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June 11, 2019

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Via Electronic Mail and Courier

Newfoundland and Labrador Board of Commissioners of Public Utilities
120 Torbay Road
P.O. Box 21040
St. John's, NL A1A 5B2

Attention: Ms. G. Cheryl Blundon, Director of Corporate Services and Board Secretary

Dear Ms. Blundon:

Re: Newfoundland and Labrador Hydro's- Application for Revisions to Cost of Service Methodology- Requests for Information IC-PUB-001 to 016 and IC-NLH-001 to 028

Further to the above, enclosed please find the original and eight (8) copies of the Island Industrial Customers Group Requests for Information dated June 11, 2019 IC-PUB-001 to IC-PUB-016 (directed to the Brattle Group) and IC-NLH-001 to IC-NLH-028 (directed to Hydro and CA Energy Consulting).

We trust this is in order.

Yours truly,

Stewart McKelvey

Paul L. Coxworthy
PLC/tas

Enclosures
c: Shirley Walsh, Senior Legal Counsel- Regulatory, Newfoundland & Labrador Hydro
Dennis M. Browne, Q.C., Consumer Advocate
Gregory Moores, Iron Ore Company of Canada
Gerard Hayes, Newfoundland Power Inc.
Senwung Luk, Labrador Interconnected Group

ecc: Newfoundland & Labrador Hydro
NLH Regulatory, Email: NLHTegulatory@nlh.nl.ca
Newfoundland Power Inc.
NP Regulatory, Email: regulatory@newfoundlandpower.com
Consumer Advocate
Stephen Fitzgerald, Email: sfitzgerald@bfma-law.com

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
regulations thereunder; and

IN THE MATTER OF an application from
Newfoundland and Labrador Hydro for approval
of revisions to its Cost of Service Methodology
pursuant to section 3 of the EPCA for use in the
determination of test year class revenue requirements
reflecting the inclusion of the Muskrat falls Project
costs upon full commissioning.

REQUESTS FOR INFORMATION OF
THE ISLAND INDUSTRIAL CUSTOMERS GROUP

IC-NLH-001 to IC-NLH -028
Issued: June 11, 2019

Sarah Fitzgerald, Email: sarah fitzgerald@bfma-law.com
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REQUESTS FOR INFORMATION OF THE ISLAND INDUSTRIAL CUSTOMERS GROUP

Hydro's COS Methodology Review Application/Report; CA Energy Consulting Report

IC–NLH-001

At page 1 of Schedule 1 of the 2018 Cost of Service (COS) Methodology Review Report, lines 4-6, it is noted that "*for many years, load growth on the Island Interconnected System has been supplied by the Holyrood Thermal Generating Station ("Holyrood") until capacity growth warranted a generation plant addition.*"

Please provide the annual growth statistics for the Island Interconnected System for energy and demand for the last 10 years.

IC–NLH-002

At page 1 of Schedule 1 of the 2018 COS Methodology Review Report, lines 6-9, it is noted that *"upon commissioning of the Muskrat Falls Project, supply cost payments to cover the cost of transmission and generation assets will commence under the Transmission Funding Agreement ("TFA") and Muskrat Falls Power Purchase Agreement ("PPA")*"

Please provide details of how the COS study relies on these facts, including the approximate relative share of the "supply cost payments" noted by Hydro as either fixed or variable.

IC–NLH-003

At page 1 of Schedule 1 of the 2018 COS Methodology Review Report, lines 14-16, it is noted that "*prior to the accessibility of off island purchases, approximately 85% of the test year revenue requirement related to Holyrood was classified as energy-related costs.*"

Please indicate how much of the Holyrood generation is expected to be replaced by Maritime Link purchases.

IC–NLH-004

Please provide details of how much of the Holyrood costs in the 2013 Amended GRA and 2017 GRA revenue requirements were fixed and how much were variable.

IC–NLH-005

Please provide classification of the Holyrood costs, excluding fuel, in the 2013 Amended GRA and 2017 GRA.

IC-NLH-006

On page 3 of Hydro's COS Methodology Review Report, Hydro notes that legislative impacts include the establishment of a Labrador Industrial Rates Policy to promote the development of industrial activity in Labrador.

Please provide and explain Hydro's viewpoint on whether similar policies to promote the development of industrial activity (including

maintenance of current industrial activity) should also be extended to the Island portion of the province. Is Hydro, from the overall perspective of the efficient management of the power system, indifferent to the maintenance of Island industrial load?

IC-NLH-007

On pages 23 and 24 of COS Methodology Review Report, it is noted that "*Hydro has also recommended that charges incurred by Hydro through the TFA and Muskrat Falls PPA be functionalized as generation. This includes the costs related to LIL, LTA and Muskrat Falls generation. If the costs of LIL or LTA are determined to be 100% functionalized as transmission, these costs become demand-related because functionalized transmission costs are treated as 100% demand-related. This approach would have similar impacts as those illustrated for the classification approach.*" [underline added]

Please provide detailed calculations that lead to the underlined statement by Hydro. Please provide revised Tables 7 and 8 [page 22 of the COS Methodology Review Report] assuming LIL and LTA costs as 100% transmission and 100% demand related.

IC-NLH-008

At page 8 of Schedule 1 of the COS Methodology Review Report, Hydro states that "*Hydro's current classification/allocation approach is comparable to the traditional approaches used by most electric utilities.*"

Please explain if using equivalent peaker methodology would also be comparable to the approaches used by most Canadian electric utilities, with specific examples of utilities that use the approach. For each example, please indicate if the equivalent peaker approach is used for only select plants or for the system as a whole.

IC-NLH-009

On page 7 of Schedule 1 of the COS Methodology Review Report, Hydro notes that it "*proposes to maintain separate cost of service studies for the Labrador Interconnected System and the Island Interconnected System for use in determining customer rates. This approach is consistent with the Government direction exempting customers on the Labrador Interconnected System from paying costs related to the Muskrat Falls Project.*"

In light the Brattle Group's recommendation to use one cost of service study for the Labrador Interconnected System (LIS) and the Island Interconnected System (IIS), has Hydro reconsidered its proposal to maintain separate cost of service studies for the LIS and IIS? Is it Hydro's position that separate cost of service studies are the only means of complying with the above-noted Government direction?

IC-NLH-010

Further to IC-NLH-009 above, please explain if there are any cost impacts to customers of using two separate cost of service studies compared to one cost of service study.

IC-NLH-011

On pages 8 and 9 of Schedule 1 of the COS Methodology Review Report, Hydro notes that "*upon interconnection of the system to the North American grid, marginal generation energy and reserve costs will be represented in most hours by wholesale prices from eastern regions of that grid. For the Island Interconnected grid, marginal generation capacity costs will reflect the costs incurred on the island to serve additional capacity due to the potential for transmission constraints applying at times of peak demand.*"

If the marginal generation energy values (from added or lost exports) are relatively low, and the marginal costs due to capacity constraints are relatively high, does Hydro/CA Energy Consulting view this as an indication that cost of service classification ratios should err towards capacity? Why or why not?

IC-NLH-012

On page 11 of Schedule 1 of the COS Methodology Review Report, Hydro notes that "*the Muskrat Falls Project was selected as the least cost alternative to replace Holyrood primarily based on the projected fuel costs savings over the long term; therefore from a cost causality approach, it appears reasonable that most of the Muskrat Falls Project costs would be considered energy-related.*"

Please confirm that the alternative supply option to the Muskrat Falls Project was the Island Isolated Option, as substantially described in the Public Utilities Board's Final Report dated March 30, 2012 in the Muskrat Falls Review, and in particular at section 4.2, pages 16-18 of that Report. Please confirm that the Isolated Island Option included more hydraulic and wind generation, and that this Option was not simply based on reliance on a rebuilt Holyrood generation facility.

IC-NLH-013

On page 16 of Schedule 1 of the COS Methodology Review Report, Hydro notes that "*the use of the generation credit provides Newfoundland Power with an estimated coincident peak demand requirement in the cost of service study that is effectively the same as if Newfoundland Power was operating its generation at peak times (with an adjustment for reserves). The provision of the generation credit removes the incentive for Newfoundland Power to operate its thermal generation to minimize its peak demand purchases from Hydro.*"

Is the rationale above different from the rationale for the CBPP Pilot Agreement? Please explain.

IC-NLH-014

On page 18 of Schedule 1 of the COS Methodology Review Report, Hydro proposes that "*net export revenues be classified in the same manner as the classification of the Muskrat Falls Project costs in the cost of service study*" and that "*net export revenues be included in the test year cost of service study for rate making with variations from forecast net export revenues be dealt with through a deferral account mechanism.*"

Considering the net export revenues in the cost of service study are proposed to be classified in the same manner as the classification of the Muskrat Falls Project costs, how would the proposed deferral account allocate the costs? Would Hydro use the cost of service classification factors to allocate variances (demand and energy), or would it use energy ratios in a manner similar to the Energy Supply Cost Variance Deferral Account? Please explain.

IC-NLH-015 With reference to Exhibit 1 of the COS Methodology Review Report, at page 3 of 3, please explain why Muskrat Falls levelized cost per kW includes cost related to transmission facilities (LIL and LTA).

IC-NLH-016 Further to IC-NLH-15, please provide a version of Table 1 in Exhibit 1 of the COS Methodology Review Report, at page 1 of 3, which removes LIL and LTA costs from Muskrat Falls levelized cost per kW.

IC-NLH-017 With reference to Exhibit 1 of the COS Methodology Review Report, at page 2 of 3, please provide details of the assumptions used for the gas turbine levelized cost per kW. Please also provide calculations in MS excel with formulas intact.

IC-NLH-018 With reference to Exhibit 1 of the COS Methodology Review Report, at page 3 of 3, please provide details of the assumptions used for calculating the Muskrat Falls levelized cost per kW, including calculations of levelized costs for LTA and LIL transmission assets. Please also provide calculations in MS excel with formulas intact.

IC-NLH-019 With reference to Exhibit 1 of the COS Methodology Review Report, at page 3 of 3, please provide details of the calculations that would be applied in future runs (e.g., in 10 years) of the cost of service study under Hydro's proposal to use the equivalent peaker method.

IC-NLH-020 CA Energy Consulting report, at page 3, notes "*Section 5.3 updates the description of Hydro's investigation of its ability to track operating and maintenance expenditures on specifically assigned transmission facilities of Island Industrial customers.*"

Please clarify whether Hydro has the ability to track actual O&M expenses only for industrial customers or for all Hydro customers with specifically assigned facilities (including NP).

IC-NLH-021 In CA Energy Consulting's view, how does the fact that most of the Muskrat Falls costs for Hydro are fixed affect economic price signals and marginal cost?

IC–NLH-022 Paragraph 3(b)(i) of the *Electrical Power Control Act, 1994* (EPCA) provides

3. It is declared to be the policy of the province that

(b) all sources and facilities for the production, transmission and distribution of power in the province should be managed and operated in a manner

(i) that would result in the most efficient production, transmission and distribution of power,

Please describe CA Energy Consulting's consideration of whether NP's generation credit incents efficient management and operation of the power system (i.e., absent a COS credit, NP would be incented to behave in a manner that is not efficient) and of whether the CBPP Pilot Agreement incents efficient management and operation of the power system (i.e., in the absence of the Pilot Agreement, CBPP's supply contract incents it to operate in a manner that is inefficient rather than maximizing the annual energy generation potential from its own hydraulic generation).

IC–NLH-023 CA Energy Consulting is asked to confirm that, absent the Pilot Agreement, CBPP is effectively economically incented (by way of Hydro's contract and rate design) to operate its hydro generation in a manner that is inefficient, prioritizing a flat load (whether this is beneficial to the system or not) at the expense of energy generation? How would CA Energy Consulting recommend this be addressed in a new CBPP rate design?

IC-NLH-024 CA Energy Consulting is asked to confirm that there is no incremental cost to the Hydro customers from continuing the CBPP Pilot Agreement.

IC-NLH-025 On page 16 of its report, CA Energy Consulting states that "*The levelized annual revenue requirement for Muskrat Falls generation and its associated transmission investments of LIL and LTA is approximately $1,249 per kW, while the estimated levelized annual cost for a new CT is $248 per kW, stated in CDN$. The demand share of Muskrat Falls would be $248/$1,249, or about 20%. The energy share would be the residual 80%, which is slightly below the 85% historical share of Holyrood's revenue requirement that is classified as energy-related. Based on this estimate, it may be that the final shares developed by the equivalent peaker approach will better account for the main reason underlying the resource choice favoring Muskrat Falls—very large fuel costs savings over future decades.*"

On page 29 of its report, CA Energy Consulting states that "*In the absence of marginal cost-based cost allocation, Hydro would use the results of its ELCC study to classify wind generation as 22% capacity-driven. Industry practice supports the use of such a value. Assuming that the system planners would factor wind power into its capacity planning, such a percentage seems sensible.*"

Further to the above-cited statements from its report, CA Energy Consulting is asked to explain how, if wind as a non-dispatchable resource is being classified as 22% demand, a 20% allocation to demand makes sense for the Muskrat Falls Project investment, given that Muskrat Falls is a dispatchable and routinely loaded plant that is highly likely to be contributing material capacity at all peak hours.

IC-NLH-026

On page 15 of its report, CA Energy Consulting states that "*Yet another classification alternative is the equivalent peaker methodology. This approach postulates that any cost per unit of capacity that exceeds that of a peaking unit should be classified as energy-related, while the peaking unit cost component is classified as demand related. Baseload and intermediate units are typically more expensive to build than peaking units, and that extra expense is viewed as being energy-driven. That extra cost is incurred in order to save fuel cost relative to peaking unit production, with generation investment occurring to attain least cost production.*"

On page 16 of its report , CA Energy Consulting states that "*The equivalent peaker method is viewed by some as giving formal recognition to the generation planner's selection of a range of plants to serve the system. (The argument is that generation planners must design their system to meet not only peak demand, but also the full range of load durations, and to do so at least cost. Costs not incurred to meet peak load are deemed to be incurred to supply energy)*" and "*To implement this approach, the utility develops an estimate of the cost per kW of a peaking unit, and compares that with the cost per kW of the new generation unit, being careful to use the same vintage as the plant under study*"

On page 17 of its report , CA Energy Consulting states that "*the equivalent peaker method is thus tied to the system planner's perspective on generation. On this basis, the equivalent peaker approach may merit review.*"

The equivalent peaker method is about investment in plant made by the utility. In the case of Muskrat Falls, Hydro will receive service under a power purchase agreement. Hydro neither made the investment nor owns the asset. CA Energy Consulting is asked to explain how it is appropriate to compare this arrangement to actual Hydro investment in a peaking turbine.

IC-NLH-027

Further to IC-NLH-025 and IC-NLH-027: Under an equivalent peaking methodology, the classification ratio is the cost of the gas turbine cost per kW (fixed) divided by the Muskrat Falls cost per kW (still being assessed). If the Muskrat Falls final in-service cost grows, the equivalent peaker ratio would fall, meaning a larger share of the larger overall cost of Muskrat Falls would be classified to energy. CA Energy Consulting is asked to explain

how such cost changes (arising after the investment decision was made) would be justified as a 100% energy cost?

IC-NLH-028

CA Energy Consulting supports classifying existing hydraulic assets on a system load factor basis, but suggests this is not an appropriate approach for Muskrat Fall assets since this result "*seems out of step with Muskrat Falls' envisioned purpose of serving base load and, in doing so, producing substantial fuel cost savings*" (per CA Energy Consulting, page 16, lines 23-24).

CA Energy Consulting is asked to explain how this generation characteristic (serving base load) is any different for the Bay D'Espoir generation facility. In its analysis, CA Energy Consulting is asked to consider this generation characteristic in relation to when the Bay D'Espoir generation facility was first put into service and in relation to its ongoing function in the Island System.

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

Island Industrial Customer Group

Per:

Paul Coxworthy, Stewart McKelvey

per

Denis Fleming, Cox & Palmer

per

Dean Porter, Poole Althouse