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November 1, 2019

The Board of Commissioners of Public Utilities
Prince Charles Building
120 Torbay Road, P.O. Box 21040
St. John's, NL A1A 5B2

Attention: Ms. Cheryl Blundon
Director Corporate Services & Board Secretary

Dear Ms. Blundon:

Re: Rate Mitigation Options and Impacts Review – Nalcor Energy and Newfoundland and Labrador Hydro Final Submission

Further to the Board's schedule, enclosed you will find an original and five additional copies of Nalcor Energy and Newfoundland Labrador Hydro's Final Submission.

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

Yours truly,

Nalcor Energy

for PH

Peter Hickman
Senior VP, Chief Legal Officer
& Corporate Secretary

Yours truly,

Newfoundland and Labrador Hydro

for GY

Geoffrey P. Young, Q.C.
Corporate Secretary & General Counsel

/bds
cc: Paul Coxworthy, Industrial Customer Group
Kelly Hopkins, Newfoundland Power Inc.
Dennis Browne, QC, Consumer Advocate

Reference to the Board on Rate Mitigation Options and Impacts

Final Submission of

Nalcor Energy & Newfoundland and Labrador Hydro

November 1, 2019

nalcor energy

newfoundland labrador hydro
a nalcor energy company

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1.0 INTRODUCTION

This document constitutes the combined Final Submission of Nalcor Energy ("**Nalcor**") and Newfoundland and Labrador Hydro ("**Hydro**") following public hearings (the "**Hearing**") associated with the Reference on Rate Mitigation Options and Impacts Relating to the Muskrat Falls Project Costs requested by the Government of Newfoundland and Labrador (referred to hereinafter as either the "**Province**" or "**Government**") on September 5, 2018 (the "**Reference**").

The Reference asked the Board of Commissioners of Public Utilities (the "**Board**") to consider the following questions:

(1) Options to reduce the impact of Muskrat Falls Project costs on electricity rates up to the year 2030, or such shorter period as the Board sees fit, including cost savings and revenue opportunities with respect to electricity, including generation, transmission, distribution, sales, and marketing assets and activities of Nalcor Energy and its Subsidiaries, including NLH, Labrador Island Link Holding Corporation, LIL General Partner Corporation, LIL Operating Corporation, Lower Churchill Management Corporation, Muskrat Falls Corporation, Labrador Transmission Corporation, Nalcor Energy Marketing Corporation, and the Gull Island Power Company (together the "**Subsidiaries**", and collectively with Nalcor Energy, "**Nalcor**");

(2) The amount of energy and capacity from the Muskrat Falls Project required to meet Island interconnected load and the remaining surplus energy and capacity available for other uses such as export and load growth; and

(3) The potential electricity rate impacts of the options identified in Question 1, based on the most recent Muskrat Falls Project cost estimates.

Government subsequently advised mitigation opportunities within the project financing of the Muskrat Falls Project ("**MFP**") were no longer within scope of the Reference.

2.0 EXECUTIVE SUMMARY

Financial Opportunities

The dominant source of funds potentially available for reduction of electricity rates in the province (i.e., 93% of all opportunities identified by the Board's consultant, The Liberty Consulting Group ("**Liberty**")), are those identified in Liberty's *Final Report on Phase Two Muskrat Falls Project Potential Rate Mitigation Opportunities*, dated September 3, 2019 (the **"Liberty Report"**). Application of these sources of funds, which in effect is rate subsidization, requires a decision by Government. These include:

a) **MFP Dividends.** Forecasted MFP dividends payable to Government equal approximately $90 million in 2021, grow to $285 million by 2030 and grow further to $569 million by 2039, all of which could be used to reduce rates;

b) **Off-systems Sales.** Profits from off-systems sales of MFP excess energy are forecasted to result in $35-45 million annually and can be used to reduce rates;

c) **Hydro Equity Target.** A reduction in Hydro's target equity level from 25% to 20% would result in an acceleration of the commencement of dividend payments totaling approximately $110 million over the 2021-2025 period. However, over the longer term up to 2039, this results in lower overall dividends being available for rate mitigation when compared to the 25% target equity level;

d) **Water Rentals.** Provincial water rentals paid to the Province by Churchill Falls (Labrador) Co. (**"CF(L)Co"**) and Muskrat Falls Co. (**"MFCo"**) equaling approximately $20 million annually could be applied to reduce rates;

e) **CF(L)Co Dividends.** CF(L)Co preferred dividends equal to approximately $6 million annually could be applied to reduce rates; and

f) **Harmonized Sales Tax ("HST").** The provincial portion of the HST on domestic retail sales of Hydro and Newfoundland Power equal approximately $50 million annually and could also be used to reduce overall amounts paid on customer bills.

MFP Operations and Maintenance (**"O&M"**) Costs

Nalcor has been committed to reduce MFP O&M costs since baseline estimates were first developed and this will continue to be a priority during Nalcor's Budget 2020/2021 processes as the first full year of MFP operation approaches and such cost reductions will be a commitment beyond the 2020/2021 budget.

Combination of Hydro and Newfoundland Power

Nalcor and Hydro do not support a combination of the assets or operations between Hydro and Newfoundland Power since such combination would not provide a net benefit to customers in the province.

Efficiencies within Hydro

Hydro recognizes there are efficiencies to be gained within its current utility operations and will actively pursue such opportunities with continuing oversight of the Board. These include $2 million in annual savings from activities related to its regulated business and will seek a further $2.5 million in annual savings in the Exploits operation over a 3-5 year period.

External Energy Sales, Oversight of Energy Marketing and Function of Nalcor Energy Marketing (**"NEM"**)

Nalcor agrees ratepayers should benefit from the off-system sales of MFP energy facilitated by NEM.

Regulatory oversight that limits NEM's ability to compete and maximize profits from surplus energy sales must be avoided. Current, albeit interim, arrangements between NEM and Hydro include applications for review by the Board. NEM has implemented Risk Management protocols that meet industry best practices. NEM has been effective and profitable while discharging its growing mandate. Accordingly, Nalcor and Hydro support the continuance of NEM in its current form.

Outsourcing the energy marketing and trading function of Nalcor to an independent third party and foregoing the experience and expertise NEM has developed over more than 10 years of operations lacks merit. The services currently provided by NEM in-house are least cost, maximize value for the customers and are consistent with utility practice within Canada.

Organizational Structure

While one cannot predict precisely when MFP will be integrated, tested and operated to the point where it has reached "steady state", Nalcor cautions (with emphasis) against any organizational change that could distract or disrupt achievement of steady-state operation. Nalcor is well aware of the financial challenge MFP has been for the province and its expected impact on rates. All steps have and will continue to be made to reduce costs within the various organizations where such reductions are appropriate and possible.

Board Oversight of MFP O&M Costs and Future Sustaining Capital Costs

Throughout the Reference, it was suggested the Board might play an increased oversight role in determining MFP O&M costs and future sustaining capital costs. While not necessarily opposed to this change, Nalcor cautions that there will need to be consideration of any implications from doing so arising under the legislative framework applicable to the MFP (**"MFP Regulatory Framework"**), financing arrangements and contractual commitments of Nalcor and Government.

Electrification & Conservation and Demand Management (**"CDM"**)

Hydro supports efforts to increase energy sales within the province (**"Electrification"**) as a means to achieve long-term sustainable rate mitigation. As a next step and to encourage more domestic use of energy, Hydro believes more study is required to develop a comprehensive plan which gives consideration to strategic use of time of use rates, critical peak pricing, peak demand management, conservation initiatives and electrification in support of the provision of least cost service to customers in the future.

Intervenor and Public Submissions

During the Hearing,

a) The Consumer Advocate raised two issues that require brief comment: (i) performance based rates; and (ii) a possible legislative cap on sustaining capital costs. There was no evidence that performance based rates would help reduce electricity rates in the province. Capping sustaining capital costs by legislation received no specific support from any witness who testified. An arbitrary cap would risk putting reliability in jeopardy.

b) The International Brotherhood of Electrical Workers (Local 1615) (**"IBEW"**) raised several issues that warrant comment and/or correction with respect to: (i) staffing efficiencies and costs; (ii) full time equivalents (**"FTEs"**) and erosion of the bargaining unit; and (iii) staffing at Exploits generation. Nalcor's organizational structure enables it to achieve its long-term mandate and short-term goals. Nalcor and Hydro manage staff and people with a view to efficiencies and cost optimization where practical and possible. Specific responses to IBEW submissions can be found at Section 7 of this Submission.

3.0 ELECTRICITY RATE SUBSIDIZATION VERSUS MITIGATION

The Board has been asked through this Reference to examine means, "to reduce the impact of Muskrat Falls Project costs on electricity rates…" As the evidence has established, there are two methods by which this can be done:

a) **Rate Mitigation** - a reduction of the revenue requirement of Hydro through a reduction in the costs of generating or delivering electricity or the generation of additional revenues; or

b) **Rate Subsidization** - through either (i) redirection of the dividends paid to or available to Government from Nalcor or Hydro, (ii) subsidies from general revenues, and (iii) the forgiveness or redirection of fees or charges normally paid to Government.[1]

Each is a form of mitigation insofar as the ratepayer is concerned but the means to take action in respect of each method lies with different entities, with different factors to consider.

Finding **rate mitigation** opportunities through review and approval of a Newfoundland and Labrador utility's revenue requirement is generally a regulatory function of the Board. That said, certain cost saving opportunities identified by Liberty are with respect to areas in which the Board lacks jurisdiction to deny or reduce costs pursuant to the MFP Regulatory Framework. More is said about the MFP Regulatory Framework under Section 5.3 below.

Rate subsidization is not by its nature a regulatory function but a question of public policy as determined by Government, and includes two key considerations: (i) the extent of rate subsidization and (ii) the manner in which it is implemented. Rate subsidization would require a decision by Government to use funds received through taxation, royalties or dividends to reduce electricity rates. Once a decision is made by Government to subsidize rates, taxpayers (not the ratepayers) pay the corresponding reduction in rates. The interests of taxpayers and ratepayers are not identical and in the absence of government direction, there is no regulatory authority afforded to the Board to order subsidization of rates.

When considering whether to offer rate mitigation or rate subsidization, Government needs to assess the impacts on:

a) <u>Financial Position of the Province</u> – A balance must be found between rate subsidization and other required Government expenditures. In that regard and for example, $1 million attributed to rate subsidization requires the Province to either come up with

[1] See Stan Marshall Presentation (October 8, 2019), pages 3 to 4 and PUB Transcript (October 8, 2019), pages 6 to 9.

$1 million in revenue elsewhere or do without such funds for other public initiatives, all the while considering how such decisions might impact the Province's credit rating.

b) External Stakeholders – Nalcor and the Province have entered into various MFP commercial arrangements with the Government of Canada, Emera and Innu Nation ("**Stakeholders**"). Each of these arrangements needs to be reviewed to ensure Nalcor's and the Province's obligations are not compromised by a given subsidy.

c) MFP Regulatory Framework - Should Government wish to implement mitigation steps where certain MFP costs would not ultimately be recovered from ratepayers, it would need to amend the MFP Regulatory Framework and assess the resulting implications for Government and the Nalcor group under the various MFP agreements and impacts on Stakeholders. More is said about the MFP Regulatory Framework under Section 5.3 below.

d) Technical and Accounting Issues – A full review must be undertaken to ensure there are no unintended consequences from rate subsidization. For example, there is potential for asset impairment and large, one-time accounting losses for Nalcor, the MFP entities and/or Hydro if subsidization occurs within Nalcor, which could impact the Province's financial standing. Additionally, depending on how rate subsidization is implemented, a potential consequence could be a finding that Nalcor and/or a subsidiary is no longer self-sustaining, which would cause their debt to be consolidated into the Province's financial position, impacting the Province's credit rating.

4.0 SUBSIDIZATION AND MITIGATION OPPORTUNITIES

As stated in written evidence and during the Hearing, Nalcor and Hydro generally agree with several recommendations under the "Financial Mitigation Opportunities" section of the Liberty Report.[2]

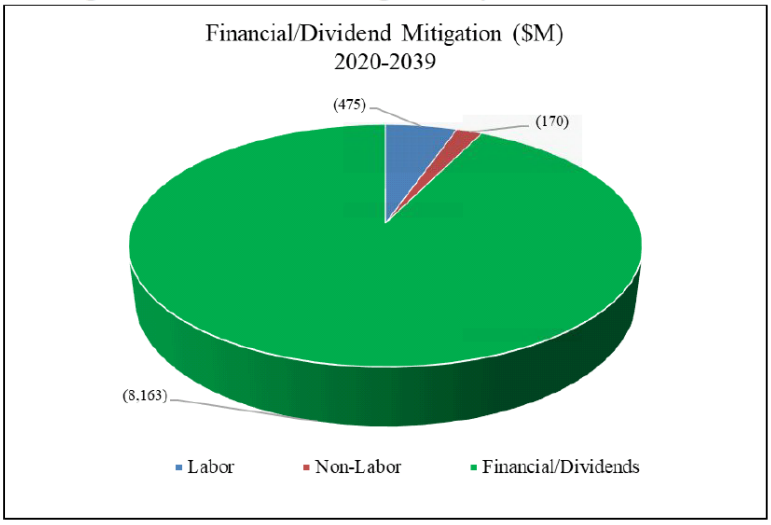
These include the following:

[2] Liberty Report, pages 12-27.

4.1 Financial Opportunities

Financial opportunities to reduce rates are the dominant source of the all opportunities identified at Figure VII.16 of the Liberty Report (approximately 93%).[3]

Figure VII.16: Total Mitigation by Source (2020-39)



Nalcor's internal analysis of these opportunities is consistent with the assessment found in the Liberty Report and no party provided evidence contradicting those findings. Each constitute rate subsidization, meaning a Government decision and/or intervention is required for implementation.

<u>Conclusion</u> - Nalcor states that:

a) ***MFP Dividends.*** *Forecasted MFP dividends payable to Government equal approximately $90 million in 2021, grow to $285 million by 2030 and grow further to $569 million by 2039, all of which could be used to reduce rates;*

b) ***Off-systems Sales.*** *Profits from off-systems sales of MFP excess energy are forecasted to result in $35-45 million annually and can be used to reduce rates;*

c) ***Hydro Equity Target.*** *Hydro agrees that adjusting the equity target in its capital structure should be considered by the Board for rate mitigation purposes (on a short-term basis). A reduction in the target equity level from 25% to 20% would result in an*

[3] Liberty Report, page 101.

acceleration of the commencement of dividend payments totaling approximately $110 million over the 2021-2025 period. However, over the longer term up to 2039, this results in lower overall dividends being available for rate mitigation when compared to the 25% target equity level. Additionally, there is no industry consensus as to an appropriate equity target to inform a change in the long-term target. Factors such as capital requirements for asset reliability, operational variances in profitability, debt market requirements, credit agency standards for self-sustainability and the financial requirements of the Province (as shareholder) all need to be taken into consideration;

d) ***Water Rentals.*** *Provincial water rentals paid to the Province by Churchill Falls and Muskrat Falls equaling approximately $20 million annually could be applied to reduce rates;*

e) ***CF(L)Co Dividends.*** *CF(L)Co preferred dividends equal to approximately $6 million annually could be applied to reduce rates; and*

f) ***HST.*** *The provincial portion of the HST on domestic retail sales of Hydro and Newfoundland Power equal approximately $50 million annually and could also be used to reduce overall amounts paid on customer bills.*

4.2 MFP O&M Costs

Conclusion - Nalcor has been committed to reduce MFP O&M costs since baseline estimates were first developed. This will continue to be a priority during Nalcor's Budget 2020/2021 processes as the first full year of MFP operation approaches and such cost reductions will be a commitment beyond the 2020/2021 budget.[4]

While MFP O&M costs are, in theory, a source of rate mitigation, such costs are currently not within the regulatory purview of the Board, under to the MFP Regulatory Framework. As the evidence indicates, Nalcor remains committed to finding MFP O&M cost savings in response to the Province's public policy framework for rate mitigation released in April 2019.[5] Nalcor and

[4] See PUB-Nalcor-50 and PUB-Nalcor-270.
[5] See https://www.gov.nl.ca/nr/muskratfallsframework/.

Hydro are working together to ensure that MFP O&M costs are appropriate and joint committees are in place for oversight.[6]

As noted in the Liberty Report at page 84, with respect to the $97.4 million base year O&M estimate prepared by Nalcor:

> Estimates of LCP O&M [MFP] costs prepared in March and October 2018 provide sound, well developed baselines for projecting those costs. They take an appropriately conservative view of staffing needs, given the significant size of the project, new technology (*i.e.*, HVdc), and most importantly, a several-year performance-stabilization period that commencement of LCP [MFP] operations will require.

The analysis completed by Nalcor and submitted to the Board[7] yielded different cost savings estimates for certain categories compared to those outlined in the Liberty Report. Nalcor has also determined that some of these cost savings can be realized starting in 2021, while others will likely take a number of years following full and stable operation to fully realize, a view shared by Liberty.

4.3 Combination of Hydro/Newfoundland Power

<u>Conclusion</u> - Nalcor and Hydro do not support a combination of the assets or operations between Hydro and Newfoundland Power since such combination would not provide a net benefit to customers in the province.

Nalcor and Hydro submit that:

a) any asset transfer from Nalcor/Hydro to Newfoundland Power could increase rates for customers for reasons stated in the Liberty Report and evidence filed by Nalcor / Hydro on September 20, 2019;

[6] See Jim Haynes/Jennifer Williams Presentation (October 9, 2019), pages 6-7 and PUB Transcript (October 9, 2019), pages 174-180.
[7] Confidential Submission L300.09.

b) there may be modest saving opportunities through combining either assets or operations of Hydro and Newfoundland Power but these opportunities have significant execution risks and transition needs; and

c) finding efficiencies in current utility operations is likely to result in savings but without those risks associated with combining either the assets or operations of Hydro and Newfoundland Power (see Section 4.4 below).

4.4 Efficiencies within Hydro

Conclusion – Hydro recognizes there are efficiencies to be gained within its current utility operations and will actively pursue such opportunities with continuing oversight of the Board.

Hydro is committed to finding efficiencies and productivity improvements. The exact nature and timing of steps to be taken to achieve such savings will be estimated and communicated to the Board in a progress report during the second quarter of 2020. Areas under review include: (i) work management and execution; (ii) operational technology and advances; (iii) Exploits operations; (iv) capital planning; (v) contracting and procurement; and (vi) human resource management.[8]

Specifically, Hydro is committed to finding $2 million[9] in annual savings from activities related to its regulated business. Hydro is further committed to undertaking a multi-year efficiency review of the Exploits operation, targeting $2.5 million in annual savings (i.e., 25% of its annual operating budget).[10] Further information relating to the Exploits operation is provided in Section 7.2 of this submission.

[8] Jim Haynes/Jennifer Williams Presentation (October 9, 2019), page 5.

[9] This is in addition to Exploits targeted annual savings. See PUB Transcript (October 9, 2019), pages 165-173; and PUB-Nalcor 218-A, and Confidential PUB-Nalcor-218-B.

[10] Hydro anticipates filing an application with the Board for the acquisition of the Exploits assets later in 2019. See PUB Transcript (October 9, 2019), pages 170-171.

5.0 NALCOR/HYDRO POSITION ON OTHER OPPORTUNITIES IDENTIFIED BY LIBERTY

Nalcor and Hydro disagree with Liberty's conclusions with respect to the rate mitigation/subsidization opportunities in the following areas: energy marketing activities and the role of Nalcor Energy Marketing Corporation ("**NEM**"), Nalcor's organizational structure, and Board oversight of MFP O&M cost and future sustaining capital costs.

5.1 Nalcor Energy Marketing

Before addressing NEM's specific functions, it is important to review Nalcor's electricity operations from an energy demand and supply perspective and the roles served by each participant.

Hydro (Resource and Production Planning department). Ensures Hydro fulfills its mandate of reliable service, consistent with least-cost operations. Hydro must maintain a view to meeting customer requirements, both short and long term and respond to the demands placed on its generating assets.

CF(L)Co and MFCo. Ensures reliable plant operations and maintenance and meeting contractual commitments in order to respond to the demands placed on generation assets.

NEM. Face to extra-provincial markets, NEM's primary focus is (i) managing water resources in compliance with established reliability criterion; and (ii) value creation. NEM responds to market signals (e.g., spot prices, generation unit availability, transmission availability, etc.) in both domestic and extra-provincial markets.[11]

[11] PUB Transcript (October 9, 2019), pages 207-211.

Regarding NEM's role in Nalcor's electricity operations, Liberty made three material recommendations with respect to (i) Value Sharing, (ii) Regulatory Oversight, and (iii) Outsourcing services to a third party:

a) **Value Sharing of Muskrat Surpluses**

Conclusion – Nalcor agrees ratepayers should benefit from the off-system sales of MFP energy facilitated by NEM.

The decision as to where and how margins arising from NEM's participation in extra-provincial electricity are applied rests with Government. That said, Nalcor agrees that ratepayers (through Hydro) should benefit from off-system sales in accordance with the costs and risks they bear associated with MFP assets. This is consistent with industry practice in Canada.[12]

b) **Regulatory Oversight of NEM**

Conclusion - Regulatory oversight that limits NEM's ability to compete and maximize profits from surplus energy sales must be avoided. Current, albeit interim, arrangements between NEM and Hydro include applications for review by the Board. NEM has implemented Risk Management protocols that meet industry best practices. NEM has been effective and profitable while discharging its growing mandate. Accordingly, Nalcor and Hydro support the continuance of NEM in its current form.

Industry Practice. Nalcor and Power Advisory state that Canadian energy marketing companies affiliated with Crown utilities are not regulated to the same extent as energy marketing companies in the United States.[13] Given that the electricity sector in Canada has largely been

[12] NEM margins earned from post-Maritime Link ponding activities and off-Island purchases are currently being held in a Hydro deferral account, waiting disposition by the Board. See Board Order P.U. No. 49(2018).

[13] See Evidence of Nalcor and Hydro (September 20, 2019), Appendix 1, pages 26 to 29; Power Advisory Presentation (October 8, 2019), pages 8-9; and PUB Transcript (October 8, 2019), pages 171-175.

developed and remains controlled by government (as shareholder), the need or desire to regulate Crown corporations is not as obvious or strong. Liberty appears to agree.[14]

During the Hearing, Liberty advised that 31 of 51 US jurisdictions regulate the energy marketing activities of vertically integrated utilities and suggested, if not directly then by implication, that the same should apply to NEM. This perspective appears to be influenced by Liberty's experience performing audits of fuel procurement practices for US utilities where fuel costs are a significant portion of customer rates.[15] The returns from regulatory oversight of these operations focus on assessing if fuel procurement practices and forecasting of future fuel requirements depart from best practices.[16]

This is quite different from the type of trading activities that NEM performs. Power Advisory suggests, and Nalcor agrees, that a more relevant comparator is energy trading operations for hydroelectric utilities or generation companies, in particular those located in Canada. Trading activities of significant and primarily hydroelectric surpluses are fundamentally different than the fuel management and energy procurement activities of those US utility comparators. US utilities with significant fuel costs are primarily focused on least cost energy supply. Hydroelectric energy trading is focused on identifying short and long-term market opportunities and capitalizing on them through operating flexibility of its resources. This includes electing to store energy for resale at a time when prices are higher.[17] Extensive oversight for such activity is neither appropriate nor effective,[18] and is not in keeping with Canadian industry practice.

Oversight. The Board already exercises oversight of certain aspects of NEM activities through its review and approval of the Amended and Restated Power Purchase Agreement (Pre-Muskrat

[14] PUB Transcript (October 3, 2019) pages 106-107.
[15] PUB Transcript (October 3, 2019) pages 104-105.
[16] PUB Transcript (October 8, 2019), page 173, lines 8-25.
[17] Evidence of Nalcor and Hydro (September 20, 2019), Appendix 1, page 4.
[18] See PUB Transcript (October 8, 2019), page 171, lines 2-15.

Falls) between Hydro and NEM, dated June 29, 2018 (the "**Interim PPA**") and the Pilot Agreement for the Optimization of Hydraulic Resources.[19]

The Interim PPA between Hydro and NEM requires collaboration with respect to water management and production scheduling and recognizes that the first priority of NEM is that domestic load is reliably served at all times. This collaboration includes approval by Hydro of the production schedules utilizing its assets. Upon satisfying domestic load, Hydro and NEM work together to maximize value for the province through collaboratively operating Hydro's and Nalcor's electricity assets by ensuring hydro generation: (i) minimizes spills; (ii) minimizes reliance on thermal production; (iii) maximizes export volumes during times of higher prices; and (iv) maximizes the value of storage through ponding activities.[20]

A significant portion of the province's annual renewable energy generation will go to external markets upon completion of the Muskrat Falls generating facility. Value maximization is a priority with NEM's 24/7 focus on movements in both internal and external markets. Water management is a key means by which NEM can maximize the value of export activity through pooling generating sources and reservoirs across the province owned and operated by Nalcor and its affiliates (including Hydro). Value maximization is the primary rationale behind the decision to locate the Water Management and Production Scheduling activities within NEM, with authority maintained by Hydro respecting decisions affecting its assets and its customers.

In practice, Hydro's oversight of NEM's activities is met through weekly water management meetings in which production plans for the upcoming week are discussed and approved by Hydro and operating instructions are issued to the NLSO and NEM's front office.[21] Hydro regularly reports to the Board on the status of its reservoirs and its activities to ensure security

[19] Additionally, the PUB has approved a Pilot Agreement for the Optimization of Hydraulic Resources per Board Order P.U. No. 49(2018).
[20] Greg Jones Presentation (October 9, 2019), pages 17-19 and PUB Transcript (October 9, 2019), pages 204-206.
[21] Greg Jones Presentation (October 9, 2019), pages 22-23 and PUB Transcript (October 9, 2019), pages 210-211.

of supply as it relates to water resources is met. Locating the shorter-term water management activities in NEM does not change Hydro's obligation to ensure security of supply.[22]

Risk Management. A key requirement of any energy trading organization is a comprehensive risk management toolset to guide and monitor trading activities. Liberty suggests the Board could play a role in and ensure NEM has appropriate Risk Management practices.

NEM currently has a framework to manage risks inherent to energy trading that is founded on industry best practice and reviewed regularly by the Nalcor Board of Directors.[23] NEM's day-to-day trading activities and compliance with established risk parameters are overseen and reported on by Nalcor's Treasury and Risk Management department and oversight of NEM's Board or Directors.[24]

c) **Outsourcing Services Provided By NEM**

Conclusion - Outsourcing the energy marketing and trading function of Nalcor to an independent third party and foregoing the experience and expertise NEM has developed over more than 10 years of operations lacks merit. The services currently provided by NEM in-house are least cost, maximize value for the customers and are consistent with Canadian industry best practice.

Liberty is of the view that alternatives to performing energy marketing functions in-house should be explored through a market assessment and solicitation (if appropriate) to determine if sufficient interest exists in the market to provide such services and if so, to proceed with a formal request for proposals. Liberty's rationale appears to be based largely on its categorical

[22] PUB Transcript (October 9, 2019), page 212, lines 13-16.

[23] Energy Marketing Risk Manual outlines the following: Oversight Framework and Structure, Roles and Responsibilities, Approved Transactions and Delegation Authority, Financial Risk Management Program, Operational Risk Management, Regulatory Risk Management Program, Portfolio Management and Expansion, Performance Reporting, etc. See Greg Jones Presentation (October 9, 2019), page 8.

[24] Greg Jones Presentation (October 9, 2019), pages 7-8 and PUB Transcript (October 9, 2019), pp 190-193.

view that NEM's operations reflect a "fairly small function" and that Nalcor's operations are indeed "small" and relatively inexperienced.[25]

Nalcor states that an open solicitation for third-party service providers has already been conducted in 2009. Bidders were evaluated, Emera was selected and provided a contract for service until it was fully phased out in 2015 following further analysis and the determination that such services could be conducted with greater overall value in-house through NEM[26] as described below:

Core Competency & Expertise. The mandate of NEM appears to have been undervalued or possibly misunderstood by Liberty. In addition to the value NEM brings to Hydro and Nalcor through the marketing of planned surpluses (i.e., recapture and Muskrat Falls energy), the market intelligence gained in managing this function will provide critical knowledge and inform Nalcor's future and vast resource development opportunities.

Power Advisory has indicated that energy marketing is a core competency for a company like Nalcor with significant hydroelectric generation resources. Following completion of MFP and excluding contractual commitments to Hydro-Quebec and Emera, Nalcor will be the fifth largest electricity exporter in Canada out of a field of more than 50.[27] Should Gull Island be developed between now and 2041, Nalcor would be the second largest exporter in the country. Following expiry of the Hydro-Québec (**"HQ"**) Power Contract in 2041, Nalcor would by far be the largest electricity exporter in Canada.[28]

Being prepared and able to market such energy through an established and experienced in-house marketing arm is critical to Nalcor maximizing value for Hydro and the province, now and

[25] PUB Transcript (October 3, 2019), pages 110-111.
[26] See timeline as provided in Greg Jones Presentation (October 9, 2019), page 4.
[27] PUB Transcript (October 8, 2019) page 176-177.
[28] Current statistics on electricity exports by source can be found at the Canadian Energy Regulator website: https://apps.cer-rec.gc.ca/CommodityStatistics/Statistics.aspx?language=english. See also Greg Jones Presentation (October 9, 2019), p. 14.

in the future. Successful extra provincial marketing of energy exports will increase funds available for rate mitigation.[29]

Conflict of Interest. Third parties with licences, permits and commercial relationships that transact in Nalcor's target trading markets (i.e., Ontario, Quebec, Maritimes, New York and New England) are participants in those markets and are direct competitors of Nalcor. These third parties will at times seek similar (if not the same) opportunities as Nalcor when transacting in external markets. When a third party marketer must choose between itself and Nalcor, for example, for limited transmission access (e.g., through New England), it finds itself in a position of conflict and at times may chose to make decisions not in the best interest of Nalcor.

Third party marketing companies in jurisdictions such as Calgary and Houston that are not competing with Nalcor lack knowledge of NEM's market and the NL system generally (i.e., Hydro, Muskrat and CF(L)Co's assets). A lack of the experience and market knowledge unique to NEM puts the maximization of value for Nalcor, Hydro and the province at risk.

Industry Best Practices. There are no Canadian utilities with export volumes similar to NEM (post-MF) that contract-out marketing and trading services of surplus energy.[30]

Least Cost. Nalcor has determined that with the completion of the Muskrat Falls generating station, the NEM operating model will perform its energy marketing function at 75% of the cost of a contracted service similar to that which Nalcor used between 2009 and 2015.

Loss of Opportunities. Outsourcing energy marketing would almost certainly compromise opportunities for NEM to maximize the ability to arbitrage (i.e., importing low cost energy while

[29] Liberty Report, page 21.

[30] See Evidence of Nalcor and Hydro (September 20, 2019), Appendix 1, pages 19 to 20:

> *Liberty's recommendation to consider outsourcing energy marketing is out of step with Canadian practice….With export revenues of greater than $100 million per year for NEM, Power Advisory believes that there's little precedent to contract out what is likely to be a core capability for Nalcor that is essential to its long-term economic viability and, with the sharing of these margins with customers, mitigating rates.*

storing energy in reservoirs and export same amount of energy later at a higher market price). A fully integrated subsidiary of Nalcor could more effectively take advantage of such opportunities. Power Advisory reinforced this when it said:

> *Liberty fails to recognize that energy trading is a core capability and critical to the realization of the value offered by Nalcor's hydroelectric generation resources. Furthermore, to best realize these opportunities close coordination is needed between system operations and dispatch and energy marketing. Contracting out the energy marketing function will frustrate such close coordination and likely prevent the realization of the full value offered by this flexible resource.*[31]

5.2 Organizational Structure

Conclusion - While one cannot predict precisely when MFP will be integrated, tested and operated to the point where it has reached "steady state", Nalcor cautions (with emphasis) against any organizational change that could distract or disrupt achievement of steady-state operation. Nalcor is well aware of the financial challenge MFP has been for the province and its expected impact on rates. All steps have and will continue to be made to reduce costs within the various organizations where such reductions are appropriate and possible.

After examining Nalcor's corporate structure and in particular its 2016 reorganization, Liberty determined a reintegration of Hydro and Power Supply could result in an annual overall cost savings of $17.6M through the elimination of 94 FTEs. Nalcor and Hydro have advised the Board and Government of its plan to reduce labour costs by $15 to $20 million by 2022 or when the new assets are in service and have demonstrated reliable operation.[32] These savings include the original plan to transition Holyrood from a generating facility to a synchronous condensing facility. A review of the Holyrood facility is currently under way that could alter its short or longer-term use and Hydro's staffing model.

[31] Evidence of Nalcor and Hydro (September 20, 2019), Appendix 1, page 28.

[32] Michael Roberts Presentation (October 9, 2019), page 10 and PUB Transcript (October 9, 2019), pages 138 to 140.

Nalcor submits that the reorganization of Nalcor (and Hydro) as proposed by Liberty will add risk to the organization at a time where it is already experiencing significant change. Further, a reorganization has the potential to negatively impact the ability of the organization to be competitive in the future. Nalcor further submits that shared service functions already exist within the organization to avoid duplication asserted by Liberty.

a) Rationale for the 2016 Reorganization

As explained by Nalcor President & CEO, Stan Marshall, the 2016 reorganization of Nalcor began by separating operations of the regulated and non-regulated assets. This reorganization took into consideration approaches used by other utilities in the industry, was fully supported by Nalcor's Board of Directors and was designed and executed to achieve the following:

- Ensure the successful completion of the MFP;
- Prepare the provincial electricity system for the integration of MFP power, the largest transformation of the utility sector in the province since the 1960's;
- Establish clear separation of, focus on and accountability for Hydro, distinct from the remaining Nalcor business operations; and
- Use corporate competitiveness and strategic flexibility of non-regulated assets and operations to leverage commercial opportunities within the electricity industry to maximize benefits for customers and people of the province.[33]

The structure was intended to create the appropriate organization to deliver the mission, strategy and objectives of Nalcor, as determined by its mandate confirmed in the January 9, 2019 mandate letter from Premier to the Minister of Natural Resources,[34] as the company experiences a step change in scale and complexity of operations and assets. Increases in FTEs following the 2016 reorganization primarily related to the preparation, integration and plans to operate new MFP assets and the implementation of a new a business IT system across the Nalcor group.[35]

[33] Stan Marshall Presentation (October 8, 2019), page 8.
[34] See https://www.nr.gov.nl.ca/nr/department/pdf/Mandate_MinisterCoady.pdf.
[35] See PUB-Nalcor-141 and PUB Transcript (October 9, 2019), pages 33-35.

The result of the 2016 reorganized structure was described in Nalcor evidence and is depicted below in Figure 1:

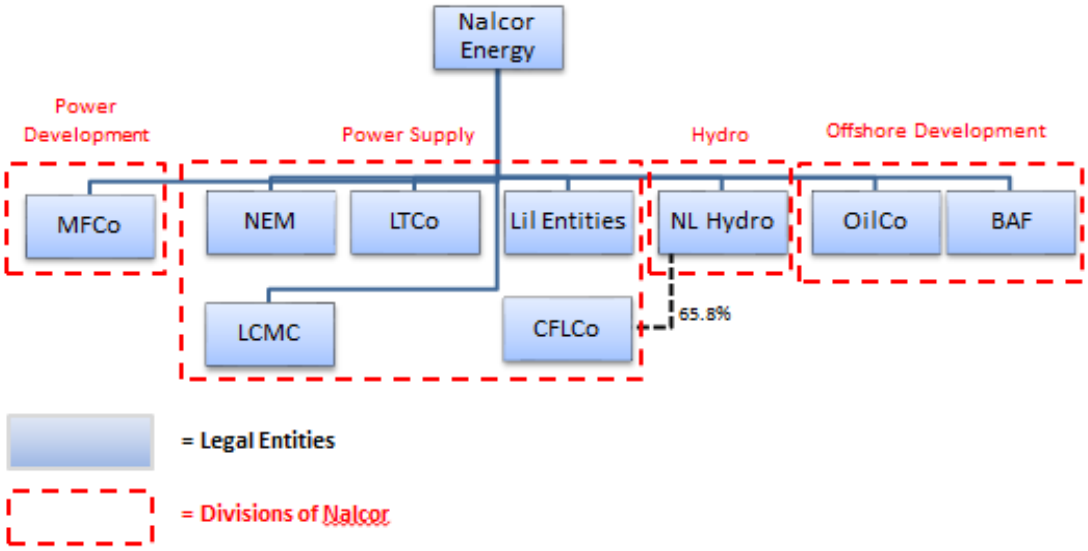


FIGURE 1 – 2016 Nalcor Reorganization

The **Power Supply division** of Nalcor is responsible for the construction and operation of the MFP transmission assets, including the LIL and LTA. Power Supply is also responsible for operating (i) the CF Plant, (ii) the Menihek hydroelectric facility in Labrador, (iii) MFP upon it coming into service, (iv) future unregulated generation developments (i.e., enhancements to Churchill Falls including further development of the Churchill River, and activities to gain commercial advantage of the storage capacity in Labrador), (v) NEM and its energy marketing activities for all of Nalcor and subsidiary generation.[36] Power Supply therefore includes CF(L)Co, NEM, LTCo[37] and the LIL entities[38] (LIL LP, LIL GPCo, LIL Opco and LIL Holdco).[39] As well, Power Supply personnel would be involved in early stage pursuit of future unregulated initiative such as Atlantic Clean Power, preparing for the expiration of the HQ Power Contract in 2041, development of Gull Island, etc. Power Advisory confirmed it is not uncommon to combine

[36] PUB-Nalcor-009.
[37] LTCo is the company that owns the LTA and has no employees.
[38] The LIL entities are comprised of a partnership and companies with an interest in the LIL, none of which have any employees.
[39] See also PUB-Nalcor-001.

operating and developing activities in one entity and referenced Manitoba Hydro, Ontario Power Generation and Hydro Quebec as Canadian examples where this has been done.[40]

Employees dedicated to CF(L)Co are employees of CF(L)Co. Employees dedicated to NEM are employees of NEM. Employees dedicated to Power Supply (with exception of NEM and CF(L)Co) are employed by Nalcor Energy. It should be noted that the costs associated with a number of employees of Power Supply are not and will not be borne by ratepayers, as their work is associated with activities that do not contribute to the MFP costs passed on to ratepayers. This includes employees whose work activities relate to CF(L)Co and NEM operations, as well as Nalcor activities associated with Menihek, future unregulated generation opportunities, etc. There are also a number of shared services employees whose work supports employees directly involved in these activities, in areas of safety, finance, HR, legal, etc. There is a continued need for the work of all these employees.

Hydro is a vertically integrated utility. It is the main supplier of energy and capacity to domestic customers in the province, and owns and operates the bulk of the legacy provincial transmission grid. Hydro directly supplies approximately 38,000 customers. Hydro's primary activities are regulated by the Board.[41]

The **Power Development division** includes MFCo[42] and is responsible for construction of the 824MW hydroelectric generating facility at Muskrat Falls ("**MF Plant**"), a component of MFP currently under construction on the Lower Churchill River in Labrador. Upon completion of MF Plant construction and transition to operations, MFCo will become part of the Power Supply division. Employees dedicated to Power Development are employees of Nalcor. Should future unregulated developments outside of enhancements to MFP or Churchill Falls be considered for development, a future role may exist for personnel currently supporting Power Development.

[40] See PUB Transcript (October 9, 2019), page 116, lines 4-7.
[41] Hydro is also responsible for the non-regulated sale of power to mining operations in Labrador West along with managing the non-regulated operations of the Exploits hydroelectric generation facility in central Newfoundland. Employees dedicated to Hydro are employees of Hydro.
[42] MFCo is the company that owns the Muskrat Falls Plant and has no employees.

The **Offshore Development division** comprises Nalcor's exploration, development, production, transportation and processing business associated with the oil and gas industry and includes the Bull Arm fabrication site in eastern NL. When a new, separate provincial oil and gas Crown corporation is established by the Province (currently expected in January 2020), Nalcor expects to retain its interest in existing oil and gas assets, specifically its shares held in Nalcor Energy – Oil and Gas Inc ("**OilCo**"). Employees dedicated to OilCo are employees of OilCo. Employees dedicated to Nalcor Energy – Bull Arm Fabrication Inc. ("**BAF**") are employees of BAF.

Cross-Organizational Support / Shared Services

Resourcing or staffing is often reported in terms of FTEs. FTE assignments are based on the primary division in which one works or if an employee works in a function/department that is a shared service across multiple divisions. Shared services are utilized to avoid duplication and associated costs amongst the Nalcor group of companies.

Nalcor's corporate services departments, including finance, corporate affairs (which includes shareholder relations and corporate communications), legal and Information Systems / Information Management, provide division-specific services to Power Development, Power Supply (including NEM), and Offshore Development.[43] Nalcor also provides the following shared services to all Nalcor entities (including Hydro):

- Payroll, compensation, benefits, pensions, HR systems, Diversity programming, Talent Management programming, corporate policies;
- Corporate safety programming and managements systems;
- Corporate environment and sustainability programming and management systems;
- Information System and Information Management services; and
- Nalcor-wide reporting (roll up services from all entities) for accounting, finance, audit, shareholder relations, tax.

[43] See Evidence of Nalcor and Hydro (September 20, 2019), page 7.

For its part, Hydro provides the following shared services to all Nalcor entities (including Nalcor):

- Supply Chain Management;
- Operational Technology;
- Drafting; and
- Network Services.[44]

There are several mechanisms in place providing resources and services across entities and divisions in support of ongoing operations. These include:

- mechanisms for cost allocations provided to the Board from time to time;
- long term management service agreements between Nalcor and each of MFCo, LTC and LIL entities supporting MFP asset operation and maintenance;
- operating and maintenance agreements between Nalcor and each of Hydro and CF(L)Co; and
- operating and maintenance agreements between CF(L)Co and Hydro.

Critical Juncture for MFP

Leading up to the 2016 reorganization, MFP was experiencing well-publicized schedule delays and cost overruns compared to estimates at the time of sanction, as well as challenges with key project contractors. Following the 2016 reorganization, project scheduling generally held, budgets stabilized and the construction phase of each project component is now nearing completion. Software issues remain which prevent full utilization of the LIL but solutions are being pursued aggressively at the highest levels of Nalcor and General Electric, the contractor responsible for executing this work scope. A solution is available but will take time.[45]

As Mr. Marshall indicated during the Hearing, once MFP has reached a steady state, it would be appropriate to assess organizational structure and determine if it continues to effectively

[44] Evidence of Nalcor and Hydro (September 20, 2019), pages 27-28.
[45] PUB Transcript (October 8, 2019), pages 158-159.

support Nalcor and Hydro in achieving their respective mandates. Until then, any disruption through reorganization or significant staffing reductions that are not fully evaluated introduces risk to the successful completion and integration of the MFP and appropriate management of other parts of Nalcor's organization, including Hydro. It is worth noting that Newfoundland Power took a long-term approach to their reorganization in 2005 and determined that if they had approached restructuring on a short-term basis, it would have created more risk and probably not have succeeded.[46]

5.3 Board Oversight of MFP O&M Costs and Future Sustaining Capital Costs

Conclusion - Throughout the Reference, it was suggested the Board might play an increased oversight role in determining MFP O&M costs and future sustaining capital costs. While not necessarily opposed to this change, Nalcor cautions that there will need to be consideration of any implications from doing so arising under the MF Regulatory Framework, financing arrangements and contractual commitments of Nalcor and Government.

During 2011 through 2013, Nalcor, in consultation with the Province and Government of Canada, developed a financing structure for the MFP. The structure contemplated cash flows being generated from the domestic sale of electricity and use of certain transmission assets being used to pay for the MFP. These arrangements were initially described in the GNL Commitment Letter of October 2011. Subsequently, a series of agreements ("**Revenue Agreements**") were developed by Nalcor and Hydro (with oversight of Government and Canada) creating the commercial arrangements giving rise to such cash flows. GNL then developed a legislative framework directing the Board to allow Hydro to recover MFP costs arising from the Revenue Agreements from Island interconnected rates.

(i) **Bill 61 (as promulgated)** – amended the *Electrical Power Control Act, 1994* ("**EPCA**") and the *Energy Corporation Act* and *Hydro Corporation Act, 2007*, including amending the EPCA to allow the Lieutenant Governor in Council to provide direction to the Board

[46] PUB Transcript (October 15, 2019) page 13, line 8-11.

regarding duties, procedures and directives on the exercise of the PUB's duties with respect to MFP.

(ii) **MFP Exemption Order (120/13)** – exempted certain expenses and activities of Hydro, MFCo, LTC, and LIL Parties (as defined) from the application of the *Public Utilities Act* and Part II of the EPCA; and

(iii) **Order in Council OC2013-343 ("OIC")** – direction was made under s.5.1(2) of the EPCA whereby the Board is to adopt a policy that certain expenditures, payments or compensation paid directly or indirectly by Hydro to the MFP entities or a system operator be included as costs, expenses or allowances and be recovered in full by Hydro in Island interconnected rates charged to the appropriate classes of ratepayers.

This framework ensured cash flow generated from MFP would fully service its underlying debt and was an essential component of achieving an 'investment grade' rated project financing for MFP identified by the credit rating agencies, enabling better interest rates than otherwise would have been available. The framework was a condition precedent of the Federal Loan Guarantee and supports certain commitments made by the Province to Canada under the Inter-Governmental Agreement between those parties.[47]

While theoretically the Board could provide oversight of MFP O&M costs and sustaining capital costs (Nalcor is not opposed to it doing so), current legislation prevents it from reducing or denying MFP cost covered by the OIC. Should Government wish to amend or repeal the MFP legislation, it must first be fully aware of the obligations arising from all MFP agreements, including the Intergovernmental Agreement, and the consequences of doing so. Changes to the commercial arrangements would likely be necessary and there is a risk that changes will come at a cost. Consideration must also be given to what role Government should play in ongoing

[47] Evidence of Nalcor and Hydro (September 20, 2019), pages 12-13.

oversight given the likelihood that a significant portion of MFP costs will need to be subsidized by the Provincial Treasury and taxpayers.

As explained during the Hearing, Hydro currently has an oversight and decision-making role with respect to MF Plant costs through its participation in the Joint Operating Committee under the Muskrat Falls Power Purchase Agreement and has been provided an oversight role by Nalcor with respect to the LIL and LTA through the Nalcor/Emera Amended and Restated Joint Operating Agreement.[48]

6.0 ELECTRIFICATION & CDM

Conclusions - Hydro supports Electrification efforts in the province as a means to achieve long-term sustainable rate mitigation. As a next step to encouraging more domestic use of energy, Hydro believes more study is required to develop a comprehensive plan which gives consideration to strategic use of time of use rates, critical peak pricing, peak demand management, conservation initiatives and electrification in support of the provision of least cost service to customers in the future.

The possibility of achieving rate mitigation through Electrification and lowering customer bills through new CDM initiatives was raised during the Reference.

Synapse Energy Economics (**"Synapse"**) provided a report to the Board outlining mitigation options, including: CDM, demand management, Electrification through switching from oil to electric heat sources, electric vehicles ("**EVs**"), rate design (time of use and critical peak pricing), and corresponding impacts on export sales as a means to achieve rate and/or customer bill mitigation.

[48] See Jim Haynes/Jennifer Williams Presentation (October 9, 2019), pages 6-7 and PUB Transcript (October 9, 2019), pages 174-180.

6.1 Electric Vehicles

Synapse's analysis with respect to electrification identified EVs (along with fuel switching) as having *"…the most positive benefit to rate mitigation, as they directly increase load and allow for increase contribution to pay for MFP fixed costs."*[49] A report from Dunsky Energy Consulting (the **"Dunsky Report"**), included in the response to PUB-NP-104, also noted the electrification potential associated with EVs:

> *DCFC investments can have a significant impact in accelerating EV adoption and energy sales. For example, a $20M investment in DCFC infrastructure would result in 132,000 EVs on the road (219% increase from baseline), and 647 GWh of EV load by 2034 (143% increase from baseline).*[50]

The Dunsky Report illustrated energy sales potential associated with investments in EV infrastructure as provided below in Figure 2.

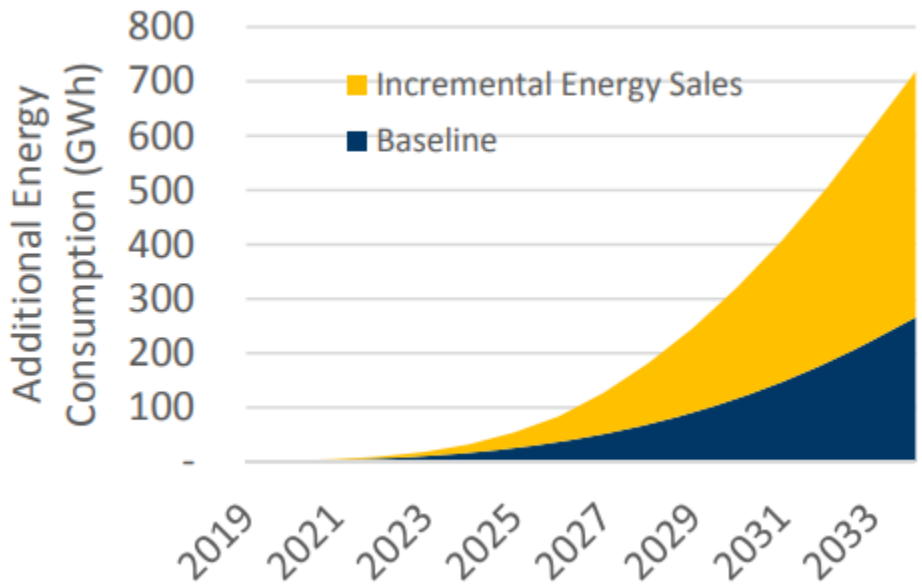


Figure 2 - Energy Sales Impact of Electric Vehicle Infrastructure Investment[51]

[49] Synapse Energy Economics, Phase 2 Report on Muskrat Falls Project Rate Mitigation, Revision 1, dated September 25, 2019 (the **"Synapse Report"**), page 11.
[50] PUB-NP-104, page xviii.
[51] PUB-NP-104, page xix.

Based upon the evidence provided in the Synapse and Dunsky Reports and subject to confirmation by further study, Hydro recommends that Level 3 Direct Current Fast Chargers be deployed across the province with a view towards increasing the amount of domestic energy consumption from EVs.

The Dunsky Report also discusses the impact that an investment in smart Level 2 charging infrastructure could have on rate mitigation in the province:

> *Level 2 charger investments were also found to be impactful and cost-effective, however less so than DCFC. The impact of infrastructure investment could be maximized through leveraging existing federal programs or following a "make-ready" approach rather than self-deployment of charging stations.*[52]
>
> *Investments should be diversified among complementing investments in DCFC with public L2 deployment, education and awareness initiatives and programs targeted towards commercial fleets.*

The concept of planning for smart Level 2 infrastructure was also raised by Mr. Jon Seary of Drive Electric NL:[53]

> *However, one thing that could be done, and it's not going to cost a lot, is to update the building code so that new home construction, the new multi-resident dwelling buildings, would have circuits brought out to where the cars park. So that when they do add a charger, most of the work is already done.*

The Synapse Report discussed the potential impact that at-home electric vehicle chargers could have on system peak. The Synapse Report showed that by implementing time of use rates for vehicle charging, a material amount of charging load could be shifted to off-peak times.[54]

[52] PUB-NP-104, pages xviii and xix.
[53] PUB Transcript (October 18, 2019), page 142, lines 14-21.
[54] Synapse Report, pages 111-112.

Based on the evidence from the Synapse and Dunsky Reports and subject to confirmation by further study, Hydro recommends that incentives be developed for business owners to install smart Level 2 chargers for employees and the general public to avail of, while providing consumers with price signals to avoid charging at peak times. Hydro also recommends that further investigation be undertaken to determine if there would be benefits in modifying building codes and parking lot regulations such that level 2 electric vehicle charging infrastructure be more readily available for use by electric vehicle owners.

6.2 CDM & Heat Pumps

While certain Electrification efforts such as EVs would lower electricity rates, other programs studied by Synapse would increase rates but lower customer bills through decreased energy consumption.[55] Careful consideration needs to be given to ensuring that Electrification gains do not occur on peak, requiring additional capital investment. Hydro notes that time-of-use rates for EV charging and critical peak pricing for electric heat sources are two potential strategies to mitigate this risk.

Some CDM programs discussed by Synapse, particularly rebates on heat pumps for home currently using electric resistance heat, would result in increased customer rates. As Synapse identifies *"CDM exacerbates rate increases but results in lower average bills…"*.[56] Hydro feels this would not be the case for customers who currently use wood or oil as a heating source, should they be incentivized to install a heat pump.

While Hydro recognizes the potential bill savings for participants switching from resistance heat to heat pumps, there is a concern with respect to non-participants who would see increased costs as a result of such programs. While Synapse acknowledged this risk,[57] neither their report

[55] Synapse Presentation (October 7, 2019), page 5.
[56] Synapse Presentation (October 7, 2019), page 5.
[57] Synapse Presentation (October 7, 2019), page 5: "[p]olicies and programs to promote wide participation over time can mitigate against the risk of non-participant inequities."

nor their presentation recommended how this risk could be mitigated or what policies or programs would ensure broad participation, considering the impact on non-participants.

6.3 Next Steps

Hydro and Newfoundland Power are currently developing a five-year conservation and demand management plan. Hydro believes this plan needs to be comprehensive and give consideration to strategic use of time-of-use rates, critical peak pricing, peak demand management and Electrification in support of the provision of least cost service to customers. Hydro plans to work with Newfoundland Power and utilize customer engagement in moving this initiative forward.

7.0 INTERVENOR AND PUBLIC SUBMISSIONS

Given the importance of rates in the province and the engagement of the public in this process, intervenor and public contributions to the Reference are noted and appreciated. Outlined below are brief comments on some of the issues raised through the intervenor/public participation in the process.

7.1 Consumer Advocate

During the Hearing, the Consumer Advocate raised two issues that require brief comment: (i) performance based rates, and (ii) a possible legislative cap on sustaining capital costs.

(i) **Performance based rates.** Nalcor and Hydro support regulation that encourages efficient processes that effectively provide for: (i) the recovery of the reasonable cost to serve, (ii) the approval of the capital investments required to provide safe and adequate service to its customers, and (iii) the establishment of rates consistent with generally accepted ratemaking principles. Refinements to the existing cost of service regulatory approach to reduce the duration of regulatory proceedings may provide for increased regulatory efficiency. However, a change from cost of service based regulation to performance based regulation needs to be carefully considered against the opportunity identified and costs and risks of making such a change. No evidence was presented in

this Reference that performance based regulation would lower electricity rates in the province. It was also suggested by certain presenters that performance based rates are too easy to "game", meaning there is potential to focus on profit maximization for the utility at the risk of providing less emphasis on least cost and reliable service objectives for customers.

While performance based rates are in effect in Ontario, Alberta and British Columbia, it does not appear to be in effect in Crown Canadian utilities, which are primarily responsible for the generation supply in each province (including British Columbia).[58]

(ii) **Capping sustaining capital**. Capping sustaining capital costs by legislation received no specific support from any witness at the Hearing. An arbitrary cap would risk putting reliability in jeopardy.

7.2 International Brotherhood of Electrical Workers

During the Hearing, IBEW Local 1615 raised several issues that warrant comment and/or correction with respect to: (i) staffing efficiencies and costs; (ii) FTEs and erosion of the bargaining unit; and (iii) staffing at Exploits generation. These are noted below:

(i) **Staffing efficiencies and costs**. Regardless of organization structure and asset ownership, the Nalcor group of companies leverages and optimizes resources throughout its operations and wherever practical through flexible working arrangements that allow each entity (regulated and non-regulated) to focus on their specific mandates or priorities. While O&M agreements exist between Nalcor and Hydro for maintenance of certain assets, Hydro primarily supported initial commissioning and maintenance prior to the full staffing of Power Supply. Hydro also supports work at the points of tie-in to their assets.

[58] See comments of Stan Marshall in PUB Transcript (October 8, 2019), pp. 105-106. See also comments of John Antonuk in PUB Transcript (October 4, 2019), pp. 105-107.

In the future, Power Supply will perform its core work and leverage Hydro resources through O&M agreement where synergies for cost efficiencies exist and are practical. ***Correction:*** *Power Supply hired eight lineworkers (the Union referenced 14 were anticipated during the integration with Hydro).*

With respect to consultants, Nalcor and Hydro had no previous experience or expertise in HVdc technology and therefore short term resources were and are being utilized. ATCO provided expertise in HVdc technology during initial set up and transition to operations. The resourcing model required an initial overlay of HVdc expertise to support initial set up and commissioning activities. A mix of resources hired into Nalcor from Hydro as well as external hires are shadowing these specialized consultants/experts and have participated in training, testing, and commissioning. In so doing, the workforce is gaining necessary experience with new equipment and learning new technology for steady state operations.

With respect to contracted operators and based on several factors, including a business decision to move from day operations-only to a 24/7 operation and a lack of interest of internal and external experienced operators to relocate to Muskrat Falls, Nalcor entered into a short term engagement with Manitoba Hydro International (**"MHI"**). Nalcor's contract with MHI is broader than providing eight operators. MHI is contracted to fully operate the Muskrat Falls plant for an interim period of approximately two years until a steady state is reached. Five internal Power System Operators are currently completing training.

Apprentices will transition to MFP in approximately the spring of 2020 and with the continued oversight and mentorship of the MHI operators. MHI was secured by RFP and was the least cost provider. Regarding these MHI operators ($375K versus internal operators $87K), such comparisons are misleading: while the total cost of the contract

includes a salary component, additional costs such as benefits and other fixed and variable costs are not comparable to a base wage for a Hydro Plant Operator.

Regarding overtime, Hydro staffing decisions are based on its core business requirement, which reflects operating and maintenance requirements for safe, reliable service with consideration to least cost. Workforce requirements fluctuate with level of capital programs in each year and unplanned or special events can further impact requirements. Overtime within Hydro has decreased from approximately $17 million in 2014 to $12 million in 2018 through enhanced monitoring and optimization. The company will optimize its core work force where possible and use an appropriate mix of overtime, temporary workers and/or contractual arrangements within the parameters of its collective agreements and in consideration of work-life balance of its employees and availability of skills required including specialized skills. Overtime in any reliability focused utility, is an unavoidable component of its labour cost for emergency and outage response purposes. As well, in some cases, it is more economical and cost effective for customers to incur overtime. Overtime costs in these situations are well managed and utilized when required.

(ii) **FTEs and erosion of the bargaining unit.** IBEW asserts that from 2005 to 2018 there has been a reduction in the number of union workers compared to non-union positions at Hydro. While there have been changes in the workforce over this time frame, the percentage of union employees within Hydro has remained fairly consistent: 60% unionized in 2005 and 62% unionized in 2018.

With respect to the assertion of line worker FTE reductions, Hydro and Nalcor continue to consider efficiencies. Improvements in tools and technology have resulted in productivity improvements within line maintenance over the years. Hydro staffing is reflective of acceptable response time with consideration to cost of service. Current Line staffing levels are based on annual work plans for corrective and preventative

maintenance and a normalized amount of capital work. The remainder is supplemented by a temporary workforce including contract arrangements. ***Correction/clarification:*** Since 2005, total office worker numbers have been relatively stable although there have been changes owing to systems and technology improvements (e.g., elimination of cash services) over the years. Overall, there was an increase of four FTEs since 2005 in Hydro and three positions were added in 2019 to support Power Supply.

(iii) **Exploits Generation:**[59] At the time of expropriation, Abitibi Bowater and it's paper industry predecessors ran the Exploits power generating assets as a secondary part of the their paper operation. Generating reliable electricity for the larger system was not the focus of the plant. There was no preventative maintenance program for these assets and breakdown maintenance was the accepted mode of operation. The staffing level for the operation of approximately 20 employees reflected this philosophy, as is also evidenced by the fact that from 1996 to 2011, the operation experienced a number of failures, four resulting in fires. Further, the plant team would call upon the paper production team, at times, to provide labour and the general management was carried out at Abitibi, so accurate resourcing levels were not reflected in plant organizational charts alone.

Hydro has since been required to create an organization that reflects an appropriate management, maintenance and capital program focused on stabilizing all the assets, which has resulted in a reliable operation that positively contributes to the overall island interconnected system. This is the appropriate philosophy and has included putting in place appropriate asset management, safety and environmental oversight.

As previously committed, Hydro is undertaking a multi-year efficiency review of the Exploits operations, targeting annual savings of $2.5 million, which is over 25% of the current Exploits annual operating budget, subject to the degree of employee

[59] See also Confidential Submission L300.07.

dislocation that is able to be attained. With consideration of the capital budget funding and resulting project execution, which may be necessary to achieve the suggested savings, Hydro intends to identify, propose, obtain approval and implement changes to the Exploits operations over a three to five year period. To achieve such a material reduction in expenses at Exploits, material changes to the Exploits operation are required. Hydro has committed to report to the Board on the plans and execution of such changes to ensure the Board is informed on outcomes and impacts of operational changes.