Q. Please describe conditions or circumstances that may preclude or hinder consolidation of Newfoundland and Labrador Hydro's retail (i.e., distribution and customer service) and small hydro operations with those of Newfoundland Power. In the response please provide any reports and relevant documents concerning this potential consolidation.

A.

1.0 General

Through its participation in the Reference on Rate Mitigation Options and Impacts ("Reference"), Newfoundland and Labrador Hydro ("Hydro") aims to provide a balanced assessment of potential future state operations with a view to identifying opportunities which benefit the ratepayer. This assessment also highlights possible impacts on the taxpayers of Newfoundland and Labrador and reflects the pragmatic requirements to run a safe and reliable electrical system for the province. Along with the options being examined for potential provincial benefit, Hydro believes there are opportunities for efficiencies and enhancements, many of which may be achieved through continued organizational improvements to both Hydro's and Newfoundland Power's status quo operations and practices.

Hydro continues to work diligently to effect organizational change to ensure its practices reflect those of a well-run electrical utility and support a safe and reliable electrical system which meets the needs of customers within the province. As a Crown corporation, Hydro manages its transmission, generation and distribution assets to benefit all customers in the province. As changes are contemplated, consideration will need to be given to whether the changes will create potential for inequities amongst customer classes.

Changes to the utilities' operations will undoubtedly result in hurdles and barriers to overcome. It is Hydro's expectation that the materiality of the benefits associated with any future change should outweigh the cumulative costs and risks associated with the hurdles of consolidation; otherwise, the change will result in limited or no benefit to customers and could, indeed, increase costs. Understanding the work involved to attain steady state operations as proposed by Newfoundland Power is a risk which needs to be considered in comparing options. The magnitude of the risk is related to the quantum of work required for process and knowledge transfer into Newfoundland Power's operations.

Contained within this response is a summary of Hydro's preliminary assessment of potential hindrances, relative to the consolidation of Hydro's and Newfoundland Power's distribution, customer service and small hydro operations. These require deliberate consideration and appropriate due diligence. The information contained in this response does not represent an in-depth review of these considerations; further analysis is required to fully understand the complexities associated with the proposed scenarios. Consistent with Newfoundland Power's response,[1] Hydro suggests that any arrangement which translates into increased customer rates or degradation of customer service quality may be considered a hindrance to consolidation. Similarly, where there are material complexities and/or jurisdictional changes which are not yet fully understood, Hydro would consider such circumstances as hindrances.

Aside from the specific considerations identified within this response, considerations typical to merger and acquisition activity (e.g., cultural integration

[1] PUB-NP-052.

issues, project bottlenecking, customer service impacts, unforeseen costs, etc.) may also be considered hindrances and most certainly would be risks to any contemplated change.

1.1 Current Operating Environment

Newfoundland and Labrador's electrical system is in a period of transformative change with the integration of the Maritime Link and Muskrat Falls Project and future retirement of generating sources on the Island. Interconnection with the North American grid and the move away from reliance on Holyrood is the biggest transition with the system since the 1960s. The contemplation of additional transformative change introduces the potential for added cost and risk (e.g., differing maintenance philosophies, human resource cost, adequate resourcing to undertake and focus on change, integration costs, unknown/unforeseen costs, etc.). The timing and impact of such suggested change needs to be carefully considered against the materiality of the opportunity identified, as well as balanced against the opportunity to gain efficiencies through changing utility practices within the existing structure.

1.2 Public versus Private Ownership

A Crown corporation by its very nature is established to serve the needs of its constituency — in the case of Hydro, that of the residents of Newfoundland and Labrador. A privately-owned enterprise, such as Newfoundland Power, delivers on a corporate strategy of achieving long-term sustainable growth in rate base and earnings resulting from investment in existing utility operations, with financial performance primarily measured on earnings per common share and total shareholder return.[2] That is not to suggest that Newfoundland Power does not operate in a prudent and diligent manner in meeting its customers' needs and its regulatory requirements. However, it does highlight the difference in corporate focus for each entity, as well as the role each entity plays in provincial contributions, including the associated revenue implications for the Government of Newfoundland and Labrador and, by extension, residents of Newfoundland and Labrador.

1.3 Operating Model Option

Newfoundland Power suggested that an operating agreement, such as that in place between Long Island Power Authority ("LIPA") and Public Service Enterprise Group ("PSEG"), was worth considering by the Board of Commissioners of Public Utilities ("Board").[3] Hydro engaged Christensen Associates Energy Consulting ("CA Energy Consulting") to review the characteristics of this model to better inform its understanding.

As outlined in CA Energy Consulting's review,[4] under the Operating and Services Agreement ("OSA"), PSEG provides operating services to LIPA, including operations and planning of LIPA's power delivery system (which includes both transmission and distribution facilities).[5] PSEG is provided compensation in return for its services. Management services compensation paid to PSEG takes two forms — a fixed lump sum and incentive compensation.

[2] Fortis Inc. 2018 Annual Report, p. 28. Newfoundland Power is owned by Fortis Inc.
[3] PUB-NP-052, p. 5, lines 12-14.
[4] PUB-Nalcor-280, Attachment 1.
[5] All operational aspects of the utility are outsourced to PSEG. This includes system planning and maintenance, customer service and billing, brand development and marketing, customer contact, etc.

Unlike the regulatory requirements in Newfoundland and Labrador, LIPA has a degree of rate setting flexibility that does not require approval of the regulator. Additionally, LIPA has authority to increase rates on an interim basis prior to regulatory approval.

CA Energy Consulting concluded that the OSA between LIPA and PSEG "appears to be an unusual contractual structure by comparison with other corporate structures in the electric utility industry, an industry in which a variety of structures can readily be found." CA Energy Consulting goes on to state "It is difficult not to reach the conclusion that the LIPA-PSEG OSA contract exists for no reason other than public frustration with the electric services provided by LIPA over many years. More particularly, it is difficult to envision how productivity improvements at inefficient utilities would more sensibly be undertaken by an OSA rather than simply by internal operational improvements."

Hydro notes that the concerns that contributed to the implementation of the OSA between LIPA and PSEG appeared to be utility operation overall and are not comparable to the current drivers for service agreement consideration in this jurisdiction. In particular, Hydro continues to receive positive feedback on the level of service provided to its retail customers. Hydro believes the implementation of a similar comprehensive operational services agreement between Newfoundland Hydro and Newfoundland Power, which would require compensation being provided to Newfoundland Power for services currently provided by Hydro, could be complex to implement. Newfoundland Power has not put forth a proposed service fee arrangement for consideration; therefore, at this stage the cost impacts of such an arrangement cannot be evaluated.

It remains unclear whether Newfoundland Power could operate so materially differently that adequate savings would result to warrant the compensation likely required by Newfoundland Power in such an agreement, and it appears unlikely that this would result in a reduced cost of serving customers. However, there may be opportunities for select functions/operations to be managed through an operating agreement(s); further evaluation would be required prior to Hydro making such a commitment.

2.0 Operational Considerations

The considerations identified within this section can apply whether the model pursued is an operational agreement(s) or an ownership transfer. Should a consideration apply in one scenario only, it is identified as such. The range of considerations include those related to customer service and billing; distribution and hydro operations; capital planning; regulatory, legislative and legal; human resources and labour relations; financial management; and information management.

2.1 Customer Service and Retail Billing[6]

Newfoundland Power manages one set of rates while Hydro maintains rate structures for five independent systems.[7] In addition, Hydro is required to adhere to Orders in Council which require it to service and/or bill customers in specified areas

[6] Analysis does not include Industrial Customers and associated industrial billing.
[7] Island Interconnected, Labrador Interconnected, Island Isolated, Labrador Isolated and L'anse Au Loup.

differently than its entire customer base.[8] Hydro's rate structures introduce material complexity to a retail billing system compared to Newfoundland Power's current rate structures. A more intimate understanding of the abilities and limitations of Newfoundland Power's retail billing system is required to determine the impact on the system and Newfoundland Power's call centre operations.

Further, Hydro recently introduced a new billing system which required significant customization and resources for system stabilization. It is expected that consolidation of retail billing outside of Hydro would render this system null and void, thus requiring write-off of the associated costs.

If consolidation or operational transfer of customer service and billing functions were to occur, Hydro would likely need to continue the billing function during the transition period until such time as Newfoundland Power completed the development of its new customer service system.[9] Otherwise, Newfoundland Power would need to make material modifications to its existing customer service system.

2.2 Distribution Operations

It is Hydro's understanding that the consolidation of distribution system operations will include Hydro's rural diesel systems (including diesel generation).

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[8] For example, Isolated Diesel customers pay the same first block rate as Island Interconnected Customers; Isolated Diesel Churches, Schools and Community Centers pay Domestic rates despite being a 2.1 or 2.2 General Service Customer; Fish Plants in Isolated Diesel Areas pay the Island Interconnected rate for their class of service (2.1, 2.3 or 2.4); The Burgeo School and Library has its own special rate class (1.3); and Billing in the community of Sheshatshiu is under the direction of a cabinet directive to not disconnect any customers. The Orders in Council related to Hydro Rural Rates were provided in Hydro's 2017 General Rate Application, PUB-NLH-084, and are included as PUB-Nalcor-280, Attachment 2.

[9] Newfoundland Power's 2019/2020 General Rate Application (p. 2-12, lines 3-4) indicates that Newfoundland Power intends to implement a new customer service solution within the next 5 years.

Newfoundland Power lacks operating experience with respect to diesel generation in isolated communities; this introduces uncertainty for the operation of such systems and the delivery of reliable service. It is Hydro's understanding that Newfoundland Power has indicated it could avail of a one-for-one transfer of full-time equivalents ("FTEs") (including rural planning) to assume responsibility for this area of business, therefore, eliminating any potential cost savings within this discrete area of operations.

2.3 Select Hydro Generating Facilities

With respect to the sale or consolidation of operation of select hydro generation facilities,[10] critical considerations include:

- Acknowledgement and agreement that capacity on the system must be protected in the short, near, and long-term, and, therefore, resourcing and closely managing the risks of the assets as capacity must be of priority and not minimized; and

- The ongoing review of Hydro's Reliability and Resource Adequacy Study which will inform the future planning and operation of the provincial electrical system. From this review, Hydro expects decisions on the manner in which assets are operated for reserve, the required reliability/availability outcomes for generating assets that are used for capacity, as well as any potential future capacity requirements. Given the review that is ongoing and the substantive outcomes expected, Hydro remains concerned on the timing of considerations related to a change in the ownership or operation of generation assets.

[10] This includes Paradise River, Bishop's Falls and Grand Falls (collectively referred to as Exploits), Snook's Arm, Venam's Bight, Star Lake and Roddickton.

Hydro strongly believes that certain facilities being considered for consolidation represent a material contribution to the provincial electrical system and are currently under review as part of the Reliability and Resource Adequacy Study. To recommend a shift in either ownership or operation approach prior to conclusion of this review introduces complication to the review process, where the immediate future operation and planning of the system is being determined; additionally, the system is already undergoing its largest change since the 1960s with the integration of the Muskrat Falls assets and interconnection to North America.

Hydro believes should consolidation occur it will result in new and frequent intercompany collaboration regarding capacity management on the system. This will apply to daily, monthly, annual and long-term planning considerations. Decision-making for the various time frames for all facilities that could migrate to Newfoundland Power will need rigorous processes in place to protect management of capacity for the benefit of the system as a whole and all customer classes. Introduction of such required, frequent collaboration introduces inefficiency at a time when the province is seeking efficiency in system management. Neglecting to operate the facilities with a view to maintaining overall firm capacity and managing risk to protect capacity introduces doubt that the facilities can be relied on in the future for the manner in which Hydro currently operates them. Such a shift on approach could result in additional capacity required on the system, exacerbating the rate mitigation issue.

Hydro has concern that Newfoundland Power is placing greater emphasis on the size of an asset (i.e., being defined as small hydro) versus its criticality to the provincial system in determining where specific assets should reside. Hydro believes a number of the facilities being considered for transfer of operations or sale are, in fact, critical to the operations and near and long-term planning of the system; the semantic definition of small hydro is not relevant in this jurisdiction for the questions currently being posed about the system's operational future.

Hydro believes the ongoing, parallel review of the Reliability and Resource Adequacy Study precludes a recommendation at this stage. Additional time will allow for all parties, including the Board and other intervenors, to participate in the review, where the outcomes will better inform the manner in which assets must be managed into the future, as well as the manner in which each megawatt of capacity is to be operated on the system.

PUB-Nalcor-280, Attachment 3 to this response provides a broader discussion of considerations for the hydro generation assets being considered for consolidation.

2.4 Capital Planning and Operating and Maintenance Oversight

Under an operating model scenario, it is not clear where the decision-making authority will lie for capital planning and operating and maintenance oversight (i.e., which entity will be responsible for the necessary planning and execution of work). Clear delineation of roles will be required and operating authorities documented, otherwise blurred lines of authority will introduce unnecessary risk to system operation. Consideration will also need to be given to the critical role assets such as the Grand Falls and Bishop's Falls generating assets play in Hydro's ability to complete the capital and preventive maintenance work for other Hydro assets on the Island Interconnected System (outlined in PUB-Nalcor-280, Attachment 3 to this response).

2.5 Asset Management Practices

Hydro has refined its asset management practices over the last number of years, resulting in the system reliability being experienced today. Newfoundland Power's capitalization approach (i.e., capital and operating work executed by internal employees) together with the identified FTE requirements outlined in its resource assessments[11] imply that less operating asset management work, as is currently completed annually by Hydro, would get executed.

If an operating model is to be adopted, clear conveyance of information with respect to the work to be completed and evidence to support work not slated for completion by Newfoundland Power would be required. Likewise, clarity will be required as to the role of decision-making for each entity with respect to the execution of operating and capital work under an operating model scenario. Hydro believes the asset management approach to be utilized by Newfoundland Power would have to be compared against the existing asset management approach for these assets and assessed for prudency. The operating model approach would have to dictate whether that prudency assessment rests with the Board, Newfoundland Power or Hydro.

2.6 Regulatory Challenges

The Board will need to give careful consideration to an operating model arrangement and the unique complexities it will introduce to the regulatory process. The example of the operating agreement between LIPA and PSEG is radically different than the current operating environment in Newfoundland and

[11] PUB-NP-084 and PUB-NP-094.

Labrador; essentially it would result in having two utilities before the Board on the same set of assets or operations. As identified by CA Energy Consulting in its review of the operating agreement between the LIPA and PSEG, potential exists for collaboration, however equally so is the potential for divisiveness in instances of differences in perspective. Additionally, while Hydro does not support a set-up similar to LIPA and PSEG, if such an arrangement was replicated, it has the potential to result in duplication of oversight - once by Hydro and a second by the Board. Any operating model arrangement needs to be clearly understood by the Board as to the jurisdictional implications and the role the Board would occupy. Hydro suggests that a prudent approach would first seek to realize further future organizational improvements to each utility's status quo operations and practices prior to taking any action which would result in unintended consequences such as decreased regulatory oversight, decreased regulatory efficiency, reduced regulatory oversight or unnecessary risk.

2.7 Rural Deficit Recovery

The Rural Deficit incurred by Hydro in serving Hydro's Rural retail customers (excluding those on the Labrador Interconnected System) is approximately $64.3 million for 2019, of which $61.8 million is to be recovered from the customers of Newfoundland Power and $2.5 million to be recovered from Hydro Rural customers on the Labrador Interconnected System. The transfer of Hydro's distribution and customer service functions to Newfoundland Power would result in the full amount of the annual rural deficit becoming a component of Newfoundland Power's cost to serve. To meet the Government of Newfoundland and Labrador's direction on the continued recovery of a portion of the rural deficit from Hydro Rural Customers on the Labrador Interconnected System, Newfoundland Power would be required to modify its cost of service system to allocate the costs by system. This could require a material investment in a new cost of service system, in addition to the ongoing management of the rural deficit.

2.8 Cost Allocation Fairness

In assessing the potential asset transfer from Hydro to Newfoundland Power, consideration must be given to the impact of such transfer on other customer classes. For example, Exploits and Star Lake provide low cost energy and capacity for all customers on the Island Interconnected System. The transfer of these hydro generation assets to Newfoundland Power would enable Newfoundland Power to materially increase its generation capability and energy production and reduce its required power purchases from Hydro. Such a reduction in power purchases by Newfoundland Power would result in a decreased allocation of supply costs to be recovered from Newfoundland Power and an increased allocation of supply costs to be recovered from Island Industrial Customers. Effectively, such a transfer would permit Newfoundland Power to avoid power purchase costs related to the Muskrat Falls Project and substitute those costs with low-cost hydro generation. Hydro estimates this transfer would increase the annual supply costs allocated to Island Industrial Customers by approximately $6.5 million to $7.0 million.[12]

2.9 Public Procurement Act

As a Crown corporation, Hydro is required to follow the Public Procurement Act. Where a service is being provided by a third-party to Hydro, with some limited exceptions, that legislation requires that a public tendering or a request for proposals process be followed. This would apply where Hydro is acquiring operation

[12] Reflects conclusion of the 4 cents/kWh Power Purchase Agreement with the Government of Newfoundland and Labrador for the Exploits and Star Lake assets. A similar impact, but to a lesser degree, would result from the transfer of other hydro assets such as Paradise River.

and maintenance or other services (e.g., customer services). Implications of such legislation must be evaluated if services were to be provided by Newfoundland Power to Hydro. Hydro believes it would have to seek bids for this work through an open and competitive tender process. There is opportunity for exemption to seeking bids through an Order in Council by the Government of Newfoundland and Labrador whereby Newfoundland Power could be the only party permitted to provide such services. As the purpose of entering into an operating agreement is to provide least-cost service, a determination that a tendering process will not be used could cause erosion in public confidence in the outcome.

2.10 Environmental and Land Requirements

There is a range of activities to be carried out if a transfer of ownership is to occur for hydro generation assets, distribution plant, or customers.

For a transfer of operations of certain hydro generation facilities, there could be a requirement to transfer agreements with government, community and environmental stakeholder groups, as well as potential for consultation including potential aboriginal consultation.

If a transfer of ownership of certain hydro generation facilities is to occur, the land and water rights to those plants have to be transferred and, in some cases, water leases will need to be acquired from the Government of Newfoundland and Labrador.

A transfer of ownership of distribution plant would require a transfer of easement rights which is a large logistical process that will take time for due diligence and transaction effort reasons. A large number of these easements are prescriptive, which means that there is no paper title that substantiates the real property rights that would normally or typically accompany such assets when transferred. These could require considerable surveying and legal due diligence, factual investigations research and documentary work to facilitate a transfer.

2.11 Acquisition and Sale Logistics

A transfer of ownership of either hydro generation or distribution plant will require Board approval under section 41 of the Public Utilities Act. It is expected this could be complex with respect to the logistics and valuation. Similarly, a transfer of Hydro Rural Customers to Newfoundland Power would entail a transfer of a portion of a utility's franchise which would require approval under section 49 of the Public Utilities Act.

For customer services transfers, there could be a need to transfer, or to make new, customer contracts.

2.12 Human Resources and Labour Relations

Typically, there would be a transfer of employees associated with a transfer of assets or the operations of those assets. Associated with that are labour relations considerations, including but not limited to: the transfer of employees triggering successor rights applications, the rectification of certification orders under the Labour Relations Board, the amendment to and the re-negotiation of collective agreements, the co-mingling of employees and seniority lists between the merged union groups, and the establishment of new bargaining units.

Union successor rights for three collective agreements for IBEW 1615 (i.e., Operations, Office Workers and Exploits Generation Supplement Agreement) will need to be considered. It is expected that collective agreement obligations will flow through from Hydro to Newfoundland Power.

For both union and non-union employees, there would be issues with regard to the transfer of employees within private and public pension plans (under the Public Service Pension Plan Act). Hydro's understanding is that Newfoundland Power's defined benefit plan is closed to new entrants; it is unclear as to the manner in which current defined benefit plan contributors under Hydro (i.e., employees who are staying either under the operating or ownership model) will be treated. A comparison of the Public Service Pension Plan with Newfoundland Power's closed defined benefit plan and defined contribution plan is required to quantify the potential implications for any employee transfer.

Currently, the hourly craft rates for Newfoundland Power are higher than Hydro's. Depending on the manner in which Newfoundland Power decides to resource either an operating or ownership model for the Hydro assets under consideration, on a per FTE basis, there is potential for increased cost. This could be a near-term implication only as various collective agreements are renewed. However, Newfoundland Power would need to define its approach to reconciling any compensation and benefits differentials, which may exist for both craft and managerial employees. For managerial employees, this includes base pay, benefits, as well as short and long-term incentive pay.

There is potential for severance/termination costs for those employees not successful in transferring with the operations. It is unclear at this stage the manner in which such severance issues would be handled by Newfoundland Power or if Hydro would bear these costs.

The impact of any sale or transfer could require additional corporate resources and likely significant external resources initially beyond what is identified. To ensure an appropriate due diligence process was completed, Hydro's current liability related to Employee Future Benefits[13] for those impacted in a sale/transfer will need to be considered and likely transferred as part of any deal.

Hydro currently has an arrangement in place for Holyrood staff to ensure employees in critical positions are retained until the retirement of the steam production plant. Hydro committed to a priority job placement process for a select group of individuals post-plant retirement. As a result of this program, there are a number of positions throughout Hydro that are "held" for Holyrood employees post-steam and currently filled with term or temporary employees; some of those positions are within areas of operations currently being considered for consolidation. If these temporary positions were transferred out of Hydro it could create a risk of attrition of critical employees at Holyrood. Alternatively, Newfoundland Power would have to guarantee those future positions as well to minimize the attrition risk.

2.13 Revenue Requirement Considerations

Newfoundland Power finances its business differently from Hydro. Newfoundland Power has approximately 45% equity in its capital structure, while Hydro has a target equity level of 25% in its capital structure. Hydro's current equity level is approximately 19%.[14]

[13] Employee Future Benefits consist of group life insurance and health care benefits provided on a cost-shared basis to employees after retirement, as well as retirement allowance upon retirement.
[14] 2019 Revised Test Year, Exhibit 4, Page C-4, 2017 GRA Compliance Application.

Newfoundland Power is a taxable entity. As such, it pays taxes on its net income, which are recovered in customer rates. The statutory tax rate is approximately 30%.

These two factors combined result in Newfoundland Power's tax adjusted weighted average cost of capital ("WACC") being substantially higher than Hydro's. As per Table 1, Newfoundland Power's WACC adjusted for income taxes is approximately 8.78%. Hydro's WACC is approximately 5.59%, as shown in Table 2.

Table 1 – Weighted Average Cost of Capital Newfoundland Power – Tax Adjusted

	Actual (%)[15]	Cost of Capital	Embedded Weighted Average Cost of Capital
Debt	54.5	6.07%[16]	3.31%
Return on Common Equity (before tax)	44.7	12.14[17]	5.43%
Preference Shares	0.8	6.19%	0.05%
Total	100.0		8.78%

Table 2 – Weighted Average Cost of Capital Newfoundland and Labrador Hydro[18]

[15] Average Regulated Capital Structure as per December 31, 2018 Return 24.
[16] Cost of Embedded Debt as per December 31, 2018 Return 25.
[17] Grossed up for taxes which is (8.5% /(100% - 30%).

	Target (%)	**Embedded Cost of Capital**	**Embedded Weighted Average Cost of Capital**
Debt	72.2	4.91%[19]	3.54%
Equity	24.1	8.50%[20]	2.04%
Funded Employee Future Benefit Costs[21]	3.2	0.00	0.00%
Funded Asset Retirement Obligations[21]	0.6	0.00	0.00%
Total	100.0		5.59%
Earnings Contribution Available for Dividends[22]			2.04%

If Hydro's distribution assets (estimated net book value of $313.0 million[23]) were transferred to Newfoundland Power, the revenue requirement, as a result of differing capital structures noted in Tables 1 and 2 and taxation, borne by customers would be a minimum of $10.0 million[24] higher than current on an annual basis for those assets.[25]

[18] Hydro Regulated 2018 year-end figures from Return 14.
[19] 2019 Revised Test Year Embedded Cost of Debt as per Exhibit 4, Page C-3, 2017 GRA Compliance Application.
[20] In compliance with OC2009-063.
[21] Zero cost capital items have been prorated over debt and equity target levels.
[22] Earnings available to the Government of Newfoundland and Labrador for dividend purposes.
[23] Island interconnected, Isolated systems, Labrador interconnected and small hydro, excluding Exploits (Exploits and Star Lake are excluded as they are not currently owned by Hydro).
[24] =$313.0 million × (8.78%-5.59%).
[25] In the event that a recommendation is made to alter Hydro's capital structure or return on equity such that WACC was reduced, the revenue requirement impact would increase.

In addition to the differences in equity thickness and taxation, the Government of Newfoundland and Labrador has indicated in its document "Protecting you from the Cost Impacts of Muskrat Falls," (April 2019) that it would make dividends from Hydro and Nalcor available for rate mitigation. The rate of return on equity is approximately 2.04%, which is equivalent to $6.4 million[26] in annual funds available to the Government of Newfoundland and Labrador for rate mitigation. If Hydro's distribution assets were transferred to Newfoundland Power, the return on equity associated with those assets that enables the dividends would not be available for rate mitigation as any returns would be directed to Newfoundland Power's shareholder; however, this reduction in dividend availability would be partially offset by a provincial income tax stream from Newfoundland Power of approximately $2.5 million[27] per year.

Together, these three differences (i.e., equity thickness, tax status and availability of dividends for rate mitigation) provide an annual revenue requirement advantage for Hydro of between $10.0 million and $13.9 million[28] based on the transfer of $313.0 million of assets. Hydro's annual revenue requirement advantage is materially larger again when considering the potential transfer of the 66 and 138 kV transmission assets and/or select hydro assets.

Hydro's annual operating budget of direct distribution system is approximately $7.3 million, direct isolated transmission and rural operations is $8.2 million, direct small hydro generation costs are $0.3 million and customer service costs are $6.2 million,

[26] =2.04% × $313.0 million.
[27] Over the life of the assets it is reasonable to assume that one half of the statutory corporate tax rate would be paid to the Government of Newfoundland and Labrador.
$2.5 million = $313 million × 44.7% × (12.14% - 8.5%)/2
[28] $16.4 million - $2.5 million.

resulting in total direct costs of approximately $22 million. Of this $22 million in current operating costs, to seriously contemplate an opportunity of sale of assets, Newfoundland Power would have to operate the distribution assets at least $10 million lower than the $22 million to maintain status quo on rates, and the Government of Newfoundland and Labrador would not have opportunity to avail of dividends for rate mitigation purposes. It is likely that savings greater than the amounts identified prior will be required as it is anticipated that Newfoundland Power would need to invest to obtain the steady state operations it has proposed. This Reference seeks to improve costs for customers, however, based on the information exchanged to date, it is expected that a transfer of assets will increase costs for customers as the savings required, while maintaining reliable service, are likely unachievable.

2.14 Asset Impairment Costs

In the event of a sale of distribution assets, Hydro may incur impairment costs related to stranded assets; gains/losses on disposal pools; and removal cost. The specifics of these impairments can be ascertained only after a detailed identification and analysis of the specific assets being transferred. Collection of these impairments from customers could be required over a different time frame than that currently set in the asset pools, thus affecting revenue requirement.

2.15 Depreciation

In the event of a sale of a material quantity of assets, the timing of a new depreciation study typically required for regulatory filings would need to be accelerated to reflect the change in asset composition. Depreciation rate factors are impacted by the accumulated depreciation of the assets at the time of the study. As a result, the sale of distribution assets could alter depreciation rates of the remaining assets.

2.16 Credit Facility

Hydro has a committed credit facility with the Bank of Nova Scotia that forms a component of its overall financing and financial risk management strategy. That credit facility has a number of restrictive covenants which, if breached, could result in a default circumstance. To avoid a default or breach of covenants, the facility may need to be re-negotiated. Such renegotiation could result in a change of material terms and conditions and costs related to this facility, which cannot be predicted at this time.

A copy of this agreement was filed in response to PUB-Nalcor-215. Of note, the facility includes restrictions on Hydro's debt to capitalization ratios (clause 10.2) and covenants limiting Hydro's ability to dispose of a substantial portion of its property or to transfer a substantial portion of its assets to another entity (clauses 10.4 (b) and (c)).

2.17 Credit Rating Implications

Historically, Hydro has benefitted from a guarantee from the Government of Newfoundland and Labrador when it undertakes long-term borrowings. The guarantee decreases Hydro's cost of borrowing relative to the rate at which Hydro could borrow without the guarantee. This benefit is realized regardless of whether Hydro borrows directly from the financial markets or whether the Government of Newfoundland and Labrador borrows and on-lends to Hydro. Decisions surrounding ownership and operation of Hydro's assets could affect the Province's credit rating, resulting in impacts to both Hydro's and the Province's costs of borrowings in the future. Specific facts and circumstances would have to be fully considered to ascertain potential impacts on the rating agencies' perspectives.

2.18 Information Management Considerations

The information management requirements related to an ownership or operating model will require further evaluation. It is expected the impacts will be broad and complex. Plans for integration of systems, customer information, and asset information, among other things, will need to be identified. Examples of hurdles to be overcome include the operation of four distinct meter reading systems by Hydro and Newfoundland Power; integration of customer service systems and the varying rate structures; integration of detailed historical asset and financial information; transfer of customer information and set-up; and the possible transfer of software maintenance contracts and cost recovery on existing software and hardware. While not insurmountable, such considerations are significant and will require appropriate due diligence, careful planning and execution with appropriate time and resources allocated.

Consolidation of operations outside of Hydro will have an impact on the administration fee currently paid by Hydro to Nalcor for corporate services (e.g., human resources, information technology, and safety and environment). A reduction in Hydro's FTEs will impact the proration of costs across the Nalcor group of companies. This will not likely translate into direct savings for Hydro as there is a level of fixed costs which will then be allocated across a smaller number of FTEs.

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MEMORANDUM

TO: Kevin Fagan, Newfoundland and Labrador Hydro

FROM: Bruce Chapman and Robert Camfield

DATE: July 19, 2019

SUBJECT: Operating Agreement between LIPA and PSEG

Below, we review the *Operating and Services Agreement* (OSA) between Long Island Power Authority (LIPA) and Public Service Enterprise Group (PSEG). Under the agreement, PSEG provides operating services to LIPA, including operations and planning of LIPA's power delivery system, both transmission and distribution facilities (T&D). The purpose of our review is to highlight and assess the various features of the OSA, and to gauge whether the OSA provides useful lessons for consideration by Newfoundland and Labrador Hydro (Hydro) and interested stakeholders including its utility customer, Newfoundland Power (NP). NP currently purchases power from Hydro and resells it to its retail customers. Hydro has retail customers of its own, but its business also includes power generation and trading at wholesale, activities which occur at NP on a relatively limited basis.

LIPA is a public benefit corporation, a non-profit utility that owns and leases generation units, purchases generation services, and owns the service territory's transmission and distribution grid. PSEG is a service company. Under the fixed term agreement, LIPA has contracted with PSEG to operate the T&D system, including day-to-day operations and planning functions. The OSA between the two entities is dated December 31, 2013, and has its origins in Hurricane ("Superstorm") Sandy in the fall of 2012.[1] That storm substantially damaged the LIPA grid and triggered a review of LIPA operations that resulted in the LIPA Reform Act of 2013 and,

[1] *Amended and Restated Operations Services Agreement between Long Island Lighting Company d/b/a LIPA and PSEG Long Island, LLC*, December 31, 2013.

ultimately, the OSA. (It should be noted, though, that the LIPA-PSEG connection dates back to 2011 and LIPA contracted before that for operations management services with National Grid.)

Under the terms of the LIPA Reform Act, LIPA serves as overseer of the financial health of the LIPA system and general manager of utility functions, where day-to-day operations of the system are carried out under the contractual authority of PSEG (the subsidiary being denoted PSEG-LI). LIPA is supervised by a nine-member Board of Trustees, who have final authority over rates, subject to review by the regulatory agency, the New York State Department of Public Service (DPS).[2]

LIPA obtains generation services from a variety of sources including the Nine Mile Point 2 nuclear generation facility[3], from facilities formerly owned by the utility but now owned by National Grid, and from a number of independent power producers in the region.[4] LIPA imports power from the ISO New England region through the Cross-Sound Cable facility, and from PJM through the Neptune facility. Both facilities are undersea HVDC interconnections.

Overview of the Agreement

The OSA is a twelve-year agreement initiated at the start of 2014 and running through 2025. The agreement sets out the contractual responsibilities and rights of the two parties and defines their business relationship. LIPA serves as the financial agency and manager of the utility and provides direct linkage to the DPS for regulatory matters. The LIPA Board approves rate applications to the DPS.

PSEG conducts the day-to-day operation of the transmission and distribution grid, and also undertakes planning and capital investment activities. PSEG also develops financial budgets for much of the business, and collaborates with LIPA in developing the LIPA Consolidated Budget for Board approval.

Budgeting. The process of developing both operating and capital budgets for LIPA is collaborative. PSEG, under the terms of the OSA, develops a budget for its anticipated expenses and then shares it with LIPA. Upon completion of a Consolidated Budget, LIPA presents it to the Board for review. PSEG must submit a budget to LIPA for review 180 days before the applicable period begins, and LIPA must respond within 90 days.[5]

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[2] See https://www3.dps.ny.gov/W/PSCWeb.nsf/All/F2EA85DF4AB658B285257F57006AFCD8?OpenDocument.
[3] LIPA has an 18% ownership share of the 1,148MW generating unit.
[4] See *Annual Disclosure Report of the Long Island Power Authority (Fiscal Year 2017)*, p. 23.
[5] OSA, Section 5.2(B)(3).

Compensation of PSEG. The OSA provides for compensation to the operations service provider via 1) a pass-through of all operating and capital costs incurred by PSEG to LIPA; and 2) management services compensation. The range of operating expenses and capital expenditures passed through under the OSA and thus incorporated in rates includes:[6]

- Wages, salaries, benefits
- Non-labor related operating costs
- Carrying charges on invested capital
- Charges associated with facility improvements arising from long-range plans
- Certain legal costs
- Certain emergency costs
- Property taxes, franchise fees, payment in lieu of taxes, audit costs
- Customer refunds
- Affiliate transactions costs
- Insurance costs
- DPS compliance costs
- Efficiency savings-related costs
- Branding costs

Management services compensation paid to PSEG takes two forms, a fixed lump sum and incentive compensation. These charges for management services cover wages and salaries, operating expenses, corporate overhead expenses, and operating profit for PSEG. The lump sum amount was initially set under the OSA at $36.3 million USD in each of the first two contract years (2014 and 2015), and $58.0 million USD, indexed to inflation over subsequent years. The inflation index is based on the urban consumer price index for the New York metropolitan area.

The incentive amounts are paid annually, based on PSEG's success in meeting performance criteria, with the maximum amount being the lesser of 20% of the entire management services fee and the amount available in the Incentive Compensation Pool. This pool is a cumulative amount of non-disbursed incentives. Explicit incentive amounts are $5.4 million USD for each of 2014 and 2015, and $8.7 million USD each year thereafter, again indexed by the regional CPI. It is apparent that the incentive amounts are substantial relative to the base compensation levels.

Performance Criteria. The LIPA-PSEG contract is akin to cost-based regulation and is similar to conventional rate-of-return regulatory oversight, but for the significant incentive component.

[6] See Section 5.2(A) of the OSA for a complete listing.

That is, the utility is not under a performance-based regulation regime (RPI-X), but the return accruing to PSEG depends on cost control and the satisfaction of other performance factors.

The performance structure is contained in Appendix 9 of the OSA. There are four categories of performance metrics:

- Cost management
- Customer satisfaction
- Technical and regulatory performance
- Financial performance

Under the OSA, PSEG must satisfy certain cost management standards to earn incentives. PSEG must keep actual operating and capital expenses under a ceiling of 102% of budget levels. Succeed in both, and the contractor is eligible for the full amount of incentives. Succeed in just one, and the contractor is eligible for just 50% of eligible incentives. Succeed in neither and the contractor receives no incentive remuneration.[7]

Once the cost management criterion has been met, PSEG must then also satisfy a range of operating performance criteria. These need not be described here in any detail, with the exception that the agreement sets out two types of criteria, “maintenance” and “improvement” metrics. These criteria attempt to induce the operating company to keep levels of service high where it is high already, and to improve service where it is not. It appears that the ultimate objective is to have the contractor satisfy all performance metrics and then maintain that level of performance. The contract structure is in line with DPS policy. The DPS has placed all its regulated utilities under fairly aggressive service performance standards. Utilities are subject to penalties for non-performance.

Operational Aspects

As noted above, all operational aspects of the utility are outsourced to PSEG. This includes system planning and maintenance, customer service and billing, brand development and marketing, customer contact, etc.

The scope of services includes:

- T&D system operations and maintenance
- Customer services
- Finance, accounting, budgeting, financial forecasting and treasury operations

[7] *OSA Appendix 9*, table on p. 1.

- General activities, including governance, information technology management, human resources, procurement of supplies, emergency response and reporting, communications and regulatory interaction
- Utility innovation, dubbed "Utility 2.0"
- Power supply management, fuel procurement, and energy markets and retail services.

In brief, this appears to cover the full range of a conventional utility's operational responsibilities. The only "gray area" is where the dividing line between LIPA and PSEG generation services support lies, with LIPA retaining certain wholesale activities that the FERC regulates. Of note, LIPA is subject to FERC regulation under both cost- and market-based rate authority as well as transmission (OATT) under reciprocity standards. We anticipate, moreover, that LIPA generation resources are subject to the operating authority and dispatch rules of the New York ISO.

Planning: Capital Investment

The OSA confers on PSEG the responsibility to engage in system planning with respect to the transmission and distribution grid. This responsibility includes the annual preparation of a Long-Range Plan (LRP). The LRP identifies needed capital investment and provides the underlying support for the development of a capital budget necessary to fund planned investment. The core of the LRP is T&D planning and operation of a traditional nature. However, the OSA explicitly incorporates system investment to encourage energy efficiency, demand response, distributed generation and advanced system controls.[8] The LRP must be reviewed in public hearings and then by the LIPA Board and the DPS.

More generally, PSEG is tasked with facility planning and carrying out the installation of facilities to ensure that the basic goals of efficient and cost-effective operation are met, subject to overall approval by LIPA. However, detailed management control, including the hiring and supervision of subcontractors, followed by review and reporting, lies with PSEG.

With respect to generation planning and investment, the OSA transferred responsibilities previously held by LIPA's Power Supply Group to PSEG, excluding those activities that would be subject to FERC regulation—*i.e.*, wholesale market activities and supporting back-office functions.[9] LIPA separately conducts such operations under the firm name LI Power Supply.[10]

[8] *OSA*, Section 4.13, 4.2(A)(5), pp.36, 22, respectively.
[9] *OSA*, Section 4.2(A)(6)c, p. 23.
[10] *OSA*, Section 4.2(A)(6)b, p. 23.

Regulatory Aspects

The OSA permits LIPA a degree of rate setting flexibility not found in traditional regulation of investor-owned utilities, but less freedom than public entities such as municipalities and cooperatives enjoy, where a municipal or membership board approval suffices to achieve a rate change. This likely reflects institutional legacy, as LIPA and the New York Power Authority (which manages Niagara Falls and certain other generation) are not subject to the full reach of utility regulation applied to New York's investor-owned utilities.

The Reform Act enabling LIPA grants the company the right to fix rates and charges.[11] In practice, the OSA requires that LIPA submit for DPS review any rate increase whose aggregate effect is to increase rates by more than 2.5% per year.[12] At present, this essentially precludes real increase in rates (rate changes above overall inflation). Additionally, proposed rate changes must be assembled in collaborative fashion by PSEG and LIPA, either of whom can initiate a rate request. Once agreement has been reached, a rate request is submitted to the LIPA Board of Directors and, upon approval, is forwarded to the DPS for review. Such requests must be supported by approved budgets.

Additionally, LIPA has authority to increase rates on an interim basis prior to DPS approval.

Apparent Advantages and Disadvantages of the LIPA-PSEG OSA Structure

Potential Advantages. The OSA approach to utility management confers several advantages on LIPA, and upon the DPS and other stakeholders. The apparent advantages provided by OSA are highly specific to the special circumstances of LIPA. Historically, LIPA has engaged numerous outside parties to provide various support activities. Hence, a blanket service agreement covering an array of functions seemingly fits well within LIPA's institutional legacy. Indeed, LIPA has faced an unusually high level of regulatory and public scrutiny for alleged malfeasance of its public responsibility dating back to the Shoreham nuclear facility.[13]

Several plausible advantages to the operating arrangements codified by the OSA can be cited. First, the OSA allows LIPA to take advantage of economies of scope that might not be available to the utility and its customers otherwise. PSEG is a large and experienced utility and has provided outside services to a number of utilities. Their subsidiary (PSEG LI) dedicated to LIPA's

[11] *OSA*, Section 6.7, p. 50.
[12] *OSA*, Section 6.3(B), p. 49.
[13] See, for example, from 1998: https://www.wsj.com/articles/SB830473957403554500; and from 2012: https://www.nytimes.com/2012/11/14/nyregion/long-island-power-authoritys-flaws-hindered-recovery-efforts.html

service territory, is likely to be able to take advantage of PSEG's in-house expertise to meet a wide variety of operational and planning challenges.

Second, carrying out operating and planning functions under the OSA introduces an outside work culture geared to allegedly high standards of performance. Implementing something akin to the OSA was absolutely necessary as a matter of restoring public trust in view of the overwhelming challenges associated with the restoration of power supply following Hurricane Sandy.

Third, the OSA sets out in detail a broad range of explicit performance criteria with potentially powerful financial incentives for cost control in the short run. These incentives may be highly influential, perhaps mirroring those of an unfettered performance-based regulation (PBR) regime. (We note that PBR sometimes involves various off-ramps, earning sharing mechanisms, capital trackers, and reopeners that tend to blunt the incentives inherent in PBR as originally intended.)

Fourth, the OSA's coverage of both operations and capital budget suggests that it encourages least cost planning, particularly where such plans are geared to satisfying broadly accepted public policy objectives in the form of cost performance coupled with service quality. The twelve-year span of the contract, with potential for renewal, suggests that effective planning will help the DPS to reduce the rate of growth of prices from their current high level through a sustained program of investment, rather than relying on "band-aid" measures likely to yield short-term returns at the expense of returns in five years.

Potential Disadvantages. A potential disadvantage of the OSA is the separation between the operating company (PSEG in this case) and the regulator. Collaboration in budgeting and the preparation of rate applications makes it likely that LIPA-PSEG will present itself as a single agent. However, whenever differences of perspective arise about strategy, the concern arises that implementation of DPS directives may be divisive in a way that would not arise in a single unified utility.

Second, the OSA's incentive system is detailed and complex and does not appear to have an empirical foundation. Developing empirical benchmarks are challenging. Furthermore, at some point, LIPA might resist initiatives that PSEG would like to undertake because the contractor believes that it would improve efficiency and would provide greater rewards for PSEG. How would such differences be resolved differently in a single firm?

More generally, the incentive structure for compensation to PSEG ought to align well with the preferences of retail consumers regarding electricity price levels and service quality. The incentive structure appears designed to do this, but it may be the case that PSEG may select and operationalize certain operating protocols that minimize near-term operating costs compared to the *ex-ante* operating budget, even though doing so may yield higher total costs including capital-related costs. Wherein operating- and capital-related resources are substitutable, it is essential that performance incentives be based on all-in costs and realized performance measured over several years. To this end, PBR mechanisms would appear to be a superior approach compared to the *ad hoc* parameterized structure contained in the OSA.

Third, to the degree that contemporary operating performance reflects the level of maintenance and facility upkeep over previous years, PSEG may have incentives to under-maintain LIPA's T&D facilities during the latter years of the terms of the OSA. This is particularly the case if PSEG does not expect a successor to the current OSA to be put in place.

Fourth, it remains to be seen whether the OSA will obtain measurable improvements in cost and service quality performance. Long Island is currently a very high-cost service territory. Regarding transparency, one of the leading objectives of the reform of LIPA in 2013 was improved transparency of action as well as possible rate reductions. Apparently, such transparency improvement has yet to materialize.[14]

Lastly, an apparent defect specific to this agreement—but not necessarily exclusively to outsourcing service agreements—is the explicit mandate to focus on energy efficiency, distributed energy generation, renewable energy, and investment designed to promote grid interoperability. A regulator might see the incorporation of such a provision as being a valuable means to encourage these causes. However, it seems to us that an operating agreement should not generally include such specific policy requirements. Instead, such requirements seem best suited to separate regulatory proceedings.

Application of OSA-Style Agreements

The discussion above has focused on the structure of the OSA and its incentives for cost control. We have also hinted at the OSA's origins: an attempt to remedy management inadequacy over extended periods of time. Hydro and interested stakeholders are best able to judge the applicability of the LIPA-PSEG operational model and similar operating service

[14] In fairness to LIPA-PSEG, rate levels have remained high for several reasons exogenous to utility management. Sales growth has been slow during the contract period and the DPS strongly favors programs promoting conservation and renewables, both of which exert upward pressure on rates.

agreements. Nevertheless, we offer a few comments on the OSA structure's potential applicability independent of issues of corporate performance.

First, the OSA is one of several types of regulatory arrangements that attempt to improve incentives under regulation for cost control and efficient behavior. Comprehensive incentive structures such as performance-based regulation and targeted performance incentive plans related to energy efficiency are established features of the industry. It is not clear that an OSA arrangement with its associated corporate fragmentation would ever be preferable to these other incentive systems.

Second, the OSA inserts a layer of management between the regulator and the actual operator of the electric grid. Even though LIPA and PSEG jointly prepare regulatory submissions, responsiveness to regulatory priorities may not be improved by the OSA, except to the extent that it replaces management problems at LIPA with improved management by PSEG. This feature of the OSA might not be applicable to or attractive to the Province were the OSA structure to be implemented.

Third, the Province's circumstances appear quite different from those of Long Island. Without doubt, the realization of potential benefits arising from an operating service agreement are highly specific to functional activity and institutional context. Potential gains will be strongly driven by the operating protocols/modus operandi inherent to the incumbent, compared to that of an outside contractor. Further, at the outset, there is likely to be considerable uncertainty about whether such arrangement will yield significant benefits. The starting point is a baseline evaluation. If sizable scale economies appear to be present for the functions/activities of interest, an initial assessment would likely identify whether further exploration of an outsourced service arrangement is warranted.

General Implications of the OSA for Electric Service Providers

The OSA between LIPA and PSEG appears to be an unusual contractual structure by comparison with other corporate structures in the electric utility industry, an industry in which a variety of structures can readily be found. Common structures include the traditional vertically integrated investor-owned utility and its Crown Corporation counterpart in Canada, the municipal distribution utility and electric power distribution cooperative, and the investor-owned distribution firm functioning in regions where retail competition exists. In these regions, independent generation entities and transmission companies are common as well. We cannot readily name other utilities that contract out their core business, leaving a shell of a utility like LIPA.[15]

Virtually all the functions undertaken by PSEG are core competencies of the conventional utility: planning for and providing one or more of the standard generation, transmission, and distribution services. It is difficult not to reach the conclusion that the LIPA-PSEG OSA contract exists for no reason other than public frustration with the electric services provided by LIPA over many years. More particularly, it is difficult to envision how productivity improvements at inefficient utilities would more sensibly be undertaken by an OSA rather than simply by internal operational improvements.

Furthermore, when the industry has been confronted by challenges to the traditional structure over the past forty years, regulatory remedies such as incentive plans, performance-based regulation, deregulation of generation services and retail customer services (as has occurred in ERCOT in the United States and in Ontario in Canada) have been the chosen approaches to improvement. By contrast, the operational outsourcing of the OSA appears to be a solution in search of a problem. In the case of LIPA, the OSA appears to be simply an attempted improvement on a previous outsourcing plan with Northern Grid. Several years of observed experience are necessary to gauge whether realized results satisfy expectations.

Summary of Findings

In our opinion, the OSA between LIPA and PSEG is an instructive operational outsourcing agreement whose purpose is to supply expertise to a utility that appears to have convincingly demonstrated a need for it. LIPA takes advantage of proven expertise from a large utility management organization with proven capability derived from its existing New Jersey service territory. The agreement is finite in duration and seems to have strong incentive properties encouraging cost control in one of the most expensive retail electricity markets in the United States. Whether this cost control will focus on the long term or the short term, or whether it will result in significant cost control are yet to be determined. However, the OSA has several years remaining since it is valid through 2025.

The agreement also appears suited to its regulatory environment: a state with retail deregulation but a service territory with limited rate regulation due to the public sector ownership of the utility in which the Board's review of pricing precedes regulatory review.

[15] LIPA reported having 110 staff before the Reform Act and has fewer staff now. Source: https://www.lipower.org/wp-content/uploads/2018/09/Staffing-Report.pdf. *Newsday* states that the utility had 54 employees in March 2018. Source: https://www.newsday.com/long-island/lipa-salaries-1.17743181.

However, it is the apparent purpose of the operational outsourcing agreement that marks out the OSA and its predecessor agreement with National Grid as relatively unusual: state-mandated outsourcing to replace internal management difficulties. Other utilities have had management difficulties, of course, but outsourcing does not seem to have been the preferred solution.

Q. **Exhibit 4**

Page 2, lines 12-15 – Provide copies of all Orders in Council that provide direction on setting rural rates.

A. Please refer to PUB-NLH-084, Attachment 1, Attachment 2, Attachment 3, Attachment 4, Attachment 5, Attachment 6, Attachment 7, Attachment 8, Attachment 9, Attachment 10, Attachment 11, Attachment 12, Attachment 13, Attachment 14, Attachment 15, Attachment 16, Attachment 17 and Attachment 18.

Executive Council

Newfoundland and Labrador

Certified to be a true copy of a Minute of a Meeting of the Committee of the Executive Council of Newfoundland and Labrador approved by His Honour the Administrator on

2017/06/28

OC2017-194

MC2017-0238. NR2017-010. EPC2017-041.

Under the authority of subsection 39(3) of the Hydro Corporation Act, 2007, the Lieutenant-Governor in Council hereby directs the Board of Directors of Newfoundland and Labrador Hydro-Electric Corporation to absorb the cost of the 2006 General Rate Application Deferral Rate Subsidy to July 1, 2018.

Clerk of the Executive Council (A)

Executive Council

Newfoundland and Labrador

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2017/03/30

OC2017-122

MC2017-0121. XX2017-021.

Under the authority of subsection 39(3) of the Hydro Corporation Act, 2007, the Lieutenant-Governor in Council is pleased to direct the Board of Directors of Newfoundland and Labrador Hydro-Electric Corporation to absorb the estimated budgetary allocation of $150,000 to cover the cost of the 2006 General Rate Application Deferral Rate Subsidy to July 1, 2017.

Clerk of the Executive Council

Executive Council

Newfoundland and Labrador

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2017/06/28

OC2017-193

MC2017-0238. NR2017-010. EPC2017-041.

Under the authority of section 5.1 of the Electrical Control Power Act, 1994, the Lieutenant-Governor in Council hereby directs the Board of Commissioners of Public Utilities to adopt a policy for Non-Government Rural Isolated Domestic and General Service customers of Newfoundland and Labrador Hydro that:

a) any changes in rates charged to these customers shall be equal to changes approved for equivalent rate classes of Newfoundland Power customers on or after January 1, 2007;

b) notwithstanding (a), commencing July 1, 2018, rates for these customers shall be those that would have come into effect but for this directive and directives OC2006-512, OC2008-365, OC2009-390, OC2010-322, OC2012-329, OC2014-372, OC2015-300; OC2016-104; OC2016-287; OC2017-121; and

c) the provisions of this directive do not apply to rates to be established for these customers following July 1, 2018.

Clerk of the Executive Council (A)

Executive Council

Newfoundland and Labrador

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2017/03/30

OC2017-121

MC2017-0121. XX2017-021.

Under the authority of section 5.1 of the Electrical Control Power Act, 1994, the Lieutenant-Governor in Council is pleased to direct the Board of Commissioners of Public Utilities to adopt a policy for Non-Government Rural Isolated Domestic and General Service customers of Newfoundland and Labrador Hydro that:

a) any changes in rates charged to these customers shall be equal to changes approved for equivalent rate classes of Newfoundland Power customers on or after January 1, 2007;

b) notwithstanding (a), commencing July 1, 2017, rates for these customers shall be those that would have come into effect but for this directive and directives OC2006-512, OC2008-365, OC2009-390, OC2010-322, OC2012-329, OC2014-372, OC2015-300; OC2016-104; OC2016-287; and

c) the provisions of this directive do not apply to rates to be established for these customers following July 1, 2017.

Clerk of the ~~Executive~~ Council

Executive Council

Newfoundland and Labrador

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2016/12/22

OC2016-288

MC2016-0388. XX2016-140.

Under the authority of subsection 39(3) of the Hydro Corporation Act, 2007, the Lieutenant-Governor in Council is pleased to direct the Board of Directors of Newfoundland and Labrador Hydro-Electric Corporation to absorb the estimated budgetary allocation of $100,000 to cover the cost of the 2006 General Rate Application Deferral Rate Subsidy to March 31, 2017, or an earlier date as ordered by the PUB.

Clerk of the Executive Council

Executive Council

Newfoundland and Labrador

Certified to be a true copy of a Minute of a Meeting of the Committee of the Executive Council of Newfoundland and Labrador approved by His Honour the Administrator on

2016/12/22

OC2016-287

MC2016-0388. XX2016-140.

Under the authority of section 5.1 of the Electrical Control Power Act, 1994, the Lieutenant-Governor in Council is pleased to direct the Board of Commissioners of Public Utilities (PUB) to adopt a policy for Non-Government Rural Isolated Domestic and General Service customers of Newfoundland and Labrador Hydro that:

a) any changes in rates charged to these customers shall be equal to changes approved for equivalent rate classes of Newfoundland Power customers on or after January 1, 2007;

b) notwithstanding (a), commencing April 1, 2017 or an earlier date as ordered by the PUB, rates for these customers shall be those that would have come into effect but for this directive and directives OC2006-512, OC2008-365, OC2009-390, OC2010-322, OC2012-329, OC2014-372, OC2015-300, and OC2016-104; and

c) the provisions of this directive do not apply to rates to be established for these customers following April 1, 2017 or an earlier date as ordered by the PUB.

Clerk of the Executive Council

Executive Council

Newfoundland and Labrador

Certified to be a true copy of a Minute of a Meeting of the Committee of the Executive Council of Newfoundland and Labrador approved by His Honour the Lieutenant-Governor on

2016/06/30

OC2016-105

MC2016-0200. XX2016-086.

Under the authority of subsection 39(3) of the Hydro Corporation Act, 2007, the Lieutenant-Governor in Council is pleased to direct the Board of Directors of Newfoundland and Labrador Hydro-Electric Corporation to absorb the estimated budgetary allocation of $200,000 to cover the cost of the 2006 General Rate Application Deferral Rate Subsidy to December 31, 2016, or an earlier date as ordered by the PUB.

Executive Council

Executive
Council

Newfoundland
and Labrador

Certified to be a true copy of a Minute of a Meeting of the Committee of the Executive Council of Newfoundland and Labrador approved by His Honour the Lieutenant-Governor on

2016/06/30

OC2016-104

MC2016-0200. XX2016-086.

Under the authority of section 5.1 of the Electrical Control Power Act, 1994, the Lieutenant-Governor in Council is pleased to direct the Board of Commissioners of Public Utilities (PUB) to adopt a policy for Non-Government Rural Isolated Domestic and General Service customers of Newfoundland and Labrador Hydro that:

a) any changes in rates charged to these customers shall be equal to changes approved for equivalent rate classes of Newfoundland Power customers on or after January 1, 2007;

b) notwithstanding (a), commencing January 1, 2017 or an earlier date as ordered by the PUB, rates for these customers shall be those that would have come into effect but for this directive and directives OC2006-512, OC2008-365, OC2009-390, OC2010-322, OC2012-329, OC2014-372, and OC2015-300; and

c) the provisions of this directive do not apply to rates to be established for these customers following January 1, 2017 or an earlier date as ordered by the PUB.

Clerk of the Executive Council

Executive Council

Newfoundland and Labrador

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2015/12/24

OC2015-300

MC2015-0500; XX2015-137.

Under the authority of section 5.1 of the Electrical Control Power Act, 1994, the Lieutenant-Governor in Council is pleased to direct the Board of Commissioners of Public Utilities (PUB) to adopt a policy for Non-Government Rural Isolated Domestic and General Service customers of Newfoundland and Labrador Hydro that:

a) any changes in rates charged to these customers shall be equal to changes approved for equivalent rate classes of Newfoundland Power customers on or after January 1, 2007;

b) notwithstanding (a), commencing July 1, 2016 or an earlier date as ordered by the PUB, rates for these customers shall be those that would have come into effect but for this directive and directives OC2006-512, OC2008-365, OC2009-390, OC2010-322, OC2012-329, and OC2014-372; and

c) the provisions of this directive do not apply to rates to be established for these customers following July 1, 2016 or an earlier date as ordered by the PUB;

Clerk of the Executive Council

Executive Council

Newfoundland and Labrador

Certified to be a true copy of a Minute of a Meeting of the Committee of the Executive Council of Newfoundland and Labrador approved by His Honour the Lieutenant-Governor on

2014/12/23

OC2014-372

MC2014-0585. XX2014-140.

Under the authority of section 5.1 of the Electrical Control Power Act, 1994, the Lieutenant Governor in Council is pleased to direct the Board of Commissioners of Public Utilities to adopt a policy for Non-Government Rural Isolated Domestic and General Service customers of Newfoundland and Labrador Hydro that:

i) any changes in rates charged to these customers shall be equal to changes approved for equivalent rate classes of Newfoundland Power customers on or after January 1, 2007;

ii) notwithstanding (i), commencing January 1, 2016 rates for these customers shall be those that would have come into effect but for this directive and directives OC2006-512, OC2008-365, OC2009-390, OC2010-322 and OC2012-329; and

iii) the provisions of this directive do not apply to rates to be established for these customers following December 31, 2015.

Clerk of the Executive Council

Executive
Council

Newfoundland
and Labrador

Certified to be a true copy of a Minute of a Meeting of the Committee of the Executive Council of Newfoundland and Labrador approved by His Honour the Lieutenant-Governor on

2012/12/28

OC2012-329

MC2012-0522.

Under the authority of section 5.1 of the Electrical Control Power Act, 1994, the Lieutenant Governor in Council is pleased to direct the Board of Commissioners of Public Utilities to adopt a policy for Non-Government Rural Isolated Domestic and General Service customers of Newfoundland and Labrador Hydro that:

i) any changes in rates charged to these customers shall be equal to changes approved for equivalent rate classes of Newfoundland Power customers on or after January 1, 2007;

ii) notwithstanding (i), commencing January 1, 2015 rates for these customers shall be those that would have come into effect but for this directive and directives OC2006-512 and OC2008-365 and OC2009-390 and OC2010-322; and

iii) the provisions of this directive do not apply to rates to be established for these customers following the earlier of an Order of the Board of Commissioners of Public Utilities with respect to a subsequent general rate application of Newfoundland and Labrador Hydro or an application for interim rates for all customers, or December 31, 2014.

Deputy Clerk of the Executive Council

Executive Council

Newfoundland and Labrador

Certified to be a true copy of a Minute of a Meeting of the Committee of the Executive Council of Newfoundland and Labrador approved by His Honour the Lieutenant-Governor on

2010/12/21

OC2010-322

MC2010-0835. NR2010-037. EPC2010-094.

Under the authority of section 5.1 of the Electrical Control Power Act, 1994, the Lieutenant Governor in Council hereby directs the Board of Commissioners of Public Utilities to adopt a policy for Non-Government Rural Isolated Domestic and General Service customers of Newfoundland and Labrador Hydro that:

i) any changes in rates charged to these customers shall be equal to changes approved for equivalent rate classes of Newfoundland Power customers on or after January 1, 2007;

ii) notwithstanding (i), commencing January 1, 2013 rates for these customer shall be those that would have come into effect but for this directive and directives OC2006-512 and OC2008-365 and OC2009-390; and

iii) the provisions of this directive do not apply to rates to be established for these customers following the earlier of an Order of the Board of Commissioners of Public Utilities with respect to a subsequent general rate application of Newfoundland and Labrador Hydro or an application for interim rates for all customers, or December 31, 2012.

Clerk of the Executive Council

Executive Council

Newfoundland and Labrador

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2009/12/24

OC2009-390

MC2009-0639.

Under the authority of section 5.1 of the Electrical Control Power Act, 1994, the Lieutenant Governor in Council directs the Board of Commissioners of Public Utilities to adopt a policy for Non-Government Rural Isolated Domestic and General Service Customers of Newfoundland and Labrador Hydro that:

(i) any changes in rates charged to these customers shall be equal to changes approved for equivalent rate classes of Newfoundland Power customers on or after January 1, 2007;

(ii) notwithstanding (i), commencing January 1, 2011 rates for these customers shall be those that would have come into effect but for this directive and directives OC2006-512 and OC2008-365; and

(iii) the provisions of this directive do not apply to rates to be established for these customers following the earlier of either an Order of the Board of Commissioners of Public Utilities with respect to a subsequent general rate application of Newfoundland and Labrador Hydro, or December 31, 2010.

Clerk of the Executive Council

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Newfoundland
and Labrador

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2009/01/02

OC2008-365

MC2008-0652. NR2008-055.

Under the authority of section 5.1 of the Electrical Control Power Act, 1994, the Lieutenant Governor in Council hereby directs the Board of Commissioners of Public Utilities to adopt a policy for Non-Government Rural Isolated Domestic and General Service customers of Newfoundland and Labrador Hydro that:

i) any change in rates charged to these customers shall be equal to the change approved for equivalent rate classes of Newfoundland Power customers on or after January 1, 2007;

ii) notwithstanding (i), commencing January 1, 2010 rates for these customers shall be those that would have come into effect but for this directive and directive OC2006-512;

iii) the provisions of this direction do not apply to rates to be established for these customers following a subsequent general rate application of Newfoundland and Labrador Hydro.

Clerk of the Executive Council

Executive Council

Newfoundland and Labrador

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2007/07/05

OC2007-304

MC2007-0454. NR2007-021; TBM2007-218.

Under the authority of section 5.1 of the Electric Power Control Act, 1994, the Lieutenant Governor in Council is pleased to direct the Board of Commissioners of Public Utilities, upon application from Newfoundland and Labrador Hydro, to adopt a policy resulting in the implementation of an energy rebate to offset the costs of the monthly basic customer charge and lifeline block (or equivalent) of energy consumption for Newfoundland and Labrador Hydro's Labrador rural isolated diesel and Labrador Straits/L'Anse-au-Loup area residential electricity customers. This policy will bring these customers' costs for the basic customer charge and the lifeline energy block equivalent to that paid by Newfoundland and Labrador Hydro's residential Happy Valley – Goose Bay Labrador Interconnected electricity customers. None of the rebate or other associated costs shall be recovered through rates or charges to electricity customers. The Board of Commissioners of Public Utilities will take the necessary steps to ensure implementation of this rebate to impact customer electricity bills issued on and after July 1, 2007.

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2006/12/06

OC2006-512

MC2006-0581. XX2006-091.

Under the authority of section 5.1 of the Electrical Control Power Act, 1994, the Lieutenant Governor in Council hereby directs the Board of Commissioners of Public Utilities to adopt a policy for Non-Government Rural Isolated Domestic and General Service customers of Newfoundland and Labrador Hydro that:

i) any change in rates charged to these customers shall be equal to the change approved for equivalent rate classes of Newfoundland Power customers on or after January 1, 2007;

ii) notwithstanding (i), commencing January 1, 2008 rate changes for these customers shall be made in accordance with a two-year plan to be filed with the Board by Newfoundland and Labrador Hydro during 2007 so that by January 1, 2009, rates for these customers shall be those that would have come into effect but for this directive.

iii) The provisions of this direction do not apply to rates to be established for these customers following a subsequent general rate application of Newfoundland and Labrador Hydro.

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Executive Council

Newfoundland and Labrador

Certified to be a true copy of a Minute of a Meeting of the Committee of the Executive Council of Newfoundland and Labrador approved by His Honour the Lieutenant Governor on

2003/07/08

OC2003-347

MC2003-0226. ME2003-008; TBM2003-149.

Under the authority of section 5.1 of the Electric Power Control Act, 1994, the Lieutenant Governor in Council hereby directs the Board of Commissioners of Public Utilities to:

i) continue to charge fish plants in diesel-serviced communities and with demand of 30 kilowatts or more the Island interconnected electricity rate;

ii) continue to charge churches and community halls in diesel-serviced communities the diesel domestic electricity rate and to continue to charge to the various customer groups in diesel communities, rates calculated on the same basis as existing practice;

iii) continue the allocation of a monthly block of energy for domestic residential customers in diesel-serviced communities, and that such service be priced at Newfoundland Power's interconnected domestic electricity rate. The monthly lifeline block should be satisfactory to provide for the necessary monthly household requirements, excluding space heating. Subsequent monthly energy blocks for these customers to be charged incrementally higher rates as historically structured and determined. Such rates would increase as per any percentage increase to Island interconnected rates for Newfoundland Power customers;

iv) proceed, as the Public Utilities Board determines appropriate, with implementation of a demand/energy rate structure for general service (commercial) customers in diesel communities, where such customers currently pay the diesel general service electricity rate. While the rate changes can include elimination of the lifeline block for these general service customers, the new rates should target the current cost recovery level for these customers;

v) continue to fund the financial deficit resulting from providing electrical service to Newfoundland and Labrador Hydro's rural customers through the electricity rates charged to Newfoundland and Labrador Hydro's other electricity customers, including its Labrador interconnected retail customers and Newfoundland Power, but excluding the industrial

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customers;

vi) ensure Newfoundland and Labrador Hydro's communication to its retail customers, regarding rate changes and customer impacts, is carried out in a timely and suitable manner and,

vii) continue to charge the preferential electricity rates historically charged to provincial government facilities, including schools, health facilities and government agencies, in rural isolated diesel serviced communities and the Burgeo school and library.

Clerk of the Executive Council

(Forwarded August 14, 2003 - To replace OC2003-347 previously forwarded)

Minute of the Committee of Council of Newfoundland approved by

His Honour the Lieutenant-Governor on

31st. March, 1980

NEWFOUNDLAND

299-'80

M.E. 68-'79 & R.P.C. 4-'80. Ordered that the Board of Directors of Newfoundland and Labrador Hydro ("Hydro") be encouraged to proceed on a priority basis with discussions aimed at making the system for the generation, transmission and distribution of electricity in the Province more effective and efficient.

Such discussions to be with the various utilities on the Island and in Labrador and to cover the following areas:

(i) Hydro to continue as the utility responsible for the generation and transmission of electricity in the Province;

(ii) Hydro, in conjunction with the Lower Churchill Development Corporation, to be responsible for the development of Labrador power;

(iii) Newfoundland Light and Power Co. Limited ("NLP") to become the main distributor of electricity to domestic customers on the Island portion of the Province, except in those rural areas where it is more appropriate for P.D.D. to manage distribution;

(iv) Hydro to enter into negotiations with the Iron Ore Company of Canada and Wabush Mines Limited with a view to acquiring their electrical distribution systems and responding to their proposal for acquisition by Hydro, to discuss the recommended rate structure and the method of proceeding to Committee of Council for consideration of the proposal.

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(v) Hydro and the other utilities to review a rationalization of generation and transmission line ownerships to maximize the efficient utilization of operating staffs.

Ordered further that, with regard to the Report of the Board of Commissioners of Public Utilities on the Rates and Operations of the Board of Trustees of the Power Distribution District of Newfoundland and Labrador (P.D.D.), the following action be taken in response to the P.U.B. recommendations as indicated.

P.U.B. Recommendation	Action
(1) PDD continue to charge diesel domestic customers for the first 500 kWh consumed in any month at the rate approved from time to time for NLP domestic customers.	Approved. Such action being in accordance with the provisions of Orders-in-Council 184-'74 and 171-'75.
(2) 5.65¢ per month per KWh be charged to diesel domestic customers for consumption of electricity from 501 kWh to 700 kWh and that a rate of 11.4¢ per month per kWh be charged for kWh in excess of 700 kWh.	The present rates in effect remain unchanged at this time. Escalation to be in accordance with the provisions of Order-in-Council 171-'75 whereby rates charged by P.D.D. for domestic customers served by diesel systems that consume over 500 kWh per month, be increased from time to time by an amount equal to the average rate of increase approved by the P.U.B. for Newfoundland Light and Power Co. Limited.

	P.U.B. Recommendation	Action
(3)	The present rate of 11.4¢ per kWh be continued for diesel general service customers.	Approved. Future escalation to be in accordance with the provisions of Order-in-Council 171-'75.
(4)	PDD install demand meters for general service customers with a demand in excess of 10 kilowatts and that a demand charge then be implemented.	Recommendation to be implemented with the exception of churches, schools and organizational halls in the diesel areas.
(5)	PDD continue to charge Island inter-connected customers NLP rates.	Approved. Such action being in accordance with the provisions of Orders-in-Council 184-'74 and 171-'75.
(6)	The Labrador inter-connected area should be considered as a distinct region with its own cost of service and rates.	The present arrangements remain unchanged until such time as Hydro submits recommendations with respect to the takeover of the electrical distribution systems in Labrador City and Wabush.
(7)	Rates to be charged the Labrador interconnected area should return as much revenue to PDD as if the rates were the same as rates charged by NLP until such time as sales volume has increased to provide revenue sufficient to equal the cost of service.	The present arrangements remain unchanged until such time as Hydro submits recommendations with respect to the takeover of the electrical distribution syste in Labrador City and Wabush.
(8)	Gull Island Power Company Limited be required to pay a demand charge to Hydro for the 6 MW of power that must be held so that power will be available when construction of the Gull Island project commences.	Recommendation should not be implemented and this would be in accordance with the findings of the Public Utilities Board in the recent Hydro reference.

P.U.B. Recommendation	Action
(9) A study be commenced to consider the feasibility of joining Labrador City and Wabush (excluding the two mining companies) Happy Valley and Goose Bay.	Recommendation to be addressed by Hydro in discussions aimed at making the generation, transmission and distribution of electricity in the Province more effective and efficient.
(10) Fish plants with a load of 30 KW or more in the diesel areas and Canada Bay Lumber Company Ltd. continue to be charged the interconnected rate as long as Government believes it is necessary to provide subsidization in this matter.	Approved. Such recommendation being in accordance with the provisions of Order-in-Council 184-'74. Refer also to "fish plants" 03/25/98
(11) Churches, schools and organizational halls in the diesel areas continue to be charged the diesel domestic rate until PDD installs demand meters.	Recommendation to be implemented in accordance with the action outlined under Recommendation (4).
(12) Special rates charged to the schools at Burgeo and the Burgeo and Ramea libraries be terminated and replaced with the diesel domestic rate until PDD installs demand meters.	In view of the anticipated financial hardship to the parties affected, no action should be taken to implement this recommendation but the existing special rates should be escalated in accordance with Order-in-Council 171-'75.
(13) PDD assist the Cabinet Secretariat in formulating Government's economic policy so that capital requirements of PDD are systematically and effectively taken due account of in the Province's overall capital budget.	The Honourable the Minister of Mines and Energy to submit to Committee of Council for consideration, recommendations for the provision of capital funding for P.D.D. through "Hydro".

P.U.B. Recommendation		Action
(14)	The Minister of Mines and Energy appoint a Committee to undertake a study to determine the most effective method of providing customers of PDD with a reliable supply of electricity at the lowest possible cost to the Provincial economy. Members of the Committee should include representatives of PDD, Hydro and NLP as well as Provincial Government planning advisors. This Committee should also consider the feasibility of joining Labrador City, Wabush, Happy Valley and Goose Bay into one inter-connected area.	The Hydro Board to review an overall rationalization of the electrical energy system in Labrador and on the Island and until such review has been completed, (i) the existing relationship between Hydro and PDD to remain unchanged with the exception that Hydro will assume the capital contract responsibilities of PDD and (ii) Hydro will consider the feasibility of PDD taking over a joint interconnected area comprising Labrador City, Wabush, Happy Valley and Goose Bay.
(15)	Section 3(c) of the Electrical Power Control Act be repealed.	Approved.
(16)	Section 3(d)(ii) of the Electrical Power Control Act be amended by adding at the end of the Section the words "taking into account any subsidy which is or may be payable by the Crown".	Approved.
(17)	Replace the words "from among" by the word "for" in Section 10 (2) of the Electrical Power Control Act.	Approved.
(18)	Section 13(1)(b) of the Electrical Power Control Act be amended by adding after the word "approve" the words "rates recommended by the Public Utilities Board or".	Approved.

	P.U.B. Recommendation	Action
(19)	Section 11 of the Rural Electrification Act be amended by deleting the word "Lieutenent-Governor in Council" where they occur and substituting therefor the word "Minister".	P.U.B. recommendation not be implemented.
(20)	PDD commence a program to inform the public about the function and operation of PDD, the cost of providing their electricity, the subsidy paid, and the need for conservation.	Approved, subject to financial limitations and in conjunction with Government's program stressing conservation.
(21)	The request for a new service voltage "480 volt 3 phase 3 or 4 wire" should be denied until the services are supplied by NLP.	Approved.
(22)	The request for a new class of customer "seasonal general service 0 - 100 KW" with billing spread over the period during which power is taken be denied.	Approved.
(23)	PDD continue to follow the policy of NLP with regard to contributions in aid of line extensions.	Approved.
(24)	PDD maintain depreciation accounting records for all plant whether it is provided by a capital grant or through loans.	Approved.

SHOULD TAKE PLACE ON BILL

	P.U.B. Recommendation	Action
(25)	Order-in-Council 1389-'72 which limits the extension of electricity to communities which have a customer density of 15 or more be reviewed to take account of the electric load as well as customers.	Each request for extension of electricity to communities be considered by Committee of Council on its own merits. P.D.D. to be issued specific instructions in such instances.
(26)	No PDD distribution systems should be transferred to another utility until Government decides if PDD's function is to be restricted to serving non-compensatory areas.	Each diesel system to be carefully reviewed by P.D.D. before inter-connection to the bulk power system in the ongoing program of interconnection. Such review to ensure that, where a small diesel system is deep within the service area of another utility, consideration be given to a transfer and the transfer affected if advantageous to Government to do so.

Deputy Clerk of the Executive Council.

Select Hydro Generation Facility Operation Discussion

In the case of Exploits generation,[1] these assets play a material role in meeting both demand and energy requirements for the Island Interconnected System. The Exploits generating assets represent 8.5% of Hydro's firm hydraulic generating capability and 12% of Hydro's installed hydroelectric generating capability. Further, in a typical year, Exploits is expected to produce approximately 14% of Hydro's hydraulically-produced energy. By comparison, the combined output of Hydro's smaller hydro facilities represent less than 1% of Hydro's installed hydroelectric generating capacity and provide less than 0.1% of Hydro's hydraulically-produced energy.

Unique Operating Characteristics

In other jurisdictions, and in the case of Newfoundland Power's hydraulic generating facilities, small hydro resources are generally distributed throughout a service territory. In Newfoundland Power's case, its 23 generating facilities are dispersed throughout its service territory, with a maximum plant capability of 14.8 MW at its Rattling Brook Facility. In this type of distributed operation, generating facilities are fairly geographically isolated from one another, and it becomes increasingly unlikely that a single event can significantly impact the availability of generation.

By contrast, the entirety of the Exploits facilities (i.e., Grand Falls and Bishop's Falls facilities) are located on the Exploits River, and a single event on the river can significantly impact production at both facilities. The fact that the facilities are both located on the Exploits River, with production tied to the amount of water in the river at the time, further supports Hydro's dispatch considerations being based on the plant output. A number of aspects of the operation, including releases at Millertown Dam, unit generation, fish compensation, monitoring of remote facilities, and stakeholder

[1] Exploits assets are owned by the Government of Newfoundland and Labrador with an operating license extended to Nalcor Energy and power purchase agreement between Nalcor and Hydro. Hydro operates and maintains the Exploits facilities on behalf of Nalcor.

engagement and public awareness must be carefully managed to manage reliability risk and safely operate the reservoir, all while ensuring efficient production.

For example, during spring runoff, generally only 30-40% of the snowpack in the watershed is required to fill the Red Indian Lake reservoir. The reservoir is typically full for up to a month at the end of the runoff period, while local inflows from the watershed downstream of the reservoir are capable of providing sufficient resources for sustained high plant production. This is a precarious time as a single significant precipitation event could result in a massive volume of water to manage into an already full reservoir, with 25mm contributing approximately 60 cm of increase water in the reservoir. To manage this risk appropriately requires daily communication, on-site supervision, and communication with stakeholders.

Hydro also notes that in other jurisdictions, and in the case of Newfoundland Power's hydraulic generating facilities, small hydro resources are generally considered to be energy producers, which results in lower cost energy for customers. As stated in Newfoundland Power's Resource Assessment, Newfoundland Power's hydraulic generating facilities are primarily used to provide efficient system energy.

> "The day-to-day operation of the majority of Newfoundland Power's small hydro generation facilities is automated to achieve the most efficient generation of electricity. This is enabled through the water management systems installed in each facility, which automatically determine the output of generating units. This automated decision-making is based on a variety of factors, including the amount of water available in the reservoir and the most efficient output levels achievable for a particular unit."[2]

It is Hydro's experience that these units provide Island Interconnected System customers with reliable, cost-effective energy, though from a capacity perspective these units are limited in the amount and duration of capacity they can provide to the system.

[2] PUB-NP-094, Attachment A, p. 7

This is markedly different from the Exploits and Star Lake facilities, for example, which can be reliably counted upon to produce *at minimum* 81 MW (63 MW and 18 MW respectively), and sustain higher levels of production for the majority of the winter operating season, if required.

Another notable difference between the Exploits facilities and other small generation on the Island Interconnected System is the size of the watershed and the traverse time for energy stored in the Red Indian Lake reservoir. Hydro considers Exploits to be a hybrid facility. Daily production is considered a run-of-river operation that is highly influenced by uncontrollable local inflows from the lower portion of the vast watershed. This production is tailored, however, by controlled upstream releases at Millertown Dam from the reservoir provided at Red Indian Lake. This aspect of the operation must be carefully managed in consideration of forecast precipitation, given the traverse time from Red Indian Lake to the powerhouse in Grand Falls. The management of the watershed requires constant attention as high levels of discharge at Millertown Dam combined with high local inflows from precipitation can result in spilled energy and reduced water to support capacity, while low levels of discharge at Millertown Dam combined with low local inflows from precipitation can result in inefficient operation and increased risk of spill for Red Indian Lake. Supply must also be carefully managed to ensure that sufficient storage remains in Red Indian Lake to provide both capacity and energy through the winter season. Inappropriate management of these risks can contribute to dam safety concerns and flooding concerns for stakeholders both located along the reservoir, as well as along the river downstream of Millertown Dam.

The management of the watershed is also critical from a reliability and capacity contribution standpoint. During the winter operating season, continuous on-site management of the facilities is critical. Significant frazil ice is generated on the river every year which can impact production at the Grand Falls facility. River plugging upstream due to ice has caused the river flow to drop by 50%. Without a swift reaction by on-site operators, the ice cover at the intake could collapse and potential restrictions for production could result for the remainder of the operating season. If such an event were to happen during a period of sustained high demand, this could result in the dispatch of more costly generation, or contribute to a shortfall of generation, and increase the likelihood of an inability to supply customers, by decreasing the amount of generation available on the system. While such an event cannot be entirely prevented, Hydro's hypervigilance in managing river conditions through its staffing model, including adjusting upstream discharge and unit generation, significantly reduces the risk posed to the system.

Capacity Management

Hydro is managing the province's electrical system capacity, in the short, near and long-term. The larger facilities being considered in this process play an important role in planning and operations of the system and will continue to do so following the interconnection of the Muskrat Falls assets.

While some of the individual Exploits generating units may be considered small hydro from a classification point of view and according to some definitions, all the units together at Exploits generation are viewed, maintained and dispatched as a whole facility resource. This means that in both short-term and long-term planning assessments, Hydro considers the combined output of the Bishops Falls and Grand Falls facilities to provide a plant contribution, equal to the firm or available capacity as appropriate with an associated forced outage rate, as follows:

- The firm capability of the plant (63.0 MW) is used in long-term planning assessments for winter peak;
- The forecast plant capability based on available water is used in day-ahead assessments; and
- The real-time production is used by the Newfoundland and Labrador System Operator ("NLSO") to manage the system from a reliability perspective (i.e., the

available generation is used in assessments of available, regulating, and spinning reserve.)

Transfer of small hydro operations, where the facilities are critical to provincial capacity management (i.e., Exploits, Star Lake, Paradise River), will introduce complication on asset decision-making; daily, near-term and long-term planning; as well as potentially reduce visibility on an increasing proportion of on-island generation.[3]

Hydro believes should consolidation occur it will result in new and frequent intercompany collaboration regarding capacity management on the system. Introduction of such collaboration will result in inefficiency at a time when the province is seeking efficiency in system management. Operating the facilities with a view to maintaining overall firm capacity is of critical importance to ensure the facilities can be relied on in the future for the manner in which Hydro currently operates them. Operating as such mitigates the potential for future additional capacity on the system, which otherwise would exacerbate the rate mitigation issue.

Further, given its overall capacity and criticality to the system, it is imperative that Hydro continue to have direct line of site on the capacity (near and long-term) and the ability to direct the operational control of those facilities.

If consolidation outside of Hydro was to occur, a clear and precise operating regime that respected the risks that Hydro has been managing would be required to protect the capacity requirements for the provincial system.

Capital and Maintenance Planning

The Exploits assets are also a critical component of Hydro's annual maintenance planning. The output of the Exploits generating assets are included in Hydro available

[3] The transfer of contemplated assets will increase the amount of on-island generation not under Hydro's direct control from 16% to 22%.

capacity when scheduling other generating assets to be out of service for capital and preventative maintenance. This is not the case with the hydro facilities currently owned and managed by Newfoundland Power. Newfoundland Power would be required to become part of the outage management planning process and would have to adjust their plans accordingly, in advance and when other issues occur on the system that inevitably require changes to other already planned and approved generation outages, which includes outages to Exploits, Star Lake and Paradise River.

The availability of 63 MW firm capacity enables earlier shutting of Holyrood units from a demand perspective in the near-term and, in the long-term, enables appropriate maintenance outages to other critical units as required, including during periods of high customer demand. For example, in 2019 Hydro's annual maintenance program began the week of March 17, 2019. Had Exploits generating assets not been available at that time with the firm capacity contribution, the start of the maintenance season could have been delayed by four to six weeks, depending on customer demand requirements. Given the extensive work required in 2019 for Bay d'Espoir Unit 7 (15 week outage required) and Hinds Lake (14 week outage required), such a delay would have greatly impacted Hydro's ability to successfully execute its maintenance program and would have also likely resulted in increased operating costs to accommodate overtime, Holyrood generation and/or standby generation that would be required. Newfoundland Power would have to work with Hydro on integration of their plans into Hydro's overall generation outage plans.