



InterGroup

C O N S U L T A N T S

Newfoundland and Labrador
Board of Commissioners of Public Utilities

Muskrat Falls Project Rate Mitigation Options and Impacts Review

Summary of Submission by Patrick Bowman
dated Sept 20, 2019 on behalf of the Island Industrial Customers
("IIC Group")

October 17, 2019



Submission/recommendations prepared by Patrick Bowman.

Retained by Island Industrial Customer Group (IIC Group).

IIC Group represents about 10% of firm load on the Island. Approximately \$43 million in total allocated costs (based on 2019 test year).

The concerns of the IIC Group reflect:

- Large capital investments in the province
- Long-term perspective essential to such investments, and
- Continued exposure to power purchases from Hydro.

Concerned with long-term stability and predictability of rates, fair allocation of costs, flexible power options, reliability.



Recent estimates are that, without mitigation, industrial customers on the IIS could face extreme rate impacts. Likely to impair the competitiveness and profitability of the operating companies.

The average rate would rise from 5.22 cents/kW.h in 2019, to 12.44 cents/kW.h after the MFP is fully in service, an increase of 7.22 cents/kW.h or 138%.



Financing options were eliminated from review scope.

Remaining reference questions of particular interest to IIS industrial customers focus primarily on five different areas:

1) Foregoing Government Benefits and Returns. Liberty's assessment of lower costs via a reduced requirement, including ROE and maintain specified equity targets, as well as opportunities for Government to utilize other sources of energy-sector benefits for rate mitigation (e.g., Churchill Falls dividends and water rentals).

2) Increased Cost Efficiency: Liberty's assessment of efficiencies that Hydro and/or NP could achieve to lower overall costs.

3) Depreciation: Liberty's assessment that there is little upside benefit in alternative approaches to depreciation.

4) Benefits from Added Electrification along with Peak Load Reductions: Synapse's conclusions (e.g., Major conclusions #2, #4, #5) that increasing loads while mitigating demand at a few critical periods during the year can have a beneficial impact on rates.

5) CDM potential for Bill Savings, only at the Cost of Higher Rates: Synapse conclusions supporting a potential increase in rates for all customers so that subject customers can benefit from CDM.



Muskrat Falls Impacts

What is Mitigation?

Reference Task - “Options to reduce the impact of MFP costs on electricity rates up to year 2030” (Reference letter Sept 5/18)

Government April 2019 Plan – idea of scope of mitigation:

Managing Muskrat Falls		
	For the Year 2021	Amount Remaining
Funding Requirement (millions) ¹	725.9	
NL Hydro Net Operations Savings - \$178.2		
1 Holyrood net fuel savings and inflation impacts	-178.2	547.7
NL Investment - \$249.1 million:		
2 NL Hydro surplus energy	-49.1	498.6
3 Nalcor dividend	-200.0	298.6
Reducing Expenses - \$39.4 million:		
4 Organizational change	-20.0	278.6
5 Muskrat Falls operations and maintenance	-12.0	266.6
6 Isolated diesel systems	-7.4	259.2
Raising Revenue - \$59.2 million:		
7 Fuel Switching / Electrification	-15.0	244.2
8 Add value to energy surplus	-35.5	208.7
9 Holyrood Performance Credits (carbon credits)	-8.7	200.0
Financial Management - \$200 million:		
10 Collaborate with Government of Canada	-200.0	0.0
Cost Impact on You: \$0		
Total Provincial Sources: \$525.9 M		Federal Involvement: Addressing \$200 M Gap

\$249.1 million foregone provincial benefits

Not from subsidies – lowering of costs or “profits” (subsidies may end up being required)

Also \$35.5 million from attracting new industrial customers



1. Foregoing Government Benefits and Returns

Original MFP project commercial structure (unregulated, dividend assumptions) included a premise that the provincial government would secure material returns or other benefits.

Some aspects of these benefits, such as taxes earned from construction employment, will have already occurred by the time of the project in-service.

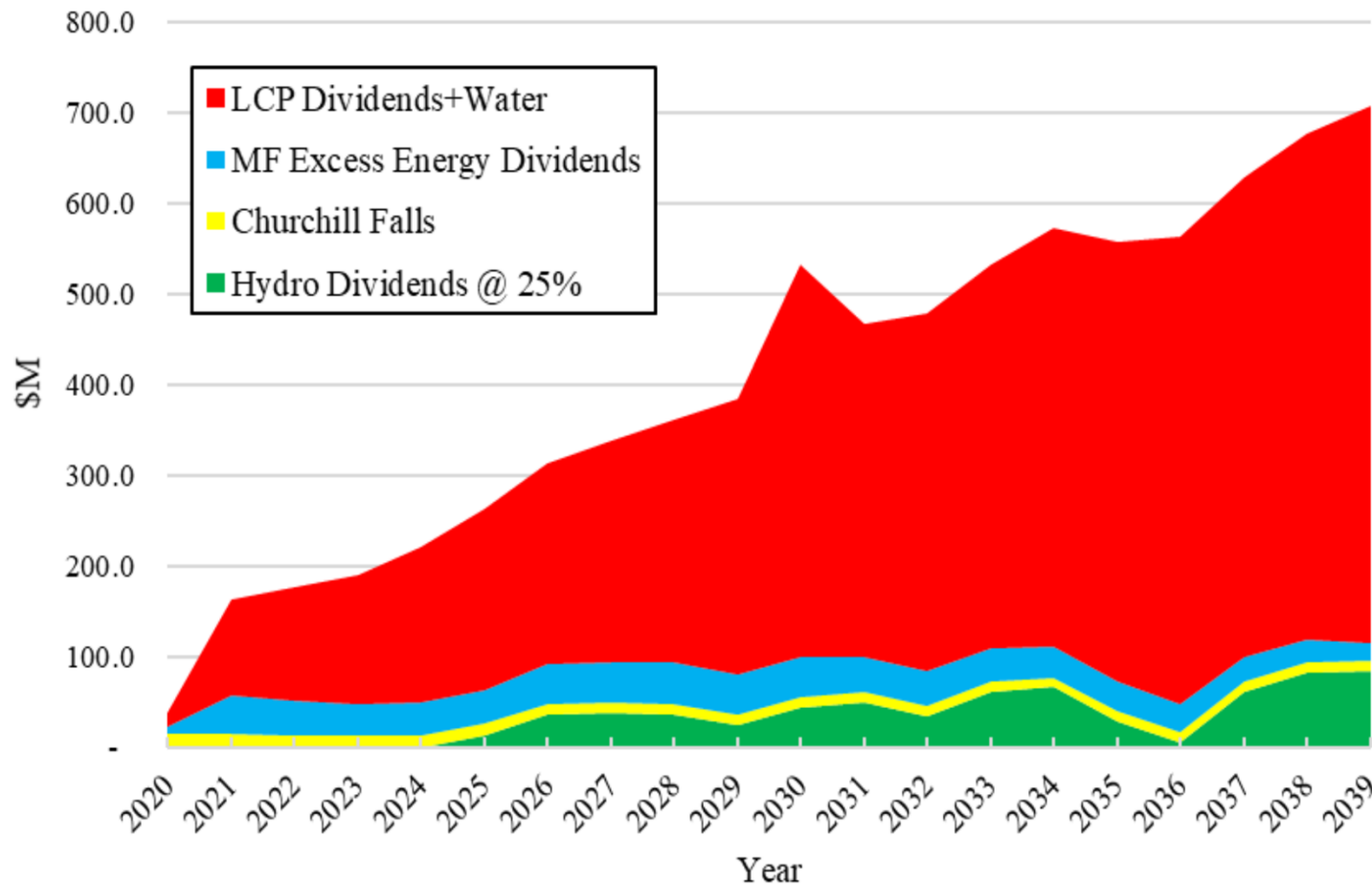
Project payments to Government include ongoing charges or fees (e.g., water rentals), and dividends from the MFP components, as well as revenues from export of power.

The Liberty assessment of potential mitigation benefits from foregone Government benefits is a substantial and growing amount.



Foregoing Government Benefits and Returns

Foregoing Government Benefits and Returns



Recommendation 1: Dividends and water rentals from LCP and dividends from MF Excess Energy should be targeted to rate mitigation to help address the unacceptable impacts from the MFP coming into service.



Foregoing Government Benefits and Returns

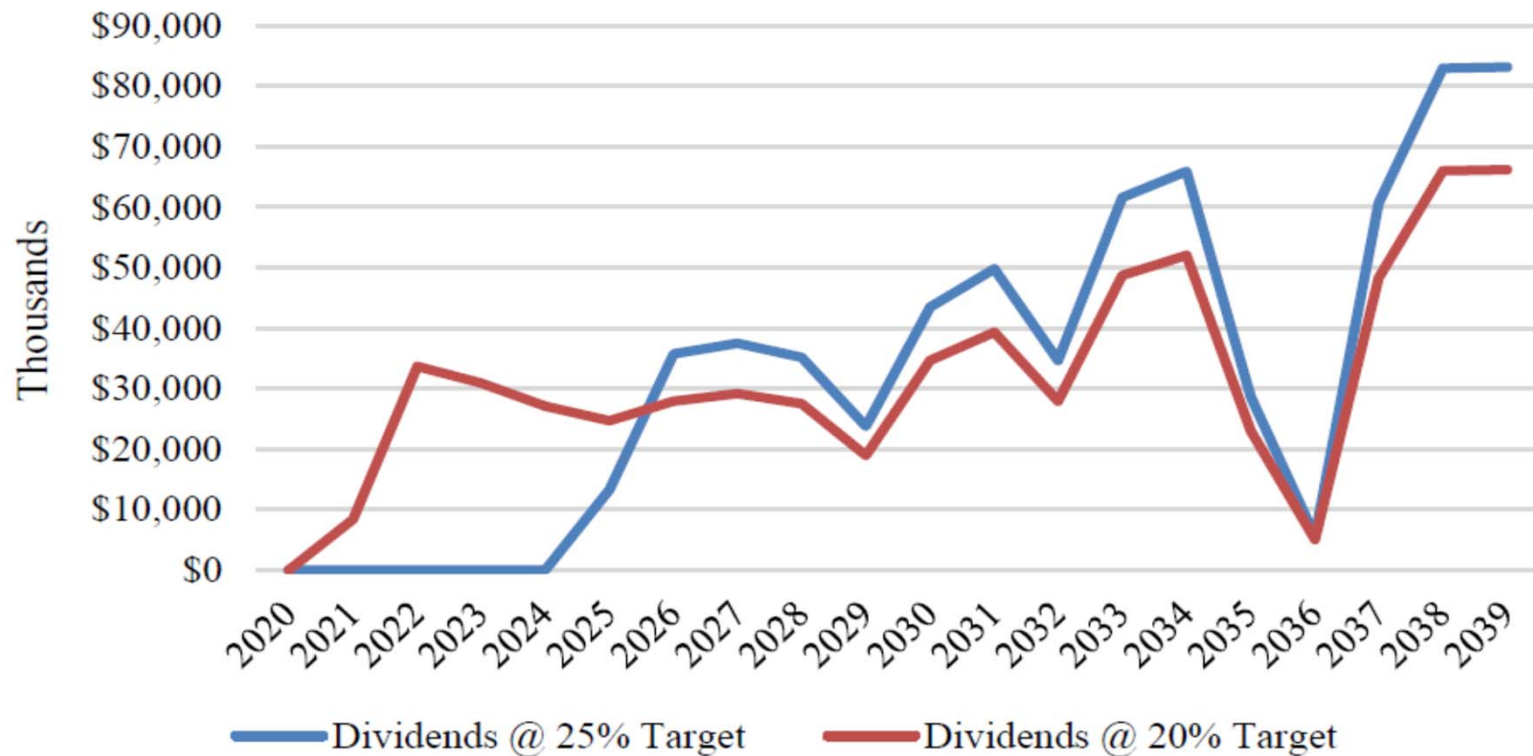
Hydro Dividends - Equity Target

With a 25 per cent equity target (blue line) – there are no dividends expected from regulated utility until after 2024

With a 20 per cent target (red line), dividends are available starting 2021.

Where dividends are noted, there is the opportunity to reduce rates (and returns built into rates) to allow Hydro's regulated costs to be lower.

Only a timing effect – but timing is what matters in mitigation.





Foregoing Government Benefits and Returns

Equity Target

Concerns about Liberty's apparent caution regarding lower equity ratio, as follows:

- Equity at a single point in time is of limited importance
- Self-Supporting status may not be as critical for the province as suggested by Liberty
- Rate increases very important to credit ratings
- Key to reduce costs/returns, rather than subsidies
- Regulatory independence and scope important to credit ratings

The mitigation benefits of a revision to Hydro's equity target cannot be dismissed lightly.

Failure to adjust Hydro's equity target when facing severe rate shock can adversely impact loads and competitiveness, which may undermine credit ratings by a greater degree than any short-term downward adjustment to the target.



Recommendation 2: Absent direct and compelling evidence of difficulties accessing capital markets (for NLH or Government), Hydro's equity target should be revised to 20% or lower. The resulting benefit in the form of dividends (or potentially a lowered ROE target) should be part of rate mitigation to customers.

Recommendation 3: In support of evidence of self-sufficiency and regulatory independence, the Board should recommend a broadening of the scope of regulation, including certain currently unregulated aspects of the Nalcor operations such as LCP and NEM.



2. Increased Cost Efficiency

Liberty completed comprehensive assessment of potential cost efficiencies

On potential asset transfers, Liberty highlighted that NP has higher carrying costs for capital investments (including income tax).

- Any asset transfers must yield operational or efficiency benefits to outweigh this cost of capital disadvantage.
- Liberty concluded this was unlikely.
- As a result, Liberty did not recommend asset transfers or transfers of operating responsibilities with NP.

Recommendation 4: There does not appear to be material benefits available from NP/NLH asset transfers, and this topic should not be prioritized as a mitigation action.



On capital spending, Liberty suggested need for careful review of \$0.5 billion over 5 years (NLH + NP) in planned spending.

One specific potential concern is any capital spending by NP on their own supplies such as hydro units.

- In the future, the marginal value of energy on the IIS is expected to be low.
- However, the rates charged to NP (reflecting substantial embedded costs) will be much higher.
- NP may be incented to evaluate their own resource options, (such as whether to retire versus life extend their small hydro), based on the wholesale rate rather than the true underlying marginal cost of power on the IIS.

Recommendation 5: To avoid over-investment by NP in assets that do not produce economic output, NP should be directed to evaluate resource planning decisions based on consolidated IIS marginal costs, and not the wholesale rates paid by NP.



For LCP operating costs, Liberty indicated the periods assumed to reach an efficient steady-state operation have been overestimated, and that budgets will likely transition from the new in-service phase to the steady state phase more quickly than presently assumed, aiding O&M costs by up to \$12 million in years 3-5 of the project.

Recommendation 6: NLH should be directed to aggressively pursue operating and integration cost savings in the areas identified by Liberty and report on progress at the next GRA.



3. Depreciation

Liberty indicates limited benefit to reviewing depreciation. For MFP related assets, a review of depreciation for both lives and practices may still be beneficial. However, there are two major limitations guiding the Liberty conclusions:

- First, depreciation is a non-cash effect. Reduced depreciation can lead to lower rates to customers, but this will lead to less cash. In the case of mitigation, so long as the cash being generated is being returned to customers as part of mitigation efforts, adjusting depreciation expense to reduce cash generation will lead to no net mitigation benefit.
- Second, Nalcor-PUB-264 notes that depreciation for accounting purposes is not relevant for MFP costs. MFP depreciation is tied to debt repayment and asset “service life”, fixed at 50 years. Any changes may require agreement of Canada, the Province and other parties.



Do not have perfect clarity if depreciation alternatives, such as compound interest, could be implemented without agreement of parties who are not part of mitigation review.

Also need clarity if reduced cash flows from depreciation changes would be equally offset with lost dividends for mitigation, or whether this can be offset by altered debt repayment requirements.

For this reason, clear recommendations on depreciation alternatives cannot be made. Due to material potential benefits, investigations are merited into non straight-line approaches (such as Manitoba's Bipole HVDC lines).

Recommendation 7: Investigation into the potential for alternative approaches to depreciation (including non-straight-line) and other delayed capital recovery methods should not be terminated. If limits exist in the commercial agreements which prevent achieving mitigation on the basis of revised depreciation approaches, discussions with partners may be necessary to ensure the benefits can form part of the rate mitigation.



Synapse report includes topics related to loads and customer use, as well as maximizing exports.

Primary question – “whether it is more advantageous to Ratepayers to maximize domestic load or maximize exports”

- Bowman submission concludes almost always more advantageous to maximize domestic loads (i.e., except in cases of very heavily discounted domestic rates, or loads that are focused on peak times)

Submission also highlights concerns arise that Synapse did not properly focus on Reference mandate – reduce impacts of MFP costs on electricity rates.



4. Maximising Benefits from Energy Surplus

Competitiveness

Synapse fails to address high priority items for industrials - impacts of rate disruption, usage patterns of industrials, competitiveness factors, and the importance of power rates to factors such as internal competition (whether a particular plant receives capital investment priority within the larger company).

- Understandable – challenging topic.
- However, is key part of April 2019 Government plan

Recommendation 8: The PUB should recommend Government conduct a comprehensive review of industrial competitiveness in regard to both load retention, competitiveness of existing energy-intensive firms, and attraction of new industrial loads, in support of maximizing the value of the MFP surplus.



Maximising Benefits from Energy Surplus

Benefits from Added Electrification

Synapse report is based on scenarios – not precise program and rate designs. However, can produce useful numerical representation of effects of different programs (See Synapse Sept 3 Report, Rev 1., Table 2).

- High electrification is highly beneficial.
- For 2025, adds \$54 million incremental revenue to Hydro (\$65 in domestic sales, less \$13 million in lost exports)
- Brings \$20 million in costs (\$3 million for programs and \$17 million for additional peak capacity)
- Net benefit is \$33 million, or 0.49 cents/kW.h rate reduction to all. Acts as win/win (participant and non-participant)

Electrification should be a component of both rate mitigation and energy optimization on the IIS. Should be pursued vigorously, so long as the electrification is not excessively driving new demand peaks (e.g., programs should have substantial energy use through as much of the year as possible, not just acute peaks at times that are already demand constrained).



Maximising Benefits from Energy Surplus

Benefits from Added Electrification

Recommendation 9: Electrification should be pursued to yield both overall rate mitigation benefits to all ratepayers, with customer cost savings benefits to participants.

Adding EV TOU and Demand Response to electrification gives low cost opportunity (\$4 million by 2025) to reduce investment in capacity (\$10 million by 2025). Improves rate impact from -0.49 cents/kW.h to -0.6 cents/kW.h.

Recommendation 10: Electrification efforts should be packaged with programs to reduce peak load, including Demand Response and industrial curtailment and capacity assistance programs.



Synapse report shows that CDM brings significant risk, and will underline ability to meet mitigation mandate.

For example: (See Synapse Sept 3 Report, Rev. 1. Table 2).

- Pursuing high CDM reduces sales for NLH by \$55 million by 2025.
- Added exports replace \$14 million of this lost revenue.
- The net adverse impact of the CDM to revenue is \$47 million.
- In order to achieve CDM, an annualized cost of \$9 million is necessary (e.g. programs).
- NLH would save peak capacity investment of \$16 million/year.

The net adverse impact to the utility revenue requirement from CDM is \$40 million (needed rate increase). Table 1 (Rev. 1) shows this requires a 0.549 cent/kW.h increase (over and above MFP impacts).

Individual participating customers will see savings from oil, etc., but only at the expense of other customers. In short CDM on IIS is win/lose.



Given mitigation mandate (lower rates), CDM should be limited to those that pass the well-known Rate Impact Measure (“RIM”) which is an indicate of win-win CDM.

Absent positive RIM test, there are distributive effects that can be challenging or impossible to solve, and can easily lead to cross-subsidization. Also CDM that fails RIM test can be far less cost-effective than it appears (which is case for NLH).



Consider **High CDM** case (See Synapse Sept 3 Report, Rev 1, Table 2). Systemwide effects:

- \$14 million in extra export revenues in 2025, plus \$16 million in capacity savings, total benefit \$30 million.
- Costs \$9 million in programs to achieve this (amortized cost).
- Appears to be good benefit:cost, and \$21 million net benefits.
- But – participants secure \$55 million in bill savings. This is 2.5 times the benefits their actions cause. Where does \$34M come from?
- In order to protect non-participants from a \$34 million rate increase, this cost has to be allocated back to the participants. How easy to do? Also – then participants only save 40% of what they expected – causes issues.

Recommendation 11: NLH and NP should primarily restrict CDM to activities where it can be shown that the programming results in reductions to rates (e.g., a positive RIM test) compared to the rate levels required without the CDM programs.