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Newfoundland and Labrador Hydro's Proposed Cost of Service Methodology

submitted to the
NL Public Utilities Board

on behalf of

the Labrador Interconnected Group

by

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1. INTRODUCTION

On November 15, 2018, NL Hydro (“Hydro”) filed its Cost of Service Methodology Review (the “Hydro Review”), including a report by its consultant Christensen Energy Consulting Associates (“Christensen”), as well as its Marginal Cost Study Update.

On May 3, 2019 (revised on June 27), the Brattle Group filed a report on behalf of the Board, commenting on Hydro’s filing.

The Labrador Interconnected Group has asked me to comment on these two reports, as well as the various responses to RFIs that have been filed by Hydro, by its consultants, and by the consultants to the Board.

In this report, I will comment on the following issues raised in the above-mentioned reports:

- Systemization (s. 2);
- Cost causation (s. 3); and
- Matters concerning the NLSO (s. 4).

2. SYSTEMATIZATION

Hydro’s evidence regarding systematization was concise, consisting of just one paragraph, which proposes to maintain the status quo whereby Labrador and the Island are treated as two distinct systems, each with its own cost of service study:

Hydro 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.¹

¹ NL Hydro, 2018 Cost of Service Methodology Review Report, page 7 (p. 18 pdf).

The Christensen study, presented in support of the Hydro Review, devotes almost four pages to the question. It too supports maintaining the status quo, and raises a number of arguments in support of this view.

First, Christensen looks at technical and institutional considerations, in relation to other North American contexts. From a technical perspective, it finds that the NL situation is unusual, in that separate territories are being joined not by a corporate merger but by a HVDC transmission line, and in that power flows will be almost totally unidirectional. From an institutional perspective, it identified instances where a merger of utilities with contiguous service territories did not result in merging of their COS studies.

Other factors pointing in the direction of separate COS studies include:

- The MF Exemption Order, which requires that the full costs of the Muskrat Falls Project (including all its components) be borne by Island consumers;
- The fact that the generation component of Labrador industrial rates, but not Island industrial rates, is exempt from PUB jurisdiction, meaning that rate unbundling would be required if these two were to become a single industrial rate class; and
- The dramatic difference in cost of service between the two regions, due primarily to the contractual elements providing low-cost Churchill Falls power to the Labrador Interconnected System (LIS), “which will not be negated by the completion of the LIL”.

Based on these factors, Christensen acknowledges that two solutions are possible:

- Maintain separate treatment of the two systems, based on the assumption that “new and future assets and expenses will be readily separable by service territory”;² or
- Unify the two regions but maintain separate rate classes based on geography, which “might more readily accept future cost allocation in cases of assets or expenses that both regions must share”.

Christensen recommends the former approach, as currently used, stating:

² Cost-of-Service Methodology Review Revised Version from Christensen Associates dated November 15, 2018, page 8 (64 pdf).

Costs shared by the two regions can continue to be separated prior to computation of costs by region, as performed by the current model.³

Brattle, the experts retained by the PUB, came to an opposite conclusion. In their report, they note that the proposals of Hydro and of its expert Christensen are based on two policy constraints: the assignment of Muskrat Falls costs to Island consumers, and the exclusion of Labrador industrial generation costs from Board jurisdiction. They wrote:

In our opinion, given that the two systems have been interconnected via the LIL, viewing the LIS and the IIS as a single integrated system for COS purposes would be beneficial going forward and can be done while still adhering to the relevant policy constraints that exist. It is quite common in COS studies to reflect relevant policy constraints—such as exempting (mandating) that certain classes of customers avoid (pay) for specific assets or expenses as is currently the case with the Muskrat Falls project—without the need to have separate COS studies to accommodate such policy considerations. In the present case, Hydro can straightforwardly accommodate the aforementioned policy constraints within an integrated system for COS purposes. For example, the COS study can retain separate rate classes based upon geography and the costs of the Muskrat Falls project could be assigned 100% to customers who reside within the Island Interconnected system—an approach that is an option that CAEC raised (at 8). The benefits of a single integrated system for COS purposes is that it will more readily accommodate the changing nature of the systems going forward in which future assets and expenses will more likely be shared among regions compared to the system before the LIL. While that will not happen immediately, over time, one would expect more of Hydro's assets to be used to provide services in both territories and it would be more straightforward to treat both areas as one independent area for COS purposes.⁴ (underlining added)

Brattle's recommendation is that Hydro prepare to use a single COS for the Island and Labrador regions in future GRAs, but not in the upcoming one.⁵ It makes no mention of Board precedents regarding the use of geography to define rate classes.

³ Ibid., page 9 (65 pdf).

⁴ Embedded and Marginal Cost of Service Review from The Brattle Group dated May 3, 2019, page 13 (17 pdf).

⁵ Brattle does not mention L'Anse-a-Loup or the isolated systems, but it would appear that its proposal is not to include these systems in a single COS study.

Brattle further explains that, under its proposal, no costs would be shifted from the Island to Labrador:

The current approach in effect implicitly “jurisdictionalizes” costs between the LIS and the IIS something that would be done more formally and explicitly in a single integrated system for COS purposes. From a practical perspective, we do not believe the results of a single integrated system for COS purposes will be different from the current approach that has separate LIS and IIS COS studies. That is one reason why we believe a single integrated system for COS purposes does not need to be developed for this GRA proceeding. Another reason is that, while we believe that developing and operationalizing a single integrated system for COS purposes will not have a material impact on the results, it will require work to develop the methodology and modify the models and may raise challenging issues that Hydro and stakeholders should carefully address.⁶ (underlining added)

It should be noted that Hydro is not convinced that Brattle’s proposal « will not have a material impact on the results »:

Brattle has not provided details with respect to the methodology they are proposing (i.e., whether the costs of all other generation and transmission assets, with the exception of the Muskrat Falls Project, are proposed to be combined and allocated between the two systems). Depending on the approach selected, Hydro believes the use of a single integrated system for cost of service purposes could materially increase the costs allocated to customers on the Labrador Interconnected System.⁷ (underlining added)

Indeed, it is not clear what methodology, models and issues Brattle is referring to in the passage cited, or on what basis it grounds its belief that this would not have a material impact on the results.

In NLH-PUB-005 and -006, Hydro asked Brattle to clarify if it was proposing that all generation and transmission assets, other than those included in the Muskrat Falls project, be treated as common and then allocated among customer classes for a combined Island and Labrador system. Brattle’s response to these RFIs emphasized that it was not making this recommendation “in this proceeding”, leaving open the question of whether or not this accurately describes its proposal

⁶ Brattle, page 13 (17 pdf).

⁷ PUB-NLH-033, page 3 of 3.

for future proceedings. Brattle then goes on to state that it is indeed suggesting that “there may be certain ... costs such as overhead, administrative and general, *etc.*, which, in a future, integrated COS might be treated differently than in the current COS.”⁸

If the only costs to be shared between the two systems are “overhead, administrative and general”, there is no need to create a single cost of service study, as there is nothing before the Board to suggest that the existing method is not adequate for sharing these costs appropriately between the two systems. In its report, however, Brattle went farther than this, suggesting that the real purpose of joining the two systems is more fundamental:

The benefits of a single integrated system for COS purposes is that it will more readily accommodate the changing nature of the systems going forward in which future assets and expenses will more likely be shared among regions compared to the system before the LIL. While that will not happen immediately, over time, one would expect more of Hydro's assets to be used to provide services in both territories and it would be more straightforward to treat both areas as one independent area for COS purposes.⁹ (underlining added)

Is Brattle's expectation that “over time, one would expect more of Hydro's assets to be used to provide services in both territories” well founded? When asked the basis for these affirmations, Brattle simply responded:

The basis is that the two systems will be physically interconnected.¹⁰

When asked to provide examples of the types of assets and expenses which Brattle anticipates would be shared between the Island and Labrador Interconnected Systems, it simply responded:

Possible assets and associated expenses include generation and transmission.¹¹

⁸ NLH-PUB-005 and -006.

⁹ Brattle, page 13 (17 pdf)

¹⁰ LAB-PUB-002 a) and b).

¹¹ LAB-PUB-002 c).

These extremely concise responses do not create confidence that this recommendation flows from a thorough-going reflection regarding the specific characteristics of the Island and Labrador Interconnected Systems. Indeed, no evidence has been presented to suggest that any foreseeable generation or transmission investments in either the Labrador Interconnected System or in the Island Interconnected System would be used to provide services in both territories. On the contrary, the most recent planning documents for each system make no mention of any such investment.

The Labrador Interconnected System Transmission Expansion Study, initially filed by Hydro on October 31, 2018, is currently under review by the Board. This study describes four (4) possible network expansion alternatives for Labrador East and seventeen (17) possible network expansion alternatives for Labrador West. There is no indication that any of these 21 possible investments could conceivably contribute to providing service to the Island Interconnected System. Similarly, the Reliability and Resource Adequacy Study filed by Hydro on November 16, 2018 in relation to the Island Interconnected System makes no suggestion that any of the investments described therein could contribute to providing service to the Labrador Interconnected System.

Indeed, it is hard to conceive of a situation where Island generation or transmission assets would contribute to providing power or energy to Labrador, even if power available from Churchill Falls (the Twinco Block and Recall Power) was no longer sufficient to meet those needs. Regarding the opposite case, where surplus Churchill Falls power is made available to the Island, the appropriate accounting methods are already being developed. There thus is no need to integrate the LIS and the IIS into a single COS study in order to properly address this issue.

When asked whether there are other benefits of an integrated system for COS purposes, Brattle responded:

Yes, compared to systems that are not interconnected, interconnected systems generally achieve efficiencies that would not be possible absent interconnection, such as improvements

in overall system load factor and economies of scale. As an example, generation units with different marginal costs can be used more efficiently, and at lower overall costs, in an interconnected system.¹³

This response is generic and in no way reflects the specific characteristics of the Island and Labrador systems. As power from Churchill Falls has a marginal cost far lower than any other generating unit, it goes without saying that it will be dispatched whenever possible before all other units. Recall power is already being used to displace Island generation when it exceeds Labrador needs, and the current regulatory framework is entirely capable of accounting for these transfers, without modifying the systematization currently in effect.

For these reasons, I recommend that the Board reject Brattle's recommendation that a single COS study be prepared for the Island and Labrador Interconnected Systems, starting with the first GRA after the upcoming one.

Given Hydro's view, quoted above, that it is not appropriate to join the LIS and the IIS into a single cost of service study, it was surprising to learn that "Hydro's recent planning studies propose planning for and dispatching the Newfoundland and Labrador Interconnected System ("NLIS") on a joint basis."¹⁴ While this proceeding is not the appropriate forum for addressing this issue, it should be pointed out that the Board has never recognized the existence of the NLIS or the appropriateness of this construct for planning and operational purposes, and that, based on the evidence presented to date, there is no reason to believe that such a construct is required.

¹³ LAB-PUB-002 d) a).

¹⁴ LAB-NLH-025 a).

3. COST CAUSATION

At the heart of the present proceeding is of course the Muskrat Falls Project. There is no dispute that the choice to proceed with the Muskrat Falls project was based on planning considerations for the Island Interconnected System:

From Hydro's perspective, the Muskrat Falls Project was undertaken to meet the electricity requirements of customers on the Island Interconnected System. This position is consistent with OC2013-343 which requires that any expenditures, payments, or compensation paid directly or indirectly by Hydro under an agreement or arrangement to which the Muskrat Falls Exemption Order applies shall be included as costs in Hydro's cost of service, without disallowance, to be recovered through Island Interconnected System customer rates.¹⁵ (underlining added)

When Brattle writes:

Our understanding is that at the time the decision was taken, the Muskrat Falls project was a least-cost solution to Hydro's future resource requirements, given then existing demand projections and supply considerations.

one must presume that they meant to say "Island" future resource requirements, since Labrador future resource requirements clearly had nothing to do with that decision.

As Hydro points out, the Board has in the past clearly indicated ". . . that the methodological objective be to allocate [embedded] costs to rate classes in a fair and equitable manner based on causal responsibility for cost incurrence."¹⁶ (square brackets in original; underlining added)

In several of its RFI responses, Brattle offers a surprising twist to the notion of cost causality:

We also believe that from a cost-causation perspective, *ex-ante* justifications for investment decisions (*i.e.*, the reasons why the investment was made) should be balanced with the *ex-*

¹⁵ PUB-NLH-033, page 2 of 3.

¹⁶ Quoted in PUB-NLH-033.

post consumption effects on costs going forward (*i.e.* the effect that changes in demand for energy, capacity and customer has on current and future costs).¹⁷

The effects described here as “*ex-post*” consumption effects are generally thought of as marginal costs — the effect on costs of adding or subtracting an increment of energy or capacity. They are thus fundamentally different from cost causation (described here by Brattle as “*ex-ante*” justifications), which depend on the reasons for which the costs were incurred.

Curiously, Brattle reaffirms this traditional understanding of cost causality in another one of its responses to the Consumer Advocate:

Fairness is an oft-debated philosophical issue, but commissions have generally begun any determination of fairness through cost of service studies which aim at assigning costs to the parties that have caused them to be incurred.¹⁸ (underlining added)

I recommend that the Board reaffirm that cost causation refers to the reasons why investments were undertaken, and not to “*ex-post* consumption effects on costs going forward”.

4. NLSO

In its COS Methodology Review, Hydro includes a section entitled “Open Access Transmission Tariffs” (section 2.5). In this section, Hydro explains that interconnection with the broader North American electric grid “gives rise to the obligation for Hydro and its affiliated transmission owners to provide open, non-discriminatory access to transmission service on transmission lines used for inter-provincial trade by third parties”. It further explains that to meet this requirement, established by the FERC, “Hydro must provide comparable open access to

¹⁷ NP-PUB-001. This is also referenced in CA-PUB-001.

¹⁸ CA-PUB-006.

transmission service over the interprovincial transmission system within Newfoundland and Labrador.”¹⁹

Asked to explain the source of this requirement, Hydro explained:

The requirement to provide open, non-discriminatory access to transmission service on transmission lines used for inter-provincial trade arises from the fact that Newfoundland and Labrador Hydro and its affiliates are provided open, non-discriminatory access to transmission service from entities whose Open Access Transmission Tariffs (“OATT”) contain reciprocity obligations, as well as the fact that Hydro’s affiliate, Nalcor Energy Marketing (“NEM”), takes service from entities that are subject to the Federal Energy Regulatory Commission (“FERC”) jurisdiction. The FERC requires that, as a condition of NEM taking transmission service over transmission systems where the FERC regulations are followed, NEM’s transmission owning affiliates must provide comparable transmission service to third parties, including affiliates of the transmission providers over whose systems NEM takes transmission service.²⁰ (underlining added)

Hydro also refers, in section 2.0, to Order No. P.U. 3(2018), where the Board approved, on an interim basis, the pro-forma Transmission Service Agreements, the NL Transmission Policies and Procedures and the Code of Conduct for NL Transmission System Operations.

Brattle also refers to the NLSO decisions with respect to what lines to “include in its OATT”.²¹ However, when asked to specify to what document it was referring, Brattle responded that it was not “referring to a Hydro-specific OATT”, but rather to the NLSO’s Methodology for the Development of Rates for Transmission Service, one of the documents submitted to the Board as part of Hydro’s filing in response to OC2017-380, though not explicitly approved by it in P.U. 3(2018).

¹⁹ Page 4 (pdf 15).

²⁰ LAB-NLH-017a.

²¹ Page 18.

In fact, the Board has not approved an OATT for Hydro, and the documents that Hydro submitted to the Board in response to OC2017-380 do not include one. To the best of my knowledge, Hydro has not indicated that it intends to adopt one.

Brattle further referred to its earlier statement that the NLSO “has developed and will maintain a comprehensive set of transmission rates and associated operating policies and procedures designed to be consistent with the reciprocity requirements set out in the United States Federal Energy Regulatory Commission (FERC) Order 888.” However, Brattle declined to opine on whether or not the documents approved by the Board meet FERC’s minimum standards for an OATT.²²

In LAB-NLH-017b, the Labrador Interconnected Group asked:

In Hydro’s view, do the pro-forma Transmission Service Agreements, the NL Transmission Policies and Procedures and the Code of Conduct for NL Transmission System Operations adopted effective February 9, 2018 meet the minimum standards for an OATT set out in FERC’s Order 890 or subsequent orders? If not, does Hydro intend to seek Board approval for an OATT that meets FERC’s minimum requirements as set out in these orders? If so, when?

In its response, Hydro indicated that, in its view, the documents approved by the Board in P.U. 3(2018) do indeed meet this obligation. However, the response failed to indicate the grounds for that opinion. The full response reads as follows:

The FERC has held that the reciprocity obligation can be met by either adopting an OATT that is equal or superior to the FERC’s pro-forma OATT, or by providing comparable transmission service under a bilateral transmission service agreement. (note 1) In Hydro’s view, the pro-forma Transmission Service Agreements, the NL Transmission Policies and Procedures and the Code of Conduct for NL Transmission System Operations adopted effective February 9, 2018 meet this obligation.²³

²² LAB-PUB-003.

²³ LAB-NLH-017b.

The response indicates that the reciprocity obligation can be met in one of two ways — by adopting an OATT that meets FERC's minimum standards ("equal or superior to the pro forma OATT"), or by providing comparable transmission service under a bilateral transmission service agreement — but it fails to indicate under which prong Hydro believes the test to have been met.

Given, however, that Hydro has not submitted an Open Access Transmission Tariff (OATT) to the Board for approval, and that the documents approved in P.U. 3(2018) do not include such a document, one must assume that Hydro believes that, through the documents approved therein, it meets the second prong of the test — "providing comparable transmission service under a bilateral transmission service agreement".

The key word in that phrase is "comparable", and the question is thus whether or not the documents approved in P.U. 3(2018) do in fact provide comparable transmission service under a bilateral transmission service agreement.

Note 1 in the response cited above is an extensive list of FERC decisions concerning open access transmission tariffs, which reads as follows:

See Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, Order No. 888, 61 Fed. Reg. 21,540 (May 10, 1996), FERC Stats. & Regs. ¶ 31,036 (1996), order on reh'g, Order No. 888-A, 62 Fed. Reg. 12,274, at 30,285-86 (Mar. 14, 1997), FERC Stats. & Regs. ¶ 31,048 (1997), order on reh'g, Order No. 888-B, 81 FERC ¶ 61,248 (1997), order on reh'g, Order No. 888-C, 82 FERC ¶ 61,046 (1998), aff'd in relevant part sub nom. Transmission Access Policy Study Group v. FERC, 225 F.3d 667 (D.C. Cir. 2000), aff'd sub nom. New York v. FERC, 535 U.S. 1 (2002); see also Preventing Undue Discrimination and Preference in Transmission Service, Order No. 890, FERC Stats. & Regs. ¶ 31,241, at P 191, order on reh'g, Order No. 890-A, FERC Stats. & Regs. ¶ 31,261 (2007), order on reh'g, Order No. 890-B, 123 FERC ¶ 61,299 (2008), order on reh'g, Order No. 890-C, 126 FERC ¶ 61,228, order on clarification, Order No. 890-D, 129 FERC ¶ 61,126 (2009).

These orders and decisions, read together, do indeed to a large extent define the conditions under which transmission service can be deemed to be "comparable". These documents include:

- FERC's landmark Order 888 (1996), which defined the minimal terms of an open access transmission tariff (OATT), including its reciprocity provisions;

- FERC's subsequent orders on rehearing (888-A, -B and -C), which further clarified the minimal requirements for an OATT;
- Two federal court decisions in relation to these orders;
- Order 890, issued in 2010 following a lengthy proceeding initiated to reevaluate whether or not the measures put in place by Order 888 were adequate to meet its objectives, and which further modified the *pro forma* OATT set out in the previous orders;
- Orders on rehearing 890-A, 890-B, 890-C and 890-D, which further modified the minimal requirements for an OATT.

These documents – nine lengthy FERC Orders and two federal court decisions – together comprise a vast and complex articulation of FERC transmission policy. However, Hydro has provided no indication of its reading of these documents, or how it believes they apply to its particular situation. Nor has Hydro made any mention of the several FERC decisions with regard to Canadian transmission providers – surely also relevant to its situation – nor has it mentioned the equally complex jurisprudence relating to transmission-owning affiliates of entities that have or seek power marketer authority in the United States.

If the Board is to allow Hydro to rely on potential imports from other jurisdictions as capacity resources in its assessment of Hydro's resource adequacy, it will need to be convinced that the transmission arrangements in place are adequate to allow access to such resources. P.U. 3(2018), which approved certain documents as required by OC2017-380, did not address these issues.

I recommend that, when the Board turns its mind to these questions again — whether or not in response to an application from Hydro — it examine the adequacy of the documents now in force for meeting the reciprocity obligations to which Hydro is subject.