examination of projected non-recurring capital expense forecast for CFLCo and other hydro assets, e.g. BC Hydro, may reveal that. Will PUB make an undertaking of MHI and/or Nalcor to provide an analysis or opinion on life of hydro assets assumption, going forward, in its CPW?

CA/KPL-Nalcor-250 Consumer Question: Further to CA/KPL-Nalcor-249, the life of LIL is assumed for 50 years. There is no distinction between the ac component, the hvdc converter component, the hvdc line component, the SOBI crossing, and the island integration components (e.g. synchronous condensers). I believe some of these components have less than 50 years life and should be databased, in comparison to existing in place projects. In particular, synchronous condensers are a vital component to island delivery and should be assessed further and others such as SOBI. Will PUB make an undertaking of MHI and/or Nalcor to provide an analysis or opinion on life of LIL components in further detail, relevant to the CPW?

CA/KPL-Nalcor-251 Consumer Question: Let's talk about PPA versus COS. PPA does indeed provide the advantage of "lower long run cost" favoring the project. But, does the CPW compare, perhaps unfairly, an apple with an orange? It is probable that a private entity could package development of viable on-island hydro potential first, followed by evolving thermal options and bring it up to the 2036 base when all Muskrat Falls power is firmed up (thereafter the scenario is the same to 2067). However, the twist is the

1 package would also have the advantage of a 50 year PPA amortization
2 financing arrangement for each component. Can this be a RFI within the
3 PUB mandate at this stage of proceedings?
4

5 CA/KPL-Nalcor-252 Consumer Question: I would like to be clear on the definition of busbar.
6 Usually, in utility terms, the definition becomes important relating to
7 delivery point for power.

- 8 (a) Has Nalcor ever defined the point of delivery for the PPA?
9 (b) Is the defined delivery point for purposes of PPA the Muskrat Falls
10 busbar or is it out of the converter to the 230 kV side at Soldiers
11 Pond?
12 (c) Does a draft PPA exist?
13

14 CA/KPL-Nalcor-253 Consumer Question: Further to CA/KPL-Nalcor-252, my thought is it has
15 to be delivered to Soldiers Pond thereby encompassing all of the "project"
16 costs. If that is so, we have to examine just what is being delivered. First,
17 the presentations by Nalcor speak to the Muskrat Falls 824 MW project. I
18 believe that may be erroneous. The project definition is actually 4x 225
19 MW=900 MW delivered to the Muskrat Falls generator ac busbar. If all
20 MWs were directed to Soldiers Pond, given the long distance, HVDC
21 notwithstanding, that delivers 824 MW to the Soldiers Pond 230 KV ac
22 side for delivery into the NL insular system. Let's be clear. There are 76
23 MW of transmission system losses (primarily on the long hvdc link) that
24 are accounted for. In perspective, that power is equivalent to roughly an
25 equivalent existing Hind's Lake or Upper Salmon development. I believe
26 these to be facts. So, what's the question? If the 824 MW is delivered to
27 Soldiers Pond by definition, will Nalcor revise its presentations
28 accordingly?
29

30 CA/KPL-Nalcor-254 Consumer Question: Further to CA/KPL-Nalcor-253, given the attested
31 long LIL distance and resulting real power and energy losses to transmit,
32 has MIL/Nalcor/PUB fully examined hvdc transmission optimization of
33 loss versus increased capital offset?
34

1 CA/KPL-Nalcor-255 Consumer Question: In its July, 2011 presentation to PUB, page 37 of
2 50, Nalcor indicates, in its pictorial, that Emera is a 29% owner of the LIL.
3 What impact does the term note thereby have on the bearing of the
4 sanction of the project?
5

6 CA/KPL-Nalcor-256 Consumer Question: In its July, 2011 presentation to PUB, page 42 of 50
7 re Key Dates, Decision Gate 3 is shown as December, 2011. Yet, recent
8 testimony has verified that a decision for sanction is not expected until
9 June, 2012. Given construction season and other factors for early works
10 et al and the time of year for sanction decision, can not Nalcor confirm
11 that the project is 1 year behind schedule?
12

13 CA/KPL-Nalcor-257 Consumer Question: Further to CA/KPL-Nalcor-256, what in total are the
14 consequences of this delay and how will the intervening time be spent on
15 the project if it is sanctioned?
16

17 CA/KPL-Nalcor-258 Consumer Question: What is the value of the Muskrat Falls to Churchill
18 Falls intertie to the island ratepayer? Is the intertie essential to LIL?
19

20 CA/KPL-Nalcor-259 Consumer Question: Should power sales west occur after the project is
21 in service, will the ratepayers of Newfoundland be protected first with right
22 of first refusal?
23

24 CA/KPL-Nalcor-260 Consumer Question: Further to CA/KPL-Nalcor-259, should power sales
25 west occur before all of Muskrat Falls becomes firmed up for
26 Newfoundland ratepayer needs, will the power sales west result in direct
27 net back offset to Newfoundland ratepayers?
28

29 CA/KPL-Nalcor-261 Consumer Question: Further to CA/KPL-Nalcor-259 and
30 CA/KPL-Nalcor-260, will power sales west initiate immediate offset of LIA
31 costs to Newfoundland ratepayers, given that significant LIA costs are
32 retribution for Churchill Falls reservoir costs (and hence sales west)?
33

34 CA/KPL-Nalcor-262 Consumer Question: If the Emera term note is initiated, how will that

revenue provide relief to the Newfoundland ratepayer?

CA/KPL-Nalcor-263 Consumer Question: Will Emera bear some of the cost of the Bay d'Espoir to Western Avalon transmission upgrades since some of the Maritime link technical capability is likely dependent upon the referenced upgrades?

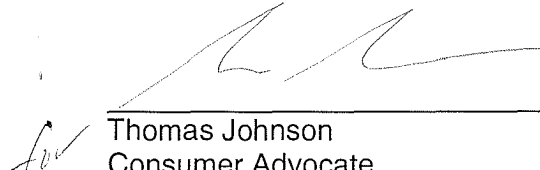
CA/KPL-Nalcor-264 Consumer Question: Is the Maritime link technically and economically feasible?

CA/KPL-Nalcor-265 Consumer Question: Will the Newfoundland ratepayer be provided a rate reduction should sales west occur in Labrador? How will any sales other than to Island customers affect the PPA (assigned exclusively to Island customers initially)?

CA/KPL-Nalcor-266 Consumer Question: With respect to LIL reliability, it would appear most databases on existing performance of similar assets are done on a per km basis. Is that realistic for LIL, given the long distance involved and the specific climatic conditions?

CA/KPL-Nalcor-267 Consumer Question: According to recent testimony, considerable accuracy of estimate will be in hand for DG3 and gatekeeper review. Will the NL public have an opportunity for input after this input is in hand?

Dated at St. John's in the Province of Newfoundland and Labrador, this 20th day of February, 2012.


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