Office of the Consumer Advocate

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October 21, 2021

Board of Commissions of Public Utilities
120 Torbay Road, P.O. Box 2140
St. John's, NL A1A 5B2

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

Dear Ms. Blundon:

Re: Newfoundland Power's 2022 Capital Budget Application - Submission of the Consumer Advocate

On May 18, 2021, Newfoundland Power ("NP") submitted to the Public Utilities Board (the "Board") its 2022 Capital Budget Application ("NP 2022 CBA").

For many years, the Consumer Advocate has expressed grave concern about increasingly significant levels of capital spending by NP. In 2021, NP capital spending is even more of a concern when, despite rate mitigation, rates will significantly increase with the commissioning of the Muskrat Falls Project ("MFP") while the Covid-19 global pandemic and its impact on the Provincial economy continue.

The Board directed intervenors to file submissions on NP 2022 CBA by October 21, 2020. This submission documents the Consumer Advocate's position.

NP wants the Board to approve 40 projects costing $109.7 million, and plans to seek approval of another $503.5 million of capital spending in 2023-2026.

OPENING REMARKS

Expert Opinion Evidence

The Consumer Advocate filed expert opinion evidence. The Elenchus Report's key conclusions are:

- NP has not identified a reasonable range of alternative solutions for all capital projects included in NP 2022 CBA.
- NP has not identified all relevant information for a reasonable range of alternatives to the capital projects included in NP 2022 CBA.

- In the absence of consideration of a reasonable range of alternative solutions based on all relevant information, it is not possible to determine whether the planned investments are the least cost options.

- NP's approach to the economic evaluation of alternatives is consistent with the inherent incentive for an investor-owned utility to prefer alternatives that require high levels of capital investment, as evidenced by the focus on high capital cost project alternatives with minimal consideration of the industry modernization trend that is turning to lower capital cost, more flexible alternatives, including DERs.

The Elenchus Report, prepared by John Todd, refers the Board (and parties) to the Elenchus website for information concerning Mr. Todd's resume. A copy of the resume is attached.

Mr. Todd's biography, also located on the Elenchus website, succinctly summarizes his extensive expertise and experience. The biography reads:

> *John Todd has specialized in government regulation for 40 years, addressing issues related to price regulation and deregulation, market restructuring to facilitate effective competition and regulatory methodology. Sectors of primary interest in recent years have included electricity, natural gas and the telecommunications industry.*
>
> *John has assisted counsel in over 250 regulatory proceedings and provided expert evidence in over 125 hearings. His clients include regulated companies, producers and generators, competitors, customer groups, regulators and government.*

Mr. Todd is amply qualified to provide the expert opinion set out in the Elenchus Report.

Inherent Incentive

The record before the Board ("the Record") contains evidence that NP and its three most senior officers have "the inherent incentive…to prefer alternatives that require high levels of capital investment" (CA-NP-006; CA-NP-007; CA-NP-098; CA-NP-099; Schedule "A" to CA-NP-007 [mislabelled in the Record as Schedule "A" to CA-NP-005]; CA-NP-121; CA-NP-174; Attachment A to CA-NP-174). The Record shows that:

> (i) Fortis Inc., NP's parent company, in a September 2020 statement to its shareholders announced a plan to increase both the regulated rate base of Fortis subsidiaries and Fortis dividend growth by 30% (i.e. 6% annual average growth) from 2021-2025; and
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> (ii) NP's three most senior executive officers own and have a personal financial interest in Fortis shares increasing in value and Fortis dividends growing.

Role of the Burden of Proof

NP acknowledges that Board regulation "must seek to balance the interests of customers and the utility" (NP 2022-2023 GRA: CA-NP-196). The Board in Order No. P.U. 8 (2007) itself said:

> "Regulation strives to strike an equitable balance between the interests of consumers and the utility."

The Consumer Advocate's position is that the Board has for far too long failed to balance the interests of customers and NP. Perhaps this is attributable to an inadvertent, yet all too frequent, misapplication of the burden of proof. NP last year said:

> "It is Newfoundland Power's position that the onus is on the utility to fully support with evidence the expenditures proposed in its capital budgets" (NP 2021 CBA: CA-NP-128).

The Consumer Advocate concurs, and, therefore, finds it is puzzling to see the Board routinely accept a NP submission that "no evidence" has been filed to contradict NP's position.

In short, NP throughout bears the burden of establishing that each proposed project meets the Board's prudency test. NP 2022 CBA is fundamentally deficient because for many of the 40 projects NP has failed to do so. Consistent with its longstanding approach, NP's justification for 28 of the projects in essence relies on nothing more than the boilerplate assertion: "This project is justified on the obligation to provide reliable service to customers at least cost and cannot be deferred."

COMMENTS ON INDIVIDUAL PROJECTS

General Observations

The Consumer Advocate's initial general observation is that NP, in preparing NP 2022 CBA, demonstrated a puzzling indifference to the effects of the COVID-19 pandemic on the reliability of its capital cost estimates. NP says that in preparing NP 2022 CBA it "has not done an analysis of the effect(s) of the COVID-19 pandemic on the cost estimate for each project proposed in its 2022 Capital Budget Application" (CA-NP-100). NP did no analysis despite it having in early 2021 reported upward pressures that COVID-19 was having on actual project costs.

> In NP 2020 Capital Expenditure Report: Substations - Replacements Due to In-Service Failures, NP reported that actual expenditure was $415,000 or 13% above budget. NP said the variance was principally due to increased labour costs associated with adhering to public health measures related to COVID-19. NP said COVID-19 required operational changes to maintain social distancing, which included: (i) introduction of staggered hours of work to reduce employee contact; (ii) modification of work procedures, such as permitting only one person in the buckets of double bucket trucks rather than two; and (iii) limiting occupancy to one employee per vehicle, which required using multiple vehicles to accommodate crews of two or more.
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> In NP 2020 Capital Expenditure Report: Information Systems - Personal Computer Infrastructure, NP reported that actual expenditure was $155,000 or 31% above budget. While the primary cost driver was NP's response to COVID-19, the pandemic caused a global supply shortage of mobile computers and related equipment and thereby an overall price increase. Discounts normally associated with bulk purchase orders were unavailable.
>
> In NP 2020 Capital Expenditure report: Transmission – Reconstruction, NP reported that actual expenditure was $762,000 or 14% above budget. While NP said the variance was principally due to greater than expected workload compared to the historical average, NP also reported that adherence to COVID-19 safety protocols contributed to increased cost.
>
> In NP 2020 Capital Expenditure Report: Transmission - Rebuild Distribution Lines, NP reported that actual expenditure was $492,000 or 12% above budget. While NP said the variance was due to more work being identified than the historical average, NP also reported that adherence to COVID-19 safety protocols contributed to increased cost.

> In NP Capital Expenditure Report: 2020 Capital Expenditure Report: Human Resource Management System Replacement, NP reported that actual expenditure was $310,000 or 20% above budget. NP said the increased cost was at least in part due to the requirement to adhere to COVID-19 safety protocols; engaging with contractors remotely also contributed to delayed implementation and increased cost.

The Consumer Advocate's second general observation is that in preparing its 2022 capital budget, unlike Hydro, NP neither altered its asset management practices, incorporated any of Midgard's recommendations, nor utilized customer input. As NP does "not survey its customers on the value that customers put on increased reliability" or track customer complaints about reliability, the Record contains no information on customers' views as to trade-offs between rates and reliability.

NP's insouciance contrasts sharply with Hydro's approach, which involves conducting extensive surveys of customers, including as to the value customers place on service. NP is so indifferent that it failed to incorporate the results of Hydro's digital engagement initiative in NP 2022 CBA (CA-NP-058).

And while apathy can explain a lack of inquisitiveness, the Consumer Advocate submits that NP refuses to seek customer feedback on trade-offs between rates and reliability because NP fears customers' responses would run counter to its corporate interests. For example, NP last year reported it had consulted customers extensively about what they wanted in a new Customer Service System (CSS), but did not ask how much they were willing to pay for it. The consultation occurred without customers being told that the new CSS would cost $31.6 million.

As a third general observation, the Consumer Advocate notes that in crafting and deciding on the NP 2022 CBA projects:

> NP failed to do any laboratory testing (CA-NP-017);
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> NP failed to embed productivity savings (CA-NP-011);
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> NP did little benchmarking against other utilities (CA-NP-012);
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> NP failed to incorporate customer preferences (CA-NP-013);
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> NP failed to quantify risks associated with delaying projects (CA-NP-016); and
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> NP failed to quantify any benefits - excepting the LED streetlight replacement project - associated with projects proceeding in 2022 rather than being deferred (CA-NP-031).

NP nevertheless wants the Board to approve every dollar requested because otherwise – or so NP claims - it will be unable to meet its mandate to provide reliable service. When asked to define "reliable service", NP responded that it "defines its current service delivery as reliable" (CA-NP-014). As NP defines "reliable" without regard to specific reliability criterion, it can reasonably be inferred that NP believes that - in practice - "reliable" means whatever NP wants it to mean.

Observations Concerning Individual Projects

1) (Generation – Hydro) Hydro Facility Rehabilitation (Pooled) [2022 CBA Schedule B, page 2 of 99] - $2,062,000

NP neither identified a reasonable range of alternative solutions for these five projects nor provided all relevant information concerning a reasonable range of alternatives to these projects.

While acknowledging one alternative is to retire the Morris Head and Petty Harbour plants, NP provided no information concerning the cost(s) of such retirement(s).

NP provided no information to show that after the commissioning of the MFP the capacity and energy from the Morris Head and Petty Harbour plants will be required to provide customers with reliable service at least cost.

NP provided no information concerning the implications and cost(s), if any, of simply deferring: Replacement of Morris Head Gate and Intake Gatehouse; Upgrades of Generation Control Systems; Replacement of Petty Harbour Surge Tank Cladding; and Overhauling Petty Harbour Unit #2 Turbine until after the Board has determined whether capacity and energy from the two plants is required to provide customers with reliable service at least cost in light of the availability of capacity and energy from the MFP.

While acknowledging "[t]he Island Interconnected System's need for new capacity additions is being reviewed by the Board", NP peremptorily assumed these Generation – Hydro projects will be needed no matter how much capacity and energy is available from alternative sources, such as the MFP, post-2041 Churchill Falls, or flexible alternatives such as DERs.

The precise effect of rate mitigation on the cost of the MFP to customers is not yet unknown; post-MFP marginal costs are unknown. Therefore, NP's estimates of the energy-related value and capacity-related value from NP's hydro facilities are unreliable.

As these hydro generation projects are not multi-year, the Morris Head plant and Petty Harbour plant would in 2022 be off-line or operating at reduced capacity. Therefore, one or more of the five individual projects can and should be deferred until after the Board determines the need for continuation or renewal of NP hydro capacity.

2) (Generation – Hydro) Sandy Brook Penstock Replacement [2022 CBA Schedule B, page 5 of 99] - $400,000

NP neither identified a reasonable range of alternative solutions for this project nor provided all relevant information concerning a reasonable range of alternatives to this project.

While NP in passing acknowledged that in respect of the Hydro Facility Rehabilitation (Pooled) project one alternative is to retire the Morris and Petty Harbour plants, NP failed to explicitly identify retirement of the Sandy Brook plant as an alternative. NP provided no information concerning the cost of such a retirement.

NP provided no information to show that after commissioning of the MFP the capacity and energy from the Sandy Brook plant will be required to provide customers with reliable service at least cost.

NP provided no information concerning the implications and cost(s), if any, of simply deferring a decision on replacement of the penstock at the Sandy Brook plant until after the Board determines whether

capacity and energy from the Sandy Brook plant is required to provide customers with reliable service at least cost in light of the availability of capacity and energy from the MFP.

While acknowledging "[t]he Island Interconnected System's need for new capacity additions is being reviewed by the Board", NP peremptorily assumed its Generation – Hydro projects – including the Sandy Brook plant - will be needed no matter how much capacity and energy is available from alternative sources, such as the MFP, post-2041 Churchill Falls, or flexible alternatives such as DERs.[1]

The precise effect of rate mitigation on the cost of the MFP to customers is not yet unknown; post-MFP marginal costs are unknown. Therefore, NP's estimates of the energy-related value and capacity-related value of Sandy Brook plant production is unreliable.

This project would cause the Sandy Brook plant to be off-line in 2022-2023. That means the capacity and energy provided by the plant will not be needed in 2022-2023 to maintain reliable service. Therefore, the project can and should be deferred until after the Board determines the need for continuation or renewal of NP hydro capacity.

3) (Generation – Thermal) Thermal Plant Facility Rehabilitation (Pooled) [2022 CBA Schedule B, page 8 of 99] - $307,000

NP neither identified a reasonable range of alternative solutions for this project nor provided all relevant information concerning a reasonable range of alternatives to this project.

NP references having 44.5 MW of gas turbine and diesel units, but has not said: (i) how many units it has and the capacity of each unit; (ii) the standby location of each unit; (iii) the age of each unit and its remaining expected service life; (iv) when, why and for how long each unit has in recent years been utilized; and (v) the cost in recent years of each unit per customer service hour provided by the unit.

4) (Substations) Substation Refurbishment and Modernization (Clustered) [2022 CBA Schedule B, page 11 of 99] - $7,049,000

While expenditures (actual and projected) on Substation Refurbishment and Modernization (Clustered) from 2017-2021 total $41,249,000, planned expenditures for 2022-2026 total $60,860,000; this would amount to a 47.5% increase. The Consumer Advocate submits that such increasing expenditures are unsustainable.

Humber Substation refurbishment and modernization project ($2,858,000)

The primary justification for this project is attributed to a November 2020 report by van Kooy Transformer Consulting Services Inc. While the report recommends that transformer Humber T2, P-122, GE S# 286712, 5000 kVA, 66 kV w OLTC to 4.16 kV be replaced within two years, it also says: "the outward signs from this transformer are not presently too negative"; "The latest Dissolved gas in oil analysis does not show any elements of concern and indicates that the present loading is well within this

1 Whatever the view as to future demand for capacity, as to energy the Board in P.U. 30(2021) said: "With the commissioning of the Muskrat Falls Project, which is expected in the coming months, the province is forecast to have surplus energy."

transformer capability"; "An area of significant concern is the Automatic On Load Tap Changer (OLTC) which is a GE LRT-68…this OLTC is no longer supported, and finding replacement parts is problematic. The oil test data from the OLTC is presently not showing signs of concern".

NP provided episodic, but not comprehensive, information as to when in recent years Humber Substation has been out of service or required significant maintenance. Comprehensive information is required to properly assess how urgent the proposed refurbishment is.

Glovertown Substation refurbishment and modernization project ($1,745,000)

NP says:

> "The Glovertown ("GLV") Substation refurbishment and modernization project is being completed in 2022 to install two 138 kV circuit breakers in coordination with the Transmission Line Rebuild project for Transmission Line 124L."

Other than coordination with the Rebuild of 124L, NP provided no reason as to why this project has such significant priority that it must be completed in 2022. The Substation's 138 kV and 25 kV steel structures, foundations, buses, and insulators are all in good condition, as is the Substation's site. NP is pursuing this project simply because it can be linked to rebuilding 124L and in 2022 would provide substation refurbishment work in central Newfoundland.

Tors Cove Substation refurbishment and modernization project ($1,813,000)

NP says:

> "In 2022, Newfoundland Power is proposing to refurbish and modernize TCV Substation. The 71 year old power transformer has reached the end of its service life and will be replaced. To accommodate the transformer replacement the substation yard will be relocated to allow for proper design clearances. Completing this project in 2022 is necessary to ensure the power transformer does not fail in service, causing the loss of 27.7 GWH of energy supplied from Tors Cove plant."

NP's engineering report says:

> "Newfoundland Power's Tors Cove ("TCV") Hydro Plant (the "Plant") is a 6.5 MW hydroelectric generating plant located in Tors Cove on the Southern Shore of the Avalon Peninsula. The Plant was placed into service in 1941. The Plant produces 27.7 GWh of energy annually, representing 6.3% of Newfoundland Power's total hydroelectric production. The Tors Cove Substation connects the Plant to the Island Interconnected System by Transmission Line 11L, which runs 5 kilometres from the Plant to the Company's Mobile Substation."
>
> "This report recommends the replacement of TCV-T1 with a new transformer in 2022, and relocation of the Plant substation to accommodate the new transformer. In 2020, an assessment performed by van Kooy Transformer Consulting Services Inc. (the "Consultant") resulted in the recommendation to remove this transformer from service within 1 to 2 years."

TVC Substation requires refurbishment. However, the need for that to occur is linked to continued operation of the Tors Cove plant. NP provided no information concerning the plant's current condition and how much it will cost to remain operational.

While acknowledging "[t]he Island Interconnected System's need for new capacity additions is being reviewed by the Board", NP peremptorily assumed its Generation – Hydro projects – including the Tors Cove plant - will be needed no matter how much capacity and energy is available from alternative sources, such as the MFP, post-2041 Churchill Falls, or flexible alternatives such as DERs.[2]

This project would cause the Tors Cove plant to be off-line in 2022. That means the capacity and energy provided by the plant are not needed in 2022-2023 to maintain reliable service. Therefore, the project can and should be deferred until after the Board determines the need for continuation or renewal of NP hydro capacity.

5) (Substations) Replacements Due to In-Service Failures (Pooled) [2022 CBA Schedule B, page 13 of 99] - $3,691,000

While NP expenditures (actual and projected) on Replacements Due to In-Service Failures (Pooled) from 2017-2021 total $17,720,000, planned expenditures for 2022-2026 total $19,096,000; this would amount to a 7.8% increase. While the $3.691 million is said to be "based on an assessment of historical expenditures and inventory requirements", NP provided no detailed breakdown of "inventory requirements" as compared to "historical expenditures". The annual average expenditure from 2017-2021 was $3.544 million. NP has not explained why the 2022 amount is 4.1% higher than that average.

6) (Substations) PCB Bushing Phase-out (Pooled) [2022 CBA Schedule B, page 15 of 99) - $899,000

As this project is required to meet the requirements of the *PCB Regulations*, it is justified. With the *PBC Regulations* requiring completion of the phase-out by December 2025, that suggests the projected 2024-2026 expenditures of $2.128 million will occur in 2024-2025.

7) (Transmission) Transmission Line Rebuild (Clustered, Multi-Year) [2022 CBA Schedule B, page 18 of 99) - $10,494,000

While expenditures (actual and projected) on Transmission Line Rebuild (Clustered, Multi-Year) from 2017-2021 total $33,138,000, planned expenditures for 2022-2026 total $55,523,000; this would amount to a 67.6% increase. The Consumer Advocate submits that such increasing expenditures are unsustainable.

In relation to TL 94L, NP says:

> "Table 3 provides an overview of the deterioration identified during the 2020 inspection of the section of Transmission Line 94L that is proposed to be rebuilt…Transmission Line 94L has

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2 Again, whatever the view as to future demand for capacity, as to energy the Board in P.U. 30(2021) said: "With the commissioning of the Muskrat Falls Project, which is expected in the coming months, the province is forecast to have surplus energy."

> reached the point where continued maintenance is no longer practical…its deteriorated condition exposes customers to potentially more frequent and extended unplanned outages. For planned outages to address deficiencies, there are significant costs to transport, install and operate mobile generation to supply customers for the duration of planned outages."

As NP has not quantified the deterioration of 94L identified during pre-2020 inspections, the Board cannot know how its condition in 2020 compared to earlier years. Over the past five years, 94L experienced no reliability events, which probably explains why NP 2022 CBA omitted any reference to 94L having experienced "extended unplanned outages". NP has not quantified the "costs to transport, install and operate mobile generation" were 94L to experience such an outage. NP says that over five years it annually spend an average of $83,000 on 94L preventative maintenance. That annual maintenance is a mere 0.6% of the $13.095 million cost to rebuild 94L. The Record indicates that "continued maintenance" of 94L is currently a significantly better option than spending $13.095 million to rebuild it.

8) (Transmission) Transmission Line Maintenance and 3rd Party Relocations (Pooled) [2022 CBA Schedule B, page 21 of 99] - $2,398,000

While NP expenditures (actual and projected) on Transmission Line Maintenance and 3rd Party Relocations (Pooled) from 2017-2021 total $11,472,000, NP planned expenditures for 2022-2026 total $12,443,000; this would amount to a 8.5% increase. While the $2.398 million project cost is said to be "based on an assessment of historical expenditures", the annual average expenditure from 2017-2021 was $2.294 million. NP has not explained why the 2022 amount is 4.5% higher than that average.

By the end of 2021, 76% of NP's Transmission Line Rebuild Strategy will be completed (as will be the final two lines in 2027). Presumably, customers should expect the annual cost of transmission line maintenance to decrease after 2027.

9) (Distribution) Extensions (Pooled) [2022 CBA Schedule B, page 24 of 99] - $10,333,000

NP says this project involves construction of distribution lines to connect new customers and upgrades for new customers and for increased loads.

NP provided no detailed, quantified data indicating how its forecast of 2,038 new customers in 2022 was derived. NP also did not do so in 2019 or 2020. It is not possible on the Record to determine why NP's 2019 and 2020 forecasts for new customers were inflated by 8% and 22%. NP's 2022 new customer forecast is likely similarly inflated.

In its 2020 Capital Expenditure Report: Notes, Appendix A, page 2 of 7, NP reported in respect of Distribution *Services*:

> "The *Services* budget estimate is determined based on the forecast number of new customer connections, the average historical cost of connecting a new customer, and the average cost of replacing existing services over the last 5 years. The budget was based on 2,639 new customer connections. **Actual customer connections were** 2,062, or **22% below plan.** The lower number of new customer connections resulted in reduced expenditure. **Reduced costs** associated with the *Services* project **were partially offset by costs related to the adherence to COVID-19 safety protocols**." [emphasis added]

In its 2019 Capital Expenditure Report: Notes, Appendix A, pages 5 and 6 of 11, NP reported in respect of Distribution *Extensions, Meters* and *Transformers*:

10. Extensions:

    The Extensions budget is determined based on the forecast volume of new customer connections and the average historical cost of constructing extensions.

    The number of extensions completed in 2019 was less than budget due to a decrease in new customer connections. The Company forecasted approximately 2,593 new customer connections in 2019. The actual number of connections was 2,379, or 8% below forecast. [emphasis added]

11. Meters:

    Actual expenditure on Meters was $141,000 below budget. **This was largely due to lower than expected customer growth. The budget was based on 2,593 new customer connections. Actual customer connections were 2,379, or 8% below the budget estimate.** [emphasis added]

13. Transformers:

    Actual expenditure required for transformer installations was $1,020,000 below budget. **This was largely due to lower than expected customer growth. The budget was based on 2,593 new customer connections. Actual customer connections were 2,379, or 8% below the budget estimate.** [emphasis added]

It is very doubtful that this project is required to address "increases in customers' electrical loads" because NP has elsewhere reported that both sales and demand in recent years declined or flattened, and has predicted that that pattern will continue.

Excerpts from NP 2022/2023 General Rate Application read:

> "The number of customers served by Newfoundland Power is forecast to increase by 0.4% in each of 2021 and 2022 and by 0.3% in 2023. Energy sales are forecast to decrease by 0.2% in 2021, 0.4% in 2022, and 0.7% in 2023. Demand is forecast to increase by 3.9% in 2021, remain steady in 2022, and decrease by 0.7% in 2023."
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> "The number of Newfoundland Power customers increased by 0.5% in 2020. The number of customers is forecast to increase by 0.4% in each of 2021 and 2022 and by 0.3% in 2023."
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> "Annual weather-adjusted energy sales are forecast to decrease by approximately 0.8% per year from 2019 to 2023."
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> "Sales to domestic service customers are forecast to decline by approximately 1.0% annually from 2019 to 2023. This forecast decline in energy sales reflects the challenging economic conditions in Newfoundland Power's service territory, including lower housing starts in the province. The forecast decline in energy sales also reflects conservation efforts undertaken by customers, including the installation of heat pumps.
>
> "Customers installing heat pumps experience annual energy savings of approximately 15%. The penetration of heat pumps among Newfoundland Power's customers increased from approximately 4% in 2014 to approximately 18% in 2020."

"Demand is forecast to increase by approximately 3.9% in 2021 and remain steady in 2022. Demand is forecast to decrease by 0.7% in 2023."

"Sales to general service customers are forecast to decline by approximately 0.3% annually from 2019 to 2023."

"Housing starts in Newfoundland and Labrador declined by 79% over the period 2010 to 2020. Housing starts in the province are forecast to decline more than twice as fast as the national average from 2021 to 2025."

"Housing starts in Newfoundland and Labrador totaled 3,606 in 2010 and 763 in 2020."

"From 2021 to 2025, housing starts are forecast to decline by an average of 4.2% annually in Newfoundland and Labrador."

"The population of Newfoundland Power's service territory is declining, becoming more concentrated in urban areas, and aging faster than national trends."

10) (Distribution) Meters (Pooled) [2022 CBA Schedule A, page 26 of 99] - $818,000

NP says:

"The quantity of meters for new customers is based on the Company's forecast growth in the number of new customers the Company serves."

The accuracy of the forecasted 2,038 new customers in 2022 is open to significant doubt for the reasons set forth above in relation to (Distribution) Extensions (Pooled), which reasons are supported by the excerpts reproduced from NP 2022/2023 General Rate Application. Actual customer connections in 2019 were 8% below forecast, and in 2020 were 22% below forecast. There is no indication on the Record that the process used to derive the inaccurate 2020 and 2021 predictions has been revised or corrected.

11) (Distribution) Services (Pooled) [2022 CBA, Schedule B, page 29 of 99]

NP says:

"The forecast number of new customers is derived from economic projections provided by independent agencies."

Again, the accuracy of the forecasted 2,038 new customers is open to significant doubt for the reasons set forth above in relation to (Distribution) Extensions (Pooled), which reasons are supported by the excerpts reproduced from NP 2022/2023 General Rate Application. Actual customer connections in 2019 were 8% below forecast and in 2020 were 22% below forecast. There is no indication on the Record that the process used to derive the inaccurate 2020 and 2021 predictions has been revised or corrected.

12) *(Distribution) Street Lighting (Pooled) [2022 CBA Schedule B, page 32 of 99) - $2,507,000*

While NP says that:

"Over the past 3 years, the average variance from budget to actual capital expenditures has been 50%",

NP 2022 CBA does not address whether consideration should be given to changes to the forecasting or capital budgeting process. NP's 2020 and 2019 Capital Expenditure Reports indicated that the actual number of street lights installed in 2020 was 37% higher than forecast and in 2019 was 23% higher than forecast. While the 2020 increase was attributed to replacement due to street light failure, NP provided no explanation for the 2019 increase or as to why the failure rate in 2020 was so much higher than forecast.

See: Appendix A, 2020 Capital Expenditure Report: Notes Page 2 of 7

> The actual number of street lights installed or replaced in 2020 was 3,534, an increase of 37% or 959 street lights. Of the increase, 844 were replaced due to failure of the street light.

See: Appendix A, 2019 Capital Expenditure Report: Notes Page 6 of 11

> The number of street lights installed in 2019 was 3,183, or 23% higher than the 5-year average. The higher number of installations resulted in higher expenditure.

13) (Distribution) Street Lighting – LED Replacement Program (Pooled) [2022 CBA Schedule B, page 34 of 99] - $5,428,000

While NP does not characterize this as a multi-year project, 2022 being the second of a six-year program *de facto* makes this a multi-year project. The statement in NP 2021 CBA that:

> "The total cost of the plan is approximately $32.8 million over 6 years. This includes approximately $5.5 million in 2021"

is consistent with the NP 2022 CBA description of this being a multi-year project.

14) (Distribution) Transformers (Pooled) [2022 CBA Schedule B, page 36 of 99] - $5,958,000

This project includes the cost of purchasing transformers to serve customer growth and the replacement / refurbishment of deteriorated or failed units.

While expenditures (actual and projected) on Transformers (Pooled) from 2017-2021 total $28,866,000, planned expenditures for 2022-2026 total $30,422,000; this would amount to a 5.3% increase. The Board must consider whether customers can afford such increasing expenditure, particularly where there is considerable doubt as to whether customer growth will occur. As noted above, it is very doubtful there will be "increases in customers' electrical loads" because NP elsewhere says that in recent years sales and demand have declined or flattened, and NP expects that pattern will continue. In that regard, see the excerpts from NP 2022/2023 General Rate Application reproduced above. And also see NP 2020 Capital Expenditure Report: Notes Page 3 of 7 Distribution – Transformer, wherein NP reported that actual expenditures for transformer purchases was $953,000 or 14% below budget. NP said the drop was largely due to lower than expected customer growth in 2020, when customer connections were 22% below plan.

Accordingly, the Board should: (i) require NP to delineate how much of the project is attributable to customer growth; and (ii) reject the portion of this project that involves acquiring transformers to service customer growth.

15) (Distribution) Reconstruction (Pooled) [2022 CBA Schedule B, page 38 of 99] - $5,902,000

While expenditures (actual and projected) on Reconstruction (Pooled) from 2017-2021 total $27,899,000, planned expenditures for 2022-2026 total $31,054,000; this would amount to a 11.0% increase. The Consumer Advocate submits that such increasing expenditures are unsustainable.

NP distinguishes this project from the Rebuild Distribution Lines project on the basis the Reconstruction project involves unplanned replacement of deteriorated or damaged structures and equipment while the Rebuild Distribution Lines project involves planned replacement of deteriorated structures and equipment. NP offers no explanation as to why the Reconstruction budget is greater than the Rebuild Distribution Lines budget, nor does NP indicate how it is that structures and equipment can become so deteriorated as to require replacement as a Reconstruction and yet not have been identified in a timely enough manner so as to undertaken under a planned, and thereby less costly, Rebuild Distribution Lines project. NP has not delineated what portion of the Reconstruction project in past years was, or in 2022 is expected to be, used for replacement of deteriorated as opposed to damaged lines.

16) (Distribution) Rebuild Distribution Lines (Pooled) [2022 CBA Schedule B, page 40 of 99] - $4,333,000

While expenditures (actual and projected) on Rebuild Distribution Lines (Pooled) from 2017-2021 total $20,511,000, planned expenditures for 2022-2026 total $22,760,000; this is a 11.3% increase. The Consumer Advocate submits that such increasing expenditures are unsustainable.

NP says that inspections for the lines on which work is to take place in 2022 are ongoing throughout 2021, and the process of estimating the budget requirement for this project is based on historical data. That means NP's justification for the project's cost estimate is simply that it approximates what NP has spent on Rebuild Distribution Lines in past years. The tardiness in identifying the Rebuild work may explain why it is that deteriorated structures and equipment end up as more expensive unplanned replacement under the Reconstruction project.

17) (Distribution) Relocate/Replace Distribution Lines for Third Parties (Pooled) [2022 CBA Schedule B, page 43 of 99] - $3,370,000

While expenditures (actual and projected) on Relocate/Replace Distribution Lines for Third Parties (Pooled) from 2017-2021 total $16,714,000, planned expenditures for 2022-2026 total $17,623,000; this amounts to a 5.4% increase. The Consumer Advocate submits that such increasing expenditures are unsustainable.

The Board must consider whether these expenditures are warranted, especially where NP says they "cannot be specifically identified at the time the budget is prepared." NP offered no explanation as to why the projects were not identified earlier.

18) (Distribution) Distribution Reliability Initiative [2022 CBA Schedule B, page 46 of 99] - $350,000

Outage data indicates that distribution feeder BCV-04 is far from being NP's worst performing distribution feeder.

In NP 2022 CBA, section 4.1 Distribution Reliability Initiative, paragraph 3.1 Reliability Performance, Table 1 summarizes the reliability data for the BCV-04 feeder as being:

SAIFI – 1.85 SAIDI – 4.23 CHIKM - 130 CIKM – 22

BCV-04 is not listed in Appendix A of Distribution Reliability Data: Worst Performing Feeders as one of the 15 worst performing feeders based on either of five criteria. In that regard, see:

> Table A-1: Unscheduled Distribution-Related Outages, 5-Year Average (2016-2020), Sorted By Customer Minutes of Interruption
>
> Table A-2: Unscheduled Distribution-Related Outages, 5-Year Average (2016-2020), Sorted By Distribution SAIFI
>
> Table A-3: Unscheduled Distribution-Related Outages, 5-Year Average (2016-2020), Sorted By Distribution SAIDI
>
> Table A-4: Unscheduled Distribution-Related Outages, 5-Year Average (2016-2020), Sorted By Distribution CHIKM
>
> Table A-5: Unscheduled Distribution-Related Outages, 5-Year Average (2016-2020), Sorted By Distribution CIKM

Approximately 20 feeders are listed in two tables.

Six feeders are listed in Table A-4 (CHIKM) and Table A-5 (CIKM).

Feeder BVS-04 appears in Table A-1, Table A-2, and Table A-3.

NP indicated BCV-04 services 1,037 customers, but did not specify the number of customers on the 2 km length of BCV-04 who experience a SAIDI of 16.47 and a SAIFI of 5.44. Nor did NP provide the CHIKM and CIKM for the customers along that 2 km of feeder.

While a SAIDI of 16.47 is well above both the corporate average and that of other customers served by BCV-04, NP has not said whether there are customers on sub-segments of other distribution feeders who experience a SAIFI near or above 16.47.

BCV-04 is certainly not the *worst performing feeder*. Based on the principle of equitable access to an adequate supply of power, this project can be said to be unwarranted because many other distribution feeders are objectively overall far less reliable, meaning that customers serviced by them experience more frequent and/or longer power interruptions than those served by BCV-04. NP has provided no information to show that the $350,000 planned for this project cannot be better used to improve distribution reliability for other customers.

19) (Distribution) Feeder Additions for Load Growth (Pooled) [2022 CBA Schedule B, page 48 of 99] - $1,690,000

NP claims that: "An overloaded section of conductor on a distribution line is at risk of failure"; and this project is "justified on the obligation to provide customers with equitable access to an adequate supply of power and cannot be deferred." NP also appears to suggest that based on amperage capacities, these feeders have been overloaded for some time. However, neither of feeders PUL-03, VIR-01, SPF-01, nor Har-02 are listed for the period 2016-2020 as being among the 15 worst performing feeders based on Customer Minutes of Interruption, SAIFI, SAIDI, CHIKM or CIKM. Nor has NP indicated that due to increases in loads NP has been forced to deny service to customers located on either of the four feeders. Thus, while addressing these overload conditions may be of some benefit, NP has not shown that doing so cannot be deferred for one or more years.

Nor has NP explained why upgrading these four distribution feeders has priority over the upgrading of feeders NP plans for 2023-2026. During that four year period ($13,743,000 in 2023-2026), NP plans to spend an average of $3,436,000 on Feeder Additions for Load Growth. That would be more than a 100% increase over the 2022 budgeted amount. The Consumer Advocate submits that such increasing expenditures are unsustainable.

20) (Distribution) Distribution Feeder Automation (Pooled) [2022 CBA Schedule B, page 50 of 99] - $893,000

While NP has not and does not characterize Distribution Feeder Automation (Pooled) as a multi-year project, since its inception in NP 2015 CBA these projects have *de facto* been and remain multi-year. Seven years after inception, the annual cost in 2022 would be 458% higher than in 2015, and project costs are intended by NP to continue to increase with no end in sight. Data on the Board website indicates the budgeted / planned costs were / are:

NP 2015 CBA - Distribution Feeder Automation - $160,000

NP 2016 CBA - Distribution Feeder Automation - $565,000

NP 2017 CBA - Distribution Feeder Automation - $568,000

NP 2018 CBA - Distribution Feeder Automation - $612,000

NP 2019 CBA - Distribution Feeder Automation - $675,000

NP 2020 CBA - Distribution Feeder Automation - $756,000

NP 2021 CBA - Distribution Feeder Automation - $821,000

NP 2022 CBA - Distribution Feeder Automation - $893,000

NP 2023 CBA - Distribution Feeder Automation - $955,000

NP 2024 CBA - Distribution Feeder Automation - $983,000

NP 2025 CBA - Distribution Feeder Automation - $995,000

NP 2026 CBA - Distribution Feeder Automation - $998,000

When NP in 2015 first sought Board approval (NP 2015 CBA) for Distribution Feeder Automation (Pooled) expenditures, NP listed planned expenditures for 2015-2019 as:

2015 - $160,000
2016 - $250,000
2017 - $330,000
2018 - $205,000
2019 - $330,000

NP ended up requesting, and the Board approving, $2,420,000 of Distribution Automation (Pooled) expenditures during 2016-2019; that was more than double the $1,115,000 NP originally said it would ask for during those four years.

NP has not indicated whether it intends to carry on with Distribution Feeder Automation (Pooled) projects indefinitely, or plans to taper them off.

While NP has occasionally quantified the number of customers Distribution Feeder Automation (Pooled) projects are said to have saved from service interruption, the duration of customer service interruptions thereby avoided is not routinely quantified. As such, the Board cannot compare the value provided by Distribution Feeder Automation (Pooled) projects to their costs.

21) (Distribution) Trunk Feeders – Humber 4.16 kV Conversion (Clustered) [2022 CBA Schedule B, page 52 of 99] - $1,355,000

NP says:

> "The Humber ("HUM") Substation refurbishment and modernization project is being completed in 2022 to refurbish and modernize deteriorated substation components. Associated with the HUM Substation refurbishment and modernization project is the dismantling of the existing 4.1 kV substation infrastructure and conversion of the HUM 4.16 kV distribution system to operate at 12.5 kV. This project will result in a significant reduction in substation equipment including a power transformer, a 66kV air break switch and the replacement of four 4.16 kV breakers with a single 12.5 kV recloser."

The submissions made above in relation to the Humber Substation refurbishment and modernization [Substation Refurbishment and Modernization (Clustered) project are reiterated.

22) (General Property) Tools and Equipment [2022 CBA Schedule B, page 60 of 99] - $598,000

While expenditures (actual and projected) on Tools and Equipment from 2017-2021 total $2,417,000, planned expenditures for 2022-2026 total $2,795,000; this would amount to a 15.6% increase. The Consumer Advocate submits that such increasing expenditures are unsustainable.

The Consumer Advocate also submits that NP maintaining in NP 2022-2023 GRA that:

> "[a] forecast decline in energy sales reflects challenging economic conditions in Newfoundland Power's service territory. Housing starts in the province are forecast to decline, unemployment is

> expected to remain high, and Provincial Government spending is expected to be constrained as the province addresses its debt obligations and annual fiscal deficits…Newfoundland Power's long-term growth outlook is uncertain. This uncertainty reflects a weak economic outlook for the province and potential increases in the cost of electricity following the commissioning of Nalcor Energy's Muskrat Falls Project."

is incongruent with NP herein asserting that spending $124,000 to replace "office furniture that has deteriorated…is justified on the obligation to provide reliable service to customers at least cost and cannot be deferred."

In this period of challenging economic conditions, the Board must consider whether spending $124,000 to replace office furniture is warranted. The Consumer Advocate submits that this expenditure can be deferred and is therefore unwarranted.

23) (General Property) Additions to Real Property [2022 CBA Schedule b, page 63 of 99] - $716,000

While expenditures (actual and projected) on Additions to Real Property from 2017-2021 total $2,661,000, planned expenditures for 2022-2026 total $3,644,000; this would amount to a 36.9% increase. The Consumer Advocate submits that such increasing expenditures are unsustainable.

The Consumer Advocate also submits that NP maintaining in its 2022-2023 GRA that:

> "[a] forecast decline in energy sales reflects challenging economic conditions in Newfoundland Power's service territory. Housing starts in the province are forecast to decline, unemployment is expected to remain high, and Provincial Government spending is expected to be constrained as the province addresses its debt obligations and annual fiscal deficits…Newfoundland Power's long-term growth outlook is uncertain. This uncertainty reflects a weak economic outlook for the province and potential increases in the cost of electricity following the commissioning of Nalcor Energy's Muskrat Falls Project."

can be viewed as incongruent with NP herein asserting that spending $113,000 "[t]o promote sanitary conditions, touchless fixtures will be provided for faucets and toilets. Doors, equipped with operators to provide hands free operation…will be able to be opened without touching handles" is "justified on the obligation to maintain safe and adequate facilities and cannot be deferred."

In this period of challenging economic conditions, the Board must consider whether spending $113,000 on touchless fixtures and doors is warranted. NP submitted no evidence that the Provincial Government, its Crown agencies, and local un-regulated privately-held corporations are spending money to replace existing faucets and doors. The Consumer Advocate submits that this expenditure is unwarranted.

24) (General Property) Physical Security Upgrades (Pooled) [2022 CBA Schedule B, page 67 of 99] - $492,000

NP seeks approval to spend $492,000 in 2022 (and plans to spend $2,408,000 from 2022-2026) on Physical Security Upgrades (Pooled). These expenditures are said to be necessary to prevent theft of or damage to materials, especially theft of bare copper wire. While theft is to be denounced, NP has provided no information about either the cost incurred in recent years to replace stolen copper wire or to indicate that past security upgrade expenditures reduced the theft of copper wire, and if so by how much. In short, the Record does not show that security upgrades actually deter determined thieves.

25) (Transportation) Replace Vehicles and Aerial Devices 2022 – 2023 (Other, Multi-Year) [2022 CBA Schedule B, page 70 of 99] - $3,089,000

While expenditures (actual and projected) on Replace Vehicles and Aerial Devices from 2017-2021 total $19,542,000, planned expenditures for 2022-2023 total $5,224,000. NP's application references no such expenditures in 2024-2026. That omission may be attributable to this project being presented as a multi-year project to be completed in 2022-2023. In light of NP's spending from 2017-2021 to replace vehicles and aerial devices, it is reasonable to infer that NP plans to continue similar spending on vehicles and aerial drones in 2024-2026.

NP has provided no information concerning how often vehicles break down while in service, or whether such breakdowns have impeded responses to service outages.

26) (Telecommunications) Replace/Upgrade Communications Equipment (Pooled) [2022 CBA Schedule B, page 74 of 99] - $114,000

While expenditures (actual and projected) on Replace/Upgrade Communications Equipment (Pooled) from 2017-2021 total $545,000, planned expenditures for 2022-2026 total $594,000; this amounts to a 9.0% increase. The Consumer Advocate submits that such increasing expenditures are unsustainable.

NP says this is not a multi-year project, but past, current and planned expenditures indicate that NP uses this project to annually spend more than $100,000 on voice and data communications equipment that fails or becomes obsolete. That the cost of such failures and obsolescence is uniform year after year might be said to be remarkable, unless it actually manifests a practice of invariably spending the budgeted annual amount. Equipment obsolescence is susceptible to being influenced and thereby determined by the eye of the beholder.

27) (Information Systems) Application Enhancements (Pooled) [2022 CBA Schedule B, page 79 of 99] - $1,007,000

While expenditures (actual and projected) on Application Enhancements (Pooled) from 2017-2021 total $5,049,000, planned expenditures for 2022-2026 total $5,207,000. In essence, in each of the past five years NP has spent $1,000,000 on Application Enhancements, and intends to continue to do so in each of the next five years. NP says this is not a multi-year project, but the information provided suggests NP utilizes this project as an ongoing opportunity to annually spend $1,000,000 on software. Scant evidence is provided as to how this project can be justified on the obligation to provide reliable service to customers at least cost and cannot be deferred. Would reliable service be imperiled if the project's budget was next year reduced by 25%?

$400,000 is budgeted for Various Minor Enhancements, an amount said to be based on a 3-year historical average cost, and said to be intended "to enhance the Company's corporate applications in response to unforeseen requirements, such as legislative and compliance changes, vendor-driven changes, or employee-identified enhancements designed to improve customer service and operational efficiency." Funds needed to pay for truly "unforeseen requirements" should be drawn from the $750,000 Allowance for Unforeseen Items (Other).

28) (Information Systems) System Upgrades (Pooled, Multi-Year) [2022 CBA Schedule B, page 81 of 99] - $802,000

While expenditures (actual and projected) on System Upgrades (Pooled, Multi-Year) from 2017-2021 total $8,982,000, planned expenditures for 2022-2026 total $10,787,000; this would amount to a 20.1% increase. The Consumer Advocate submits that such increasing expenditures are unsustainable.

The PI Reporting Upgrade ($106,000) aspect of this project is said to be required because:

> "The current PI System will no longer be supported by the vendor as of December 31, 2021. Upgrading the software in the first quarter of 2022 is required to ensure full vendor support moving forward."

If vendor support for the PI Reporting software will end in December 2021, it is unclear as to how that software could in 2022 be upgraded. Perhaps NP plans to replace the PI Reporting software at a cost of $106,000.

The Database Management Software Upgrade ($135,000) aspect of this project is said to be required because:

> "Versions of SQL Server 2008 R2 DBMS currently in use by Newfoundland Power will no longer be supported by the vendor, Microsoft, as of July 2022. No updates and security patches will be available from Microsoft for this product after that date. Upgrades are required to ensure continued vendor support for over 80 database applications the Company has in service."

If Microsoft support for this software will end in July 2022, it is unclear as to how that software could in 2022 be upgraded. Perhaps NP plans to replace the SQL Server 2008 DBMS software at a cost of $135,000.

29) (Information Systems) Personal Computer Infrastructure (Pooled) [2022 CBA Schedule B, page 83 of 99] - $615,000

While expenditures (actual and projected) on Personal Computer Infrastructure (Pooled) from 2017-2021 total $2,616,000, planned expenditures for 2022-2026 total $3,000,000; this would amount to a 14.7% increase. The Consumer Advocate submits that such increasing expenditures are unsustainable.

30) (Information Systems) Shared Server Infrastructure (Pooled) [2022 CBA Schedule B, page 86 of 99] - $613,000

While expenditures (actual and projected) on Shared Server Infrastructure (Pooled) from 2017-2021 total $4,034,000, planned expenditures for 2022-2026 total $4,299,000; this would amount to a 6.6% increase. The Consumer Advocate submits that such increasing expenditures are unsustainable.

This project, while said not to be multi-year, has been ongoing since at least 2017 and is intended to continue indefinitely into the future. It is noteworthy that over a ten year period NP has spent or plans to spend an annual average of $833,000 on Shared Server Infrastructure.

31) (Information Systems) Network Infrastructure (Pooled) [2022 CBA Schedule B, page 88 of 99] - $508,000

While expenditures (actual and projected) on Network Infrastructure (Pooled) from 2017-2021 total $2,034,000, planned expenditures for 2022-2026 total $2,269,000; this would amount to a 11.6% increase. The Consumer Advocate submits that such increasing expenditures are unsustainable.

Similar to the Shared Server Infrastructure (Pooled) project, this project, while said not to be multi-year, has been ongoing since at least 2017 and is intended to continue indefinitely into the future. It is noteworthy that over a ten year period NP has spent or plans to spend an annual average of $430,000 on Shared Server Infrastructure.

32) (Information Systems) Cybersecurity (Pooled) [2022 CBA Schedule B, page 90 of 99) - $865,000

While annual average budgeted expenditures (actual and projected) on Cybersecurity (Pooled) from 2019-2021 were $528,000, planned annual average expenditures for 2022-2026 are $813,000; this would amount to a 54.0% increase. The Consumer Advocate submits that such increasing expenditures are unsustainable.

The absence of five years of historical data concerning the cost of cybersecurity is presumably explained by this statement in NP 2019 CBA:

> "In prior years cybersecurity infrastructure was included in the System Upgrades, Shared Server Infrastructure, and Network Infrastructure Information Systems projects. Combining all cybersecurity upgrades in a single project is intended to focus the Company's cybersecurity efforts."

In NP 2018 CBA, Information Systems capital expenditures of $6.6 million accounted for 8% of proposed 2018 capital expenditures. At that time, capital expenditure related to Information Systems was anticipated to account for 9% of planned expenditures over the 5-year period from 2018-2022. This was greater than the average of 6% in the 5-year period from 2013-2017.

One year later, NP 2019 CBA reported that Information Systems expenditures accounted for 11% of planned expenditures over the 5-year period from 2019-2023, which was almost double the average of 6% in the 5-year period from 2014 -2018.

NP estimates that spending on Information Systems from 2022-2026 will total $57,129,000. Capital spending on Information Systems has grown and will, unless reined in, continue to grow at an alarming rate.

GENERAL SUBMISSIONS

Regrettably, the Board rejected the Consumer Advocate's request to hold oral public hearings.

The Board's refusal prevented the Consumer Advocate from cross-examining NP about many important issues, including NP's boilerplate assertion that 28 projects are "justified on the obligation to provide reliable service to customers at least cost and cannot be deferred." The Board thereby denied the Consumer Advocate the opportunity to use cross-examination to uncover the truth.

As noted above, in preparing its 2022 capital budget NP neither sought input from customers nor incorporated their views. This is borne out by the following:

> In CA-NP-046 (NP 2022-2023 GRA), NP stated: "Newfoundland Power has not surveyed or otherwise interacted with its customers to ascertain their views regarding trade-offs between costs and service improvements."
>
> In CA-NP-036 (NP 2022 CBA), NP stated it does not track customer complaints about reliability.
>
> In CA-NP-057 (NP 2022 CBA), NP stated: "It is confirmed that customer input was not incorporated in the development of the 2022 Capital Budget Application."

Consequently, the only voice for customers is that of the Consumer Advocate, who is appointed to represent their interests. Striking an equitable balance of interests requires the Board to truly consider the Consumer Advocate's submissions.

The Consumer Advocate notes that Mr. Todd's expert opinion indicates that NP has not been meeting the Board's standards of prudence, which standards only the Board can enforce.

This is the 17th year in a row that the Board has not held an oral public hearing for capital budget applications.

For 17 years, the Board has approved every dollar of capital spending NP requested, a total of $1.4357 billion since 2004. Not once has the Board decided that a project should even be deferred.

The pervasive trend of significantly increasing capital costs repeatedly identified in the Consumer Advocate's analysis of the individual projects is reflected in this data excerpted from CA-CP-115.

Year	Number of Customers	Capital Budget ($Millions)
1996	210,161	31.0
1997	210,686	33.2
1998	212,110	43.5
1999	213,641	41.0
2000	215,210	41.8
2001	216,879	63.0
2002	219,072	57.8
2003	221,653	56.4
2004	224,464	52.3
2005	227,301	49.2
2006	229,500	52.2
2007	232,262	62.9
2008	235,778	55.2
2009	239,307	63.8

2010	243,426	70.8
2011	247,163	74.9
2012	251,531	79.7
2013	255,618	80.8
2014	258,879	103.6
2015	261,774	94.2
2016	264,406	107.0
2017	266,450	95.5
2018	267,995	84.8
2019	269,045	100.9
2020	270,285	96.6
2021F	271,298	111.3
2022F	272,253	109.7
2023F	273,165	122.3
2024F	274,045	124.7
2025F	274,880	128.1
2026F	275,718	128.4

Such steadily increasing capital expenditures are unsustainable.

Since 1996, capital spending by NP has nearly tripled, going from $31 million in 1996 to $111 million in 2021. During that period, the number of NP customers increased by less than a third.

The Board needs to act now to restrain NP's capital spending.

From 1996-2023, NP's capital budget will have increased by 295% (from $31.0 million to $122.3 million); NP's regulated rate base will have increased by 173% (from $473.1 million to $1,289.9 million); and NP's regulated earnings will have increased by 116% (from $25.1 million to $54.3 million). Meanwhile, growth in the number of NP customers will only be 30% (from 210,161 to 273,165).

Unless the Board restrains NP, extrapolation based on the 1996-2023 data shows that by 2033:

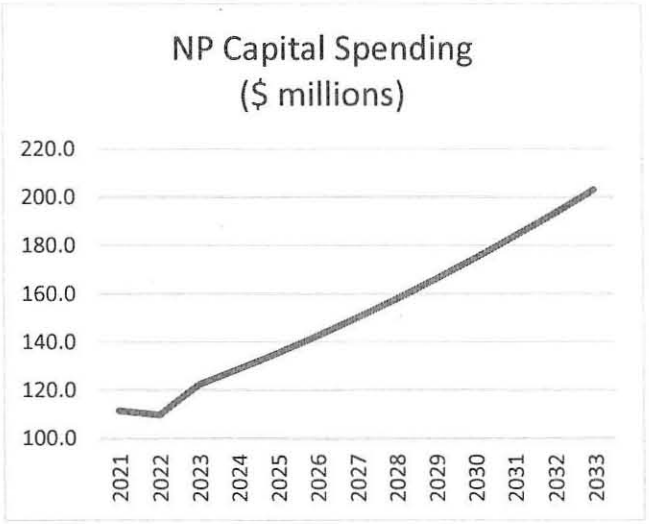
NP will be requesting $203.0 million in capital spending (5.2% average annual increase);

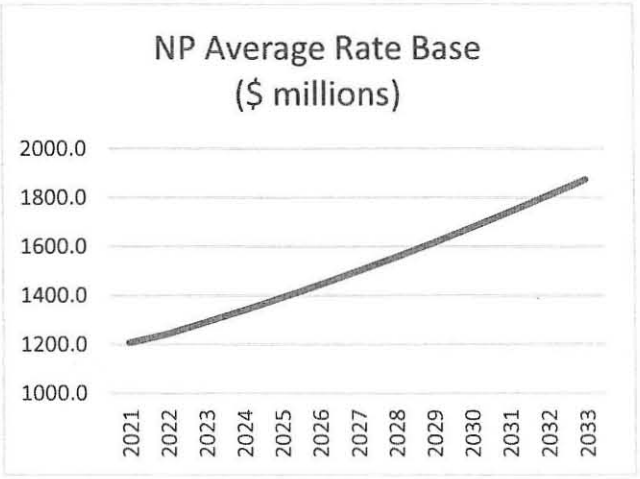
NP will have a regulated rate base of $1,873 million (3.8% average annual increase); and

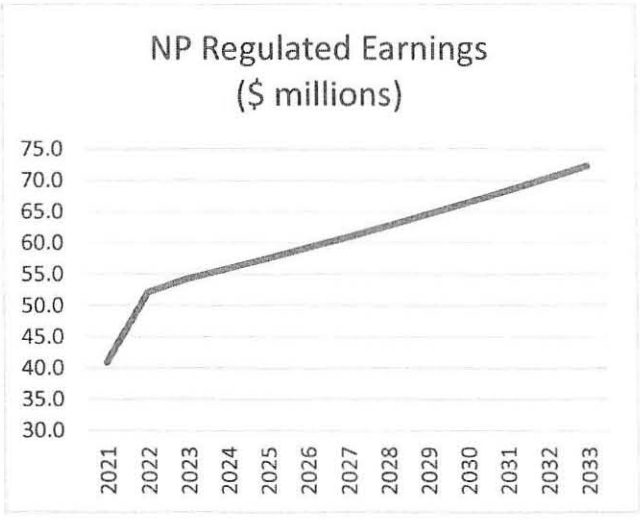
NP will have regulated earnings of $72.3 million (2.9% average annual increase)

while serving about 301,744 customers (1.0% average annual increase).

The graphs below illustrate the extrapolation.


NP Capital Spending
($ millions)
220.0
200.0
180.0
160.0
140.0
120.0
100.0
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033


NP Average Rate Base
($ millions)
2000.0
1800.0
1600.0
1400.0
1200.0
1000.0
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033


NP Regulated Earnings
($ millions)
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
35.0
30.0
2021
2022
2023
2024
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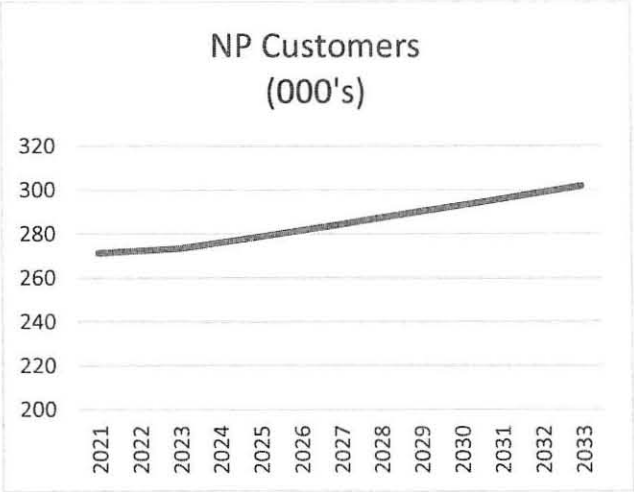

NP has taken advantage of an inadequate regulatory process to extract monopoly prices.[3] The reason utilities are regulated is to protect customers from monopoly pricing. The Board's role is to ensure monopoly pricing does not occur; an inadequate capital budget process has failed to prevent it.

Hydro (NLH-NP-042), Board staff (PUB-NP-006) and the Consumer Advocate (CA-NP-008) all asked what NP is doing in light of the severe rate pressures customers face. NP responded that it is doing nothing different because it has to meet its mandate.[4] NP apparently believes that meeting its mandate allows economic conditions in the Province to be ignored. NP's approach is markedly different than Hydro's, which recently stated:

> "…Hydro recognizes its role in investing responsibly in the province's electrical system and being cognizant of its operating environment and the rate pressures anticipated. Hydro continues to take concerted efforts to manage costs on behalf of customers" (CA-NLH-010(b) in NLH 2022 CBA); and
>
> "…Hydro does consider customer impact when making capital investment decisions and strives to achieve the appropriate balance between cost and reliability" (CA-NLH-018(c) in NLH 2022 CBA).

NP's attitude can fairly be characterized as avaricious and brazen. NP is currently seeking a 15.3% increase in its return on equity (8.5% to 9.8%) (Volume 1, NP 2022-2023 GRA, pages 1-8). Perhaps NP is doing so because for far too long decisions have gone its way; 2003 was the last time the Board rejected any of NP's proposed capital spending.

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3 NP 2022 CBA proceeded under what the Consumer Advocate has repeatedly criticized as an inadequate capital budget review process. The Board - 12 months after its hand-picked consultant Midgard submitted recommendations on revising the Board's capital budget guidelines - has not yet issued a decision on revising the guidelines.

4 NP indicated no documentation exists between senior management and line managers concerning controlling costs in light of rate pressures brought on by the MFP because "Newfoundland Power is required to provide reliable, least cost service to its customers under all economic conditions" (CA-NP-008).

NP's attitude is unacceptable. NP's private enterprise customers operate in an unregulated and competitive environment. They are hurting. NP should not thrive when its customers must adapt to the challenges associated with commissioning of the MFP.

CONCLUDING COMMENTS

In closing, observations made above bear repeating. The Board has for 17 years has granted NP every dollar requested (CA-NP-001) and approved every dollar NP submitted for approval in excess of Board-approved budget amounts. The Board has done so without once holding an oral public hearing (CA-NP-002).

The Board must bring NP spending under control, and there is precedent for it to do so. In the aftermath of the cod moratorium in the early 1990s, the Board cut back on utility spending (NP 2021 CBA: CA-NP-004). With an ongoing global pandemic, higher costs due the MFP coming into service and a poorly performing Provincial economy, the Board must again take action - as it did in the early 1990s - because it is clear NP will not itself do so.

The Consumer Advocate reiterates what was said in his 22 October 2020 written submission for NP 2021 CBA. The longstanding need for the Board to implement capital budget spending envelopes remains unfulfilled. NP has argued and will argue that Board approval of a capital budget spending envelope would be equivalent to imposing an arbitrary cap. That is simply untrue. An envelope would be based on what has been fully justified, similar to the practice in Ontario (Consumer Advocate submission to Board dated July 7, 2021 titled *Capital Budget Application Guidelines Review*, Section 4. Budget Envelope). A budget envelope would not be at all arbitrary. A budget envelope would, however, require NP to fully justify and manage its capital spending, which is a far cry from the current scenario wherein NP simply spends, rather than manages, customers' money, and does so without regard to customers' ability or willingness to pay.

Support for the Board having jurisdiction to set a capital spending envelope for NP can be found in P.U. 30(2021). In addressing an issue concerning the Board's powers over capital spending, the Board said:

> "…Hydro submitted that the Board has the power to consider the expenses incurred by a utility and to allow those expenses to be recovered from customers if they are reasonable and prudent. Hydro…paraphrased the comments of the Court of Appeal to the effect that it is necessary to give an interpretation which follows generally accepted principles of sound public utility practices and advances the stated legislative policy of the province.
>
> "…Whether the Board has the jurisdiction to approve the proposed capital expenditures…was raised as an issue…The Consumer Advocate submitted that the Board did not have jurisdiction to order that the costs of the EV charging stations be paid by ratepayers. Newfoundland Power, Hydro and the Industrial Customer Group agree that the Board does have the jurisdiction to approve the EV charging station costs…The authority of the Board with respect to the approval and recovery of capital expenditures and expenses…is set out in sections 41, 78, and 80 of the *Act*. In addition section 118 provides 34 that the *Act* is to be construed liberally. These provisions in combination with sections 3 and 4 of the *EPCA* provide for the approval of and recovery from customers of capital expenditures and other expenses which are consistent with the provision of least-cost reliable service. Reading the legislation in its entire context in the grammatical and ordinary sense, harmoniously with the scheme and intention of the legislature, the Board is

satisfied that it has the authority to approve capital expenditures for EV charging stations and to allow for the recovery of the costs from customers if the expenditures are shown to be consistent with the provision of least-cost reliable service."

Clearly, the Board has jurisdiction to implement a capital spending envelope. In consideration of all of the foregoing, the Board must now simply do so.

Yours truly,

Dennis Browne, Q.C.
Consumer Advocate

Encl.
/bb

cc **Newfoundland & Labrador Hydro**
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JOHN D. TODD

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PRESIDENT

John Todd has specialized in government regulation for over 35 years, addressing issues related to price regulation and deregulation, market restructuring to facilitate effective competition, and regulatory methodology. Sectors of primary interest in recent years have included electricity, natural gas and the telecommunications industry. John has assisted counsel in over 250 proceedings and provided expert evidence in over 100 hearings. His clients include regulated companies, producers and generators, competitors, customer groups, regulators and government.

PROFESSIONAL OVERVIEW

Founder of Elenchus Research Associates Inc. (Elenchus) **2003**

- ERAI was spun off from ECS (see below) as an independent consulting firm in 2003. There are presently twenty-five ERAI Consultants and Associates. Web address: www.elenchus.ca

Founded the Canadian Energy Regulation Information Service (CERISE) **2002**

- CERISE is a web-based service providing a decision database, regulatory monitoring and analysis of current issues on a subscription basis. Staff are Rachel Chua and rotating co-op students. Web address: www.cerise.info

Founded Econalysis Consulting Services, Inc., (ECS) **1980**

- ECS was divested as a separate company in 2003.
- There are presently four ECS consultants: Bill Harper, Mark Garner, Shelley Grice and James Wightman. Web address: www.econalysis.ca

Education

1975	Master's in business administration in Economics and Management Science, University of Toronto
1972	Bachelor of Science in Electrical Engineering, University of Toronto

PRIOR EMPLOYMENT

Ontario Economic Council, Research Officer (Government Regulation)	**1978 – 1980**
Research Assistant	
Univ. of Toronto, Faculty of Management Studies	**1973 – 1978**
Bell Canada	**1972 – 1973**
Western Area Engineering	

REGULATORY/LEGAL PROCEEDINGS

Provided expert evidence and/or assistance to the applicant or another participant for:

Before the Ontario Energy Board

2017	• Independent Electricity System Operator, 2017 Usage Fee
2016	(Evidence: IESO Regulatory Scorecard)
	• Independent Electricity System Operator, 2016 Usage Fee
	(Evidence: Cost Allocation and Rate Design for the 2016 IESO Usage Fee)
	• Generic Hearing on Natural Gas System Expansion for Rural and Remote Communities (EB-2016-2004)
	(Evid: Mechanisms Supporting Natural Gas Community Expansion Projects)
2015	• Horizon Utilities 2016 Custom Incentive Regulation Annual Filing
2014	• Horizon Utilities, 2015-2019 Custom Incentive Regulation Filing
	• Bluewater Power Rates Filing
	(Report: Large Use Customer Cost Allocation Review)
2013	• Enbridge Gas Distribution (EB-2012-0459)
	(Evidence: Cost Allocation Methodology, with Michael Roger)
	• IESO Fees Case
	(Evidence: Review of IESO Fees Billing Determinant)
2012	• Hydro One Transmission 2013-2014 Revenue Requirement (EB-2012-0031)
	(Evidence: Ontario Cost Allocation and Export Tariff Service, with Michael Roger)
2011	• Cost Allocation evidence for several Ontario electricity distributors (2012 Cost of Service)
2010	• Natural Resource Gas Rate Case
	(Evidence: Proposed Incentive Regulation Mechanism
	• Cost Allocation evidence for several Ontario electricity distributors (2011 Cost of Service)
2009	• Hydro One Distribution Rate Case
	(Evidence: Principles for Density Based Rates)
	• Cost Allocation evidence for several Ontario electricity distributors (2010 Cost of Service)
2008	• Provided technical and strategic assistance to eight second tranche electricity distribution companies in preparing their rebasing applications for rates for 2009.
	(Evidence: Cost allocation model updates (for two LDCs)

2007	• Third generation Incentive Regulation (Evidence: Inclusion of a capital expenditure factor) • Provided technical and strategic assistance to six first tranche electricity distributors in preparing their rebasing applications for rates for 2008.
2006	• Cost Allocation Review (EB-2005-0252) • Transmission Revenue Requirement Adjustment Mechanism (EB -2005-0501) • Second Generation Incentive Regulation Mechanism (EB -2006-0088-0089) (Evidence: Capital Investment Factor)
2005	• Sub-metering Review (EB-2005-0317) (Evidence: Comments on Staff Discussion Paper on Sub -metering) • Union Gas Rate Hearing (Evidence: Evaluation of Avoided Cost Methodology)
2004	• Enbridge Gas Distribution 2005 Rates (RP -2003-0203) (Evidence: Determining the Fair Rate of Return for a 15 -Month Period) (Evidence: Stand-alone System Supply Costs)
2003	• Generic Proceeding on Electricity Distributor Boundary Changes (RP -2003-0044) (Evidence: The Benefits of Competition in the Electrical Distribution Sector) • Union Gas Limited, 2004 Rates (RP-2003-0063) (Evidence: Monthly Demand Charge for Brighton Beach Power Station (with Paula Zarnett))
2002	• Union Gas Limited, 2003 Rates (RP-2002-0130/EB-2002-0363) (Evidence: Review of Union's Delivery Commitment Credit (with Joyce Poon))
2001	• Union Gas, Further Unbundling of Rates (RP -2000-0078) (Evidence: Regulatory Framework and Cost Responsibility) • Hydro One Networks, Cost Allocation and Rate Design for RP -2000-0023 (Evidence: Cost Allocation Model (with Bruce Bacon))
1999	• Propose Electric Distribution Rate Handbook (Evidence: Comments on Staff Proposals) • Standard Supply Service Code, (RP-1999-0040) • (Evidence: Comments and Alternate Proposal) • Enbridge, Year 2000 Rate Application (RP 1999 -0001) • Enbridge, Performance Based Regulation Application (EBRO 497 -01) • Enbridge, Ancillary Service Separation & Rental Wind Down (EBO 179-14/15)
1998	• Consumers Gas, 1999 Test Year Rates Application (EBRO 497) • Union Gas, Separation of Ancillary Services (EBO 177 -17)
1997	• Town of Aurora, Franchise Renewal (EBA 795) • Union Gas, Customer Information System (EBO 177 -15) • Legislative Change (EBO 202) • System Expansion Generic Hearing (EBO 188) • Consumers Gas, 1998 Test Year Rates Application (EBRO 495)
1996	• Union Gas/Centra Gas, 1997 Rates Application (EBRO 493/494) • Consumers Gas, 1997 Test Year Rates Application (EBRO 492) • Ontario Hydro, Review of 1997 Rates (HR-24)

1995	• Ontario Hydro, Review of 1996 Rates (HR-23)
	• Consumers Gas, 1996 Test Year Rates Application (EBRO 490)
	• Union Gas, 1996 Test Year Rates Application (EBRO 486)
	• Union Gas/Centra Gas, Shared Services Hearing (EBRO 486/489)
1994	• Centra Gas, 1995 Test Year Rates Application (EBRO 489)
	• Ontario Hydro International Hearing (EBRLG - 36)
	• Ontario Hydro Corporate Restructuring and 1995 Rates (HR-22)
	• Consumers' Gas, 1995 Test Year Rate Case (EBRO 487)
1993	• Joint Hearing on Direct Purchase Issues (EBRO 474 -B/476/483/484/485) (Evidence: Return-to-System Policies for Ontario LDCs)
	• Centra Gas, 1994 Test Year Rates Application (EBRO 483/484)
	• Consumers' Gas, 1994 Test Year Rate Case (EBRO 485)
	• Union Gas, 1994 Test Year Rate Case (EBRO 476 -03) (Evidence: Equity Effects of Union's Depreciation Study)
1992	• Consumers' Gas, 1993 Test Year Rate Case (EBRO 479)
	• Union Gas, 1993 Test Year Interim Rate Increase (EBRO 476)
1991	• Consumers' Gas, 1992 Test Year Rate Case (EBRO 473) (Evidence: Direct Purchase Issues)
	• Union Gas, Application for Rates and Cost of Gas (EBRO 462)
	• Centra Gas, 1992 Test Year Rates Application (EBRO 474) (Evidence: Direct Purchase Issues)

Before the Public Utilities Board of Manitoba

2015	• City of Winnipeg: Manitoba Hydro 2015/16 GRA and Manitoba Hydro COSS Review
2014	• Manitoba Hydro, NFAT DSM and Load Forecasting
2013	• Need for and Alternatives to Manitoba Hydro's Preferred Development Plan (Evidence: Review of Manitoba Hydro's Load Forecast) (Evidence: Review of Demand Side Management and Energy Efficiency issues)
2005	• Manitoba Public Insurance, 2006 General Rates Application (Evidence: Rate Stabilization Reserve and Related Issues)
2003	• Centra Gas Manitoba, 2003/04 General Rate Application, (Evidence: Comments on the Future Regulatory Methodology)
2002	• Manitoba Hydro, Rate Status Update (Evidence: Manitoba Hydro's Financial Requirements and Proposed Curtailable Rate Program, with William Harper)
	• Manitoba Hydro, Integration Proceeding (Evidence: Assessment of Manitoba Hydro/Centra Manitoba Integration, with William Harper)
2001	• Manitoba Public Insurance, 2002 General Rate Application (Evidence: Rate Stabilization Issues)
	• Centra Gas Manitoba, Primary Gas Rates (Evidence: Centra Gas Manitoba's Rate Setting Methodology)

2000	• Centra Gas Manitoba, Rate Management
	• Manitoba Public Insurance, 2001 General Rate Application (Evidence: MPI's Rate Stabilization Reserve Surplus)
	• Manitoba Hydro, Surplus Energy Program
1999	• Centra Gas Manitoba, Western T-Service and Agency Billing and Collection Service (Evidence: Assessment of the Proposals of the Company)
	• Manitoba Public Insurance, 2000 General Rate Application (Evidence: Rate Stabilization Reserve Risk Analysis)
	• Manitoba Hydro Purchase of Centra Manitoba (Evidence: Implications for Rates and the Regulatory Regime)
1998	• Centra Gas Manitoba, Rates Flowing from Board Order 79/98
	• Manitoba Public Insurance, 1999 General Rate Application (Evidence: Rate Stabilization Reserve, Allocation of Costs and IT Expenditures)
	• Centra Gas Manitoba, Feasibility Cost Assumptions Applicat ion (Evidence: Comments on Centra's Proposed Changes to the Feasibility Test)
	• Centra Gas Manitoba, 1998 Test Year General Rate Application (Evidence: Comments on Centra's Proposed Customer Information System)
1997	• Centra Gas Manitoba, Ste. Agathe Franchise Application
	• Manitoba Hydro, Review of ISE/DFH/SESS Programs
	• Manitoba Public Insurance, 1998 General Rate Application
	• Centra Gas Manitoba, Continuation of Shared Services Application
1996	• Centra Gas Manitoba, 1997 General Rate Application
	• Centra Gas Manitoba, Cost of Service and Rate Design Review
	• Generic Hearing on the Role of the LDC in Manitoba (Evidence: The Future Role of Centra Manitoba in the Supply of Natural Gas)
	• Manitoba Hydro, General Rate Application, 1996 and 1997
1995	• Centra Gas Manitoba, Price Management and Direct Purchase Issues
	• Application of the Gladstone, Austin Natural Gas Co -op Ltd.
	• Manitoba Hydro, Review of Prospective Cost of Service Study (GRA) (Evidence: Comments on the Prospective COSS Methodology)
	• Manitoba Hydro, Dual Fuel Heating and Industrial Surplus Energy Rates
	• Centra Gas Manitoba, Rural Expansion/Brandon Facilities Upgrade Hearings
	• Centra Gas Manitoba, 1995 General Rate Application (Evidence: Review of Centra's Weather Normalization Methodology)
1994	• Centra Gas Manitoba, Rural Expansion Hearing (Evidence: Rural Mains Expansion Feasibility Test)
	• Centra Gas Manitoba, Future Test Year Application (Evidence: Comparison of the Future and Historic Test Year methods of RB - ROR regulation)
	• Manitoba Hydro, General Rate Application, 1994 and 1995

1993	• Centra Gas Manitoba, Inc. 1994 General Rate Application
	• Manitoba Telephone System, Interconnect Hearing
	• Manitoba Telephone System, 1993 General Rate Application
1992	• Manitoba Telephone System, 1992 General Rate Application (Evidence: The appropriate debt ratio for a crown corporation)
	• Manitoba Hydro, General Rate Application, 1992
	• Centra Gas Manitoba, Inc. General Rate Application
1991	• Manitoba Telephone System, General Rate Application, 1991
	• Centra Gas Manitoba, Inc. Application for Interim Refundable Rate Increase
1990	• Manitoba Hydro, Major Capital Projects (Evidence: Hydro's 1000MW Ontario Sale and system planning risks)
	• ICG Utilities (Manitoba) Ltd., Generic Hearing on Rate Setting (Evidence: Implications of using a future versus historic test year)

Before the British Columbia Utilities Commission

2006	• British Columbia Transmission Corporation, 2006 Transmission Revenue Requirement
2005	• Insurance Corporation of British Columbia, Financial Allocation Workshop
	• FortisBC, General Rates Application (Evidence: Review of FortisBC Performance under PBR, 1996 to 2004) w. S. Motluk
2004	• Insurance Corporation of British Columbia, Financial A llocation Methodology (Evidence: Review of ICBC's Financial Allocation Methodology, with ICBC)
2002	• Pacific Northern Gas West and Northeast, General Rate Application
2001	• Utilicorp Networks Canada (formerly West Kootenay Power), Annual Review, 2001
2000	• Pacific Northern Gas, 2000-01 General Rate Application (negotiated)
	• West Kootenay Power, Annual Review, 2000
1999	• Centra Gas BC, 2000-02 Rates Application (negotiated)
	• BC Gas, Market Unbundling Group (Report to the BCUC)
	• West Kootenay Power, 2000-02 Rate Application (negotiated)
	• Pacific Northern Gas, 1999-00 General Rate Application (negotiated)
	• Annual Reviews of WKP and BC Gas
	• West Kootenay Power, Transmission Access Appli cation
1998	• BC Gas, Southern Crossing Pipeline Application (Revised)
	• Pacific Northern Gas, 1998-99 Revenue Requirement/Rate Design (Evidence on PNG's Cost of Service Methodology)
1997	• BC Gas, Southern Crossing Pipeline Application (Evidence on the impact of ratepayer risks related to the SCP due to developments in the competitive environment in the natural gas sector)
	• Annual Reviews of WKP and BC Gas.
	• West Kootenay Power, Cost of Service and Rate Design (negotiated settlement)

- Pacific Northern Gas Shared Services
- Retail Access and Unbundling Tariff Hearing (suspended)
  (Evidence on the impact of market restructuring on costs and rates)

1996
- BC Gas - 1996 Rate Design (negotiated settlement)
  (Evidence: Alternative Methods for Allocating Distribution Mains Costs to Customer Classes)
- BC Gas - 1996-1997, Revenue Requirement & IRP (negotiated settlement)
- West Kootenay Power - Brilliant Generating Station Transactions
- West Kootenay Power - General Rate Application/IRP (negotiated settlement)

1995
- Generic System Expansion Hearing
- BC Gas - General Rate Application (negotiated settlement)

1994
- BC Hydro, 1994 Rate Increase Application
- West Kootenay Power, 1994/95 Rates and Integrated Resource Plan
  (Evidence: Review of WKP's Integrated Resource Plan)

1993
- BC Hydro, 1993 Rate Increase Application
- BC Gas, Rate Design Hearing
  (Evidence: Analysis of BC Gas' cost studies and their use in setting rates)
- BC Gas - General Rate Application (settled and withdrawn prior to hearing)
- Generic Hearing, New Provincial Domestic Natural Gas Supply Policy

Before the Régie de l'énergie

2014
- Report for the Régie de l'énergie, Performance Based Regulation: A Review of Design Options as Background for the Review of PBR for Hydro Québec Distribution and Transmission Divisions

2001
- Hydro Québec, Transmission Rates (R-3401-98)
  (Evidence: HQT's Transmission Tariff Rate Design Method, with B. Bacon)
- Inclusion of Operating Costs in the Gasoline Price Floor Set by the Régie
  (Evidence: Review of Principles) (Régie File R-3457-2000)

2000
- SCGM Unbundling of Tariffs (R-3443-2000)
  (Evidence: SCGM's Unbundling Tariff Proposal, with R. Higgin)
- Gazifère, Rates (R-3446-2000)
  (Evidence: Cash Working Capital and Other Issues, with G. Morrison)

1999
- Operating Costs Borne by Gasoline or Diesel Fuel Retailers (R -3399-98)
  (Evidence: Methodology for Determining Operating Costs)
- Small Hydro Within Hydro Quebec's Resource Plan (R -3410-98)
  (Evidence: Determining the Purchase Price for Small Hydro)
- Gazifère, Year 2000 Rate Case
  (Evidence: Assessment of Cost Allocation and Revenue Sharing Proposals)

1998
- Hydro Québec, Rate-Setting Method Under s. 167, Régie de l'énergie Act.
  (Evidence: Recommendations on Regulatory Framework)
- Hydro Québec,The Role of Wind Power in the Quebec Energy Portfolio
  (Evidence: Issues Related to Establishing a Set-Aside)

Before the Alberta Utilities Commission (formerly Alberta Energy and Utilities Board)

2018	• ENMAX Energy Corporation, 2017-2020 Regulated Rate Option Non-Energy Tariff Application, Proceeding 23752 Evidence: Review of Encompass' Billing and Customer Care Cost Allocation Model
2001	• Generic, Gas Rate Unbundling (2001-093) (Evidence: Canadian Experience and Approaches)
	• Generic, Gas Cost Recovery Rate Methodology (2001 -040)

Before the Newfoundland & Labrador Board of Commissioners of Public Utilities

2015	• Newfoundland Power, 2016 Deferred Cost Recovery Application
	• Newfoundland Power, 2016-2017 General Rate Application
	• Newfoundland and Labrador Hydro, 2013 General Rate Application
2013	• Newfoundland Hydro General Rate Application
	• Newfoundland Power, General Rate Application (2013-2014)
2009	• Newfoundland Power, 2010 General Rate Application (Evidence: Assessment of five hearing issues)
2007	• Newfoundland Power, 2008 General Rate Application (Evidence: Regulatory instruments and other issues)
2006	• Newfoundland Power, 2007 Amortization and Cost Deferrals Application
2005	• Newfoundland Power, 2006 Accounting Policy Application (Evidence: Assessment of Newfoundland Power's Proposals)

Before the New Brunswick Energy and Utilities Board

2015	• 2015 New Brunswick Power Customer Cost Allocation Study Review (Evidence: Cost Allocation Study Review)
	• New Brunswick Power 2015/16 General Rate Applications
2014	• New Brunswick Power Financial Risk Management Policies
2013	• New Brunswick Power, PLGS Deferral Account (Matter No. 171) (Evidence: Options for the Recovery of the Point Lepreau Nuclear Generating Station Deferral Account Balance)
2010	• New Brunswick Power Distribution Corp, 2010 Rate Review
2009	• EGNB, Development Period hearing
	• New Brunswick Power Distribution Corp, 2009 Rate Review
2008	• New Brunswick Power Distribution Corporation, PDVSA Deferral Account
2007	• New Brunswick Power Distribution Corporation, PDVSA Deferral Account (Evidence: Treatment of the Petroleos De Venezuela, S.A. (PDVSA) Settlement in Setting Rates)

Before the Nova Scotia Utility and Review Board

2016	• Efficiency One, Updated Cost Allocation Methodology
2015	• Efficiency Nova Scotia 2015 Corporate Costs
2013	• NSPI Capital Expenditures for the South Canoe Wind Project (CI# 42127) (Evidence: Treatment of costs associated with competitive wind power project)
	• Town of Antigonish Electric Utility Large User Rate (Evidence: Cost Allocation)
2011	• Nova Scotia Power, 2011 Annual Capital Expenditure Plan
	• Nova Scotia Power, Load Retention Tariff (Evidence: Load Retention Tariff Methodology)
	• Heritage Gas, 2012 General Tariff Application
	• Efficiency Nova Scotia, Compliance Filing (Cost Allocation Methodology Report)
2008	• Town of Antigonish Electric Utility rate process (Evidence: Comments on the Town of Antigonish Electric Utility Revised Cost of Service Study)

Before the National Energy Board

1999	• BC Gas, Southern Crossing Project

Before the Canadian Radio television and Telecommunications Commission

2016	• Review of Basic Telecommunications Services, Consultation CRTC 2015-134
2010	• Obligation to Serve and Other Matters (NC 2010 -43) (Evidence: Analysis of Issues Related to Local Service Subsidy)
2006	• Review of Price Cap Framework (PN 06-5)
2001	• Implementation of Price Cap Regulation for Québec-Téléphone & Télébec (PN 01-36) (Evidence: Designing a Consistent Price Cap Regime)
	• Price Cap Review (PN 01-37) (Evidence: The Second-Generation Price Cap Regime)
	• Recovery of 2000 and 2001 Income Tax Expense (PN 00 -108) (Evidence: Appropriate Recovery of MTS Income Tax Expense)
2000	• Scope of Price Cap Review (PN 00-99)
	• Sunset Rule for Near-Essential Facilities (PN 00-96)
	• Access to Municipal Property in the City of Vancouver (PN 99 -25)
	• Review of Contribution Collection Mechanism (PN 99 -6) (Evidence: Review of Contribution Collection Mechanism)
	• Review of Direct Connection Charges
1999	• Review of Frozen Contribution Rate Policy (PN 99 -5) (Evidence: Comments on the Frozen Contribution Rates Policy)
	• High Cost of Serving Areas (PN 97-42)

1998
- Local Number Portability Start-up Costs (PN 98-10)
- Competition in the Provision of International Telecom Services (PN 97 -34)

1997
- Implementation of Price Caps (PN 97-11)
- Review of Joint Marketing Restrictions (PN 97 -14/97-21)
- Forbearance from Regulation of Toll Services by Dominant Carriers (96 - 26)
- -Regulation of Telecom Services Offered by Broadcast Carriers (PN 96 -36)

1996
- Scope of Contribution (PN 96-19)
- Bell Canada, Business Rate Restructuring (PN 96 -13)
- Price Cap Regulation and Related Issues (PN 96-8)
  (Evidence: Evidence addressing the design of the price cap system)
- Local Interconnection and Network Component Unbundling (PN 95 -36)
  (Evidence: Mechanisms for Collecting Contribution)
- AGT, General Rate Application
- Local Services Pricing Options (PN 95-49/95-56)
  (Evidence: Mechanisms for Pursuing the Goal of Universally Available Basic
- Telephone Service in Low-Penetration Exchanges)

1995
- Review of Phase II (PN 95-19)
- Regulatory Framework for Ontario Independent Telephone Cos. (PN 95-15)
- Split Rate Base Hearing (PN 94-52, 94-56 and 94-58)
  (Evid: Applicability of the Decision 94 -19 Regulatory Framework to MTS)
- Review of the Regulatory Framework of Teleglobe Canada Inc. (PN 95 -11)
- Review of the Quality of Service Indicators (PN 94-50)
- Bell SYGMA Hearing (PN 94-53)

1994
- Regulatory Framework
  (Evidence: A Proposed Regulatory/Structural Alternative)
- Maritime Tel, General Rate Increase
- Island Tel, General Rate Increase
- BC Tel, General Rate Increase
- AGT, General Rate Increase
- Northwestel, General Rate Increase (paper hearing)
- Bell Canada, General Rate Increase
- Teleglobe, Annual Construction Program Review (paper hearing)
- New Brunswick Tel, Annual Construction Program Review (paper hearing)

1992
- Bell Canada - 1992 Annual Construction Program Review
- AGT - 1992 Annual Construction Program Review

1991
- Bell Canada - 1991 Construction Program Review

1990
- Maritime Telegraph & Telephone, Review of Revenue Requirem ent 1990-91
  (Evidence on the impact of modernization)
- Island Telephone Company, Review of Revenue Requirement 1990-91
  (Evidence on the impact of modernization)
- Review of Cable Television Regulations
  (Evidence on alternative forms of regulation)

Before the Ontario Telephone Services Commission

1992	• Review of Rate-of-Return Regulation for Public Utility Telephone Companies. (Evidence: The need for OTSC regulation of municipal public utility telcos)

Before the Ontario Securities Commission

1985	• Securities Industry Review (Evidence: Industry structure and the form of regulation)
1983	• Role of Financial Institutions in the Securities Industry (Evidence: Discount Brokerage and the Role of Financial Institutions)
1982	• Institutional Ownership of, and Diversification by, Securities Dealers (Evidence: The impact of foreign and institutional entry)
1981	• The Unfixing of Brokerage Commission Rates (Evidence: The impact of price competition on the securities industry)

Before the Ontario Municipal Board

1995	• Appeal of Boundary Expansion by Lincoln Hydro Electric Commission (Affidavit prepared on the tests for boundary expansions)
1992	• Evidence dealing with the *Rental Housing Protection Act, 1989*

Before the Supreme Court of Ontario

1990	• Challenge of the Residential Rent Regulation Act (1986) under the *Canadian Charter of Rights and Freedoms* (Evidence: The impact of rent regulation on Ontario's rental housing market)

Before the Saskatchewan Court of Queen's Bench

1993	• Evidence regarding market dynamics and competition policy

Non-Hearing Processes

2016	• OEB, Commercial and Industrial Rate Design, EB-2015-0043 (with MichaelRoger)
2012	• Review of SaskPower's Cost Allocation Methodology (with Michael Roger)
2011	• Developing a regulatory training course for Ontario electricity distributors
2010	• Expert Advisor to the Ontario Energy Board for the Cost Allocation Review

2009	• Expert Advisor to New Brunswick Department of Energy on regulatory matters related to the proposed purchase of NB Power assets by Hydro Quebec
2008	• Expert Advisor to Ontario Energy Board for the Rate Design Review
2007	• Workshop on Electricity Market Design for the Electricity Regulatory Authority of Vietnam
2006	• Workshop on Regulatory Methodology for the Government of Vietnam (electricity regulator, Ministry of Energy and state -owned enterprises) with Marie Rounding
2004	• Vitamin Price Fixing • Allocation of debt related to separation of electric utilities
2001	• BC Gas, Second Generation Performance Based Regulation Negotiation • Telecommunications Industry, Price Cap Review Negotiation
1999	• PBR Task Force (Electricity), Ontario Energy Board • Market Unbundling Group (BC Gas), British Columbia Utilities Commission • Western Supply Transportation Service (Centra Gas Manitoba), Manitoba PUB
1998	• Market Design Task Force, Ontario Energy Board
1997	• Ten Year Market Review, Ontario Energy Board

Commercial Arbitrations and Lawsuits

2015	• Franchise terms and conditions dispute
2014	• Disputed electricity hedging contract • Dispute of prudence of hedging electricity price
2013	• Analysis of options for pricing of live chickens under Regulation 402
2006	• Disputed Power Purchase Agreement (PPA)
2004	• Evidence on the interpretation of a Gas Purchase Agreement (GPA)

Facilitation Activities

2015	• Strategic Planning sessions with Executive and Board of Directors
2010	• Strategic Planning Process for the Boards of Directors of an Ontario electricity distributor
2008	• Strategic Planning Processes for the Boards of Directors of electricity distributors
2007	• Stakeholder facilitation for Ontario Power Generati on in relation to its Regulated Payment Amounts
2004	• Ontario Energy Board, Review of Further Efficiencies in the Electricity Distribution Sector (RP-2004-0020) (with IBM Consulting) • Visioning Session: Structural Review of an association of Ontario electric LDCs • Business Plan Visioning Session with the Board of Directors of an Ontario electric LDC
2000	• Ontario Energy Board, Distribution Access Rule Task Force

Other Regulatory Issues Researched

- New Brunswick Department Energy & Mines: SEUF Review
- New Brunswick Department Energy & Mines: Enbridge Gas New Brunswick Analysis of Changing Regulatory Environment for LDC Board of Directors (2014)
- Board of Directors Compensation (2014)
- Analysis of strategic options for an Ontario electricity distributor
- Review of productivity enhancements for an Ontario electricity distributor
- Review of Conditions of Service for several Ontario electricity distributors
- Review of Economic Evaluation models and methodologies for several Ontario electricity distributors
- "Benchmarking for Regulatory Purposes" (with First Quartile Consulting) for the Canadian Association of members of Regulatory Tribunals (CAMPUT)
- "Review of Potential Regulatory Cost Measures" (a Report for the OEB)
- "Survey of Regulatory Cost Measures" (a Report for the Ontario Energy Board)
- OEA Working Dialogue on OEB Regulating Efficiency and Effectiveness (2007)
- Regulatory Cost Measures for the Ontario Energy Industry (2007)
- "Designing an Appropriate Lost Revenue Adjustment Mechanism (LRAM) for Electricity CDM Programs in Ontario"
- Small Hydro PPA Terms and Conditions
- Ontario Electricity Supply Mix
- Mitigation of Regulatory Risk for Utilities
- Regulatory Benchmarking
- Cross-jurisdictional Survey of Regulatory Efficiency
- Renegotiation of Municipal Franchise Agreement

PAPERS AND RESEARCH PROJECTS

Regulated Industries:

- *Report on the Effects of Separating Hydro One's Transmission and Distribution Functions.*
- *Report on Hydro One Privatization Options.*
- *The Impact of Complete Deregulation on Market Efficiency of the Gas and Electric Industry in Alberta Post-2005 Assuming Current Market Dominance.*
- *Analysis of a Possible Equity Infusion for Ontario Hydro: Potential Implications for Financing Costs.*
- *Volatility in the Ontario Electricity Market, by ECS with Snelson International Energy.*
- *An Assessment of Price Volatility in the Ontario Electricity Market.*
- *Analysis of MTS Privatization Plan.*
- *Comments on the Issues Identified in the December 1995 Working Paper of the Advisory Committee on Competition in Ontario's Electricity System, A submission on behalf of The Power Workers'Union.*

- *Telecommunications Municipal/Franchise Tax Design Options (with Dr. E. Slack).*
- The Implications of Phase III Costing for the Rates and Toll Settlements of Independent Telephone Companies (with Andrew Roman).
- Submission to the Department of Communications (Canada) (August 1990): *Towards Competition in Telecommunication and Cable TV Services: A Single Switched Broadband Distribution Facility* (Comments of the Public Interest Advocacy Centre, with Robert E. Horwood and Gaylord Watkins).
- Submission to the Department of Communications (Canada) (May 1990): *Fibre Optic Networks: Facilitating Competition in Telecommunication and Television Services for the Benefit of All Users* (Comments of the Public Interest Advocacy Centre, with Robert E. Horwood and Gaylord Watkins).
- Submission to the CRTC concerning cable television regulation on behalf of the Public Interest Advocacy Centre (with Carmen Baggaley).
- Analysis of financing alternatives for Toronto Hydro's 13.8 kV conversion program for the City of Toronto Parks and Recreation Department.
- Analysis of the MacEachen White Paper on "Inflation and the Taxation of Personal Investment Income" for the Ontario Economic Council.
- Submission to the Parliamentary Committee commenting on the April 1985 Finance Green Paper, "The Regulation of Financial Institutions: Proposals for Discussion" prepared on behalf of the Public Interest Research Centre.

Financial Markets:

- Analysis of the potential consumer benefits from insurance retailing by financial institutions in Canada for the Public Interest Research Centre.
- Development of a financial model for projecting the financial implications of alternative corporate structures.
- Developed model for projecting cash flows for a major land development project.
- Analysis of the impact on the capital markets of changes to the investment rules for public sector pension funds for the Task Force on the Investment of Public Sector Pension Funds (with Prof. John Bossons).
- Review of the OSC proposals and alternatives for relaxing ownership restrictions in the securities industry prepared for the Ontario Securities Commission for submission to the Premier's Office (with Prof. Tom Courchene).
- Analysis of the Impact of Opening the Ontario Securities Market on the Economy of Toronto for a major Canadian securities dealer.
- Response to the December 1984 "Interim Report of the Ontario Task Force on Financial Institutions" for Consumer and Corporate Affairs (Canada).
- Report on functional integration in the Canadian financial services sector for the Australian Merchant Bankers' Association.
- Analysis of the Canadian and American Experience with Partially Negotiable Brokerage Commission Rates for the Australian Merchant Bankers Assoc.

- Served as a North American contact for the Office of Fair Trading (United Kingdom) providing information on developments in the debate over unfixing of brokerage fees, entry of banks into securities dealing and related matters.
- Development of a computerized package for analyzing the effects of alternative tax systems on business investment. Prepared for the Ontario Government reference to the Ontario Economic Council to study a separate personal income tax for Ontario.
- "An Analysis of the Use of Component Internal Rates of Return for Fund Performance Measurement" for Canadian National Investments.
- Analysis of Canadian Stock Market Data (development of a computer package for evaluating investment portfolio efficiency).
- Redesign and periodic updating of the financial, analysis methodology for Alfred Bunting and Co.
- Developed an APL computer package for teaching Business Finance concepts.

Housing:

- Potential Impact of Rent De-Control on Selected Markets in Ontario
- Review of the Ontario Auditors analysis of the cost of social housing.
- *Future Social Housing Delivery Opportunities in Metro Toronto.*
- Development of a model for projecting core need households to 2011.
- Analysis of the City of Toronto's approach to the valuation of certain properties developed under the *Rental Housing Protection Act, 1989.*
- *Security of Tenure Issues Pertaining to Co-operative Housing.*
- *Rent Regulation in Ontario*, a report prepared as expert Evidence for a Charter of Rights challenge of Ontario's system of rent regulation (with W.T. Stanbury).
- Feasibility study of enhancements to long term housing forecasting models (demographic factors) with David Foot.
- Feasibility study of enhancements to long term housing forecasting models (economic factors).
- Review of the housing situation in the Greater (Toronto) Metropolitan Region in 1988 and the next decade for the Ontario Ministry of Housing.
- Treatment of the Assisted Rental Program under rent regulation for the Ontario Ministry of Housing.
- Alternatives for implementing of the chronically depressed rent provision of the Residential Rent Regulation Act, 1986.
- Projected rental housing requirements to 1996, by unit rent level for Ontario Ministry of Housing.
- Analysis of the effects of the Canadian Home Ownership Stimulation Program on housing starts for Canada Mortgage and Housing Corporation.
- Energy Efficiency of New Housing (with Peat, Marwick and Partners and Scanada Consultants Limited) for Canada Mortgage and Housing Corporation.
- A Model of Supply and Demand in the Market for Housing for the Ontario Ministry of Housing.
- Several publications and presentations shown in the Academic Profile (see below).

Other Areas:

- Economic analysis of the market impact of the merger of two Canadian trucking companies in the context of the Competition Act.
- Assisted a Joint Task Force of the Ontario Ministries of Social Services and Health to develop a cost project model of alternative long-term health care delivery systems.
- Study of Tax Incentives for Film and Television (joint project with Dr. E. Slack) for the Canadian Film and Television Association.
- Economic Analysis of Tax Incentives for the Film Industry (joint project with Dr. E. Slack) for the Department of Communications.
- Economic Impact of Cultural Institutions for Ontario Association of Art Galleries with the Ontario Federation of Symphony Orchestras and the Toronto Theatre Alliance.
- Economic Impact of Art Galleries' Expenditures on their Local Communities for the Ontario Association of Art Galleries.
- Developed a case study of the potash pro-rationing scheme invoked by the Saskatchewan government for the Faculty of Management Studies, Univ. of Toronto.
- Analysis of Regional Municipality of Niagara financial information for the Niagara Region Review Commission.
- Analysis of Ottawa/Carleton regional government's financial information, and comparison with other regional governments, using the MARS database (with Dr. E. Slack).
- A Dynamic Simulation Model of the North York Secondary School System for Planning for Declining Enrolment for the Ontario Institute for Studies in Education, Department of Educational Planning (with Dr. S. Padro).
- Development of an extension to the Limits to Growth World III Model incorporating commodity prices, technology, disaggregated regions and energy resources into the model.
- Development of a computer program for solving the Dynamic Transportation Problem (with Professors Sethi and Bookbinder at the Faculty of Management Studies, University of Toronto).

PRESENTATIONS

- Productivity Benchmarking Panel at Canadian Electrical Association RITG CAMPUT Workshop (May 2016)
- Utility Cost Recovery in an Era of Ageing Infrastructure, Technological Change and Increasing Customer Service Expectation, CEA Legal Committee and Regulatory Innovations Task Group (June 2016)
- MEARIE Training Program, 2016 OEB Update
- MEARIE Training Program, Regulatory Essentials for LDC Executives (2016)
- Issue in Regulatory Framework for Tenaga Nasional Berhad, Indonesia (with Cynthia Chaplin & London Economics) (2015)

- Witness Training for electric utilities 2014 - 2016
- MEARIE Training Program, Regulatory Essentials for LDC Executives (2014)
- MEARIE Training Program, Regulatory Specialist Certificate Course, (2011 – 2014)
- "Innovations in Rate Design", CAMPUT Training Session, Annually 2010-2013
- "Cost of Service Filing Requirements" (2010) 2nd Annual Applications Training for Electricity Distributors, Society of Ontario Adjudicators and Regulators in cooperation with the Ontario Energy Board
- "Green Energy Act" (2010) 2nd Annual Applications Training for Electricity Distributors, Society of Ontario Adjudicators and Regulators in cooperation with Ontario Energy Board
- "Rate Design", CAMPUT Training Session, Annually 2009- 2013
- "How to Build Transmission and Distribution to Enable FiT: The Role of Distributors", EUCI Conference on Feed in Tariffs, Toronto, Sept. 2009
- "Distributor Mergers and Acquisitions: Potential Savings", 2007 Electricity Distributors Ass
- "Beyond Borders" Regulating the Transition to Competition in Energy Markets (with Fred Hassan), EnerCom Conference March 2006.
- "Low-Income Energy Plan for Peterborough City & County", 2006 LIEN-AHAC Conference
- "The "Deregulated Retail Energy Sector in Ontario", Toronto Association of Business Economists, Oct. 2003.
- "Other Approaches to Rate Regulation", CAMPUT Annual Meeting, Sept. 2003.
- "Price Projection: Will the Rate Freeze be Revenue Neutral?" at Canadian Institute Conf., The Impact of Ontario's New Electricity Market on Large Power Consumers Jan. 2003.
- "Managing Energy Price Risk: Impact of Market & Regulatory Developments on Price Risk Management", Canadian institute Conference, Toronto, October 21, 2002.
- "Location Based Marginal Pricing: Will it Happen?" Ontario Energy Contracts, Insight Conference, Toronto, October 1, 2002.
- "The Evolution of the North American Energy Market" Canadian Gas Association Executive Conference, Vancouver, June 2002.
- "Alternate Dispute Resolution: Can Everyone Win?" Canadian Gas Association Breakfast, Whistler, British Columbia, May 7, 2002.
- "Incentive Regulation and Commodity Competition Impacts on Quality of Service & Rates", CAMPUT Regulatory Educational Conference, Whistler, BC, May 7, 2002.
- "Energy Deregulation Developments and Impacts on the HVACR Industry", HRAI's 33rd Annual Meeting, August 23-25, 2001 Huntsville, Ontario.
- "Natural Gas Delivery Regulation in Canada", HRAC Conference on Natural Gas in Nova Scotia, Halifax, Nova Scotia, August 25, 1999.
- "Licensing as a Regulatory Approach" Thirteenth Annual CAMPUT Regulatory Educational Conference, Saint John, New Brunswick, May 4, 1999.
- "The Impact of Restructuring Electricity Markets on Customers", West Kootenay Power 1998 Annual Conference, The Dawn of Customer Choice, Kelowna, B.C., Dec. 2, 1998.
- "Gaining Access to the Retail Customer", *Electricity Competition in Ontario, New Rule, New Opportunities, New Players* (Canadian Institute Conference), Toronto, Oct. 1998.
- "The Future: Mega-BTU Inc.?" (Plenary session) Twelfth Annual CAMPUT Regulatory

Educational Conference, Banff, Alberta, April 27, 1998.

- "Protecting Low Income Consumers' Access: Lessons Learned From Other Countries," Twelfth Annual Energy Affordability Conference, National Consumers Law Center, Washington, D.C, February 26-27, 1998.
- "Competition: What happens downstream of the meter?" (Plenary) Eleventh Annual CAMPUT Regulatory Educ. Conference, Whistler, B.C., May 6, 1997.
- "Brokers, Marketers and the Public Interest" Eleventh Annual CAMPUT Regulatory Educational Conference, Whistler, B.C., May 6, 1997.
- "Separation of Gas Supply, Merchant Functions & Other Alternatives," Tenth Annual CAMPUT Regulatory Educ. Conf., Niagara-on-the Lake, May 1, 1996.
- "The Impact of Deregulation on the Public Interest," Tenth Annual CAMPUT Regulatory Educational Conference, Niagara-on-the Lake, April 30, 1996.
- "Marketing to Low- and Moderate-Income Consumers in the New Competitive Market: Lessons Learned from Other Industries," Tenth Annual Energy Affordability Conference, National Consumers Law Center, Washington, D.C, February 22, 1996.
- "Where Should We be Going?" OEB Ten Year Market Review Workshop, Jan. 31, 1996.
- "Restructuring the Electrical Power Industry in Ontario" for the Board of Directors of Ontario Hydro on behalf of the Power Workers' Union, August 1995.
- "A New Vision for Ontario's Electric Demand/Supply Future" panel presentation, Opening Plenary Session of the Canadian Independent Power Conference, Toronto, Dec. 1993.
- "Trends in Rental Housing Affordability by Income Level in Ontario" presented at the 1992 meetings of the Canadian Economics Assoc., Charlottetown, PEI.
- "An Evaluation of Rent Regulation as an Instrument for Meeting the Housing Needs of Renters in Ontario," presented to the Ontario Standing Committee on General Government, August 1991.
- with S.W. Hamilton (Sept 1990) "Housing and the Regulatory Environment", a paper presented at the Housing Young Families Affordability Symposium, (Vancouver: Canadian Housing and Renewal Association/Canada Mortgage and Housing Corp.)
- "New Telecommunications Technologies: Who Pays? Who Benefits?" presented at the 1990 (June) meetings of the Canadian Economics Assoc., Victoria, B.C.
- with W.T. Stanbury, (1989) "Rent Controls as a Prisoner of War Game", Canadian Real Estate Research Bureau, Faculty of Commerce and Business Administration, University of British Columbia, #89-ULE-019.
- "The Implications of Rent Regulation for Housing Market Models" presented at 1989 (June) meetings of the Canadian Economics Association, Quebec City.
- "Price Caps - An Alternative to Rate of Return Regulation?" at the Canadian Association of Members of Public Utility Tribunals/Centre for the Study of Regulated Industries, Annual Regulatory Studies Training Programme, McGill University, May 14-18, 1989.
- "Living with Rent Regulation in Ontario" at the 35th North American meetings of the Regional Sciences Association, Toronto, November 1988.
- "A Survey of the Research of the Thom Commission," at *Rent Control: The International Experience*, John Deutsch Institute Roundtable, Queen's University, September 1987.
- Invited address on "Forecasting the Regulatory Environment of Financial Institutions" sponsored

by the University of Michigan - Flint as the 1985 paper for their annual *Lectures on the American Economy and the Business Community* series.

- "Collapsing Barriers Between Banking and Other Financial Institutions" at the 1984 Canadian MBA Conference, McMaster University.
- The economic impact of cultural activities for conferences of National Museums of Canada, Canadian Conference on Heritage Resources, Canadian Museums Association, Ontario Association of Art Galleries, and Ontario Federation of Symphony Orchestras.

PUBLICATIONS

Refereed Books and Monographs:

- with W.T. Stanbury (February 1990) *Rent Regulation: The Ontario Experience*, (Vancouver: The Canadian Real Estate Research Bureau).
- with W.T. Stanbury (January 1990) *The Housing Crisis: The Effects of Local Government Regulation*, (Vancouver: The Laurier Institute).
- with T. Courchene and L. Schwartz (October 1986) *Ontario's Proposals for the Canadian Securities Industry*, Observation No. 29, (Toronto: C.D. Howe Inst.).
- (1983) *Price Competition in the Canadian Securities Industry: A Test Case of Deregulation*, (Toronto: Ontario Economic Council).
- with G.F. Mathewson (1982) *Information Entry and Regulation in Markets for Life Insurance - Part II Overview and Policy Implications*, (Toronto: Ontario Economic Council).

Refereed Articles:

- with W.T. Stanbury (1990) "Landlords as Economic Prisoners of War", *Canadian Public Policy*, XVI no.4.
- with G.D. Quirin and S.P. Sethi (1977) "Market Feedbacks and the Limits to Growth", *INFOR*, Vol. 15, No. 1.

Other Publications:

- (1992) *Technology, Competition and Cross-subsidization in the Canadian Telecommunications Industry*, (Ottawa: Public Interest Advocacy Centre).
- (April 1990) *Paying for What You Need: Technological Advances and Competition in Telecommunications*, (Ottawa: Public Interest Advocacy Centre).
- with Andrew Roman and Robert Horwood, (1989) *Insurance Retailing by Financial Institutions in Canada*, (Ottawa: Public Interest Research Centre).
- with Douglas G. Hartle (1983) "The TAX-2 Model and Results" in *A Separate Personal Income Tax for Ontario: An Economic Analysis*, Special Research Report, (Toronto: Ontario Economic Council).
- (1982) "Commentary" in *Inflation and the Taxation of Personal Investment Income: An Analysis and Evaluation of the Canadian 1982 Reform Proposals* (edit. D.W. Conklin), Special Research Report (Toronto: Ontario Economic Council).

TEACHING

1989	Economics of Housing, Scarborough College, University of Toronto
1979 – 1985	Engineering Economy, Faculty of Engineering, University of Toronto
1982 – 1985	Computerized Business Systems (B.A. Program), and Management Information Systems (M.B.A.), Canadian School of Management
1979	Introductory Economics at St. George Campus, University of Toronto
1977 – 1979	Economic Principles at Erindale College, University of Toronto
1980 – 1985	Scuba diving instruction for Basic Diver, Sport Diver, Assistant Instructor and Instructor courses (National Association of Underwater Instructors).

RESEARCH MANAGEMENT

1983 – 1987

- Research Director: Commission of Inquiry into Residential Tenancies.
- Directing a staff of four in house researchers on various background studies on Ontario's housing market and the literat ure related to rent regulation. Managed thirty external projects on topics related to the housing market and rent regulation.

1978 – 1980

- Research Officer: Ontario Economic Council.
- Research was conducted in the areas of regulation of the securities industry, mineral resource taxation policy, and Federal Provincial energy policy.
- Other duties included managing ten external research contracts on topics in regulation and directing the work of research assistants.

OTHER ACTIVITIES

- Organizing Committee for the Concert for Inclusion in support of ParaSport Ontario
- Chairman of the Board of Directors of the Ontario Energy Marketers Association (formerly the Direct Purchase Industry Committee) and Executive Director of the Association.
- Invited participant in the Ontario Energy Board's External Advisory Committee.
- Panelist for "Administrative Tribunals and ADR", Osgoode Hall Law School, Professional Development Program, Continuing Legal Education, April 1997.
- Participation on behalf of OCAP in consultative processes related to direct purchase and integrated resource planning in the Ontario natural gas industry.
- Former Member of the Board of Directors of East Toronto Community Legal Services.
- Former Chairman of the Board of Directors of the Festival of Canadian Theatre.
- Articles in the editorial section of the Financial Times of Canada on policies for reforming Ontario's system of rent regulation (June 1990) and federal proposals regarding bank directorships (February 1991).
- Numerous appearances on CBC radio and television commenting on energy industry issues, competition, regulation and mergers in the Canadian economy.

- Refereed articles and research studies for *Canadian Public Policy*, *Queen's Quarterly* and Consumer and Corporate Affairs, Canada.
- Several organizations have been assisted in developing their research agendas, writing submissions to government on economic issue, or in other advisory capacities. Clients include the Public Interest Research Centre (topics include airline deregulation, Via Rail, telephone solicitation, Bell Canada's rate structure, frequent flyer programs, price cap regulation, and home equity conversion), Ontario Association of Art Galleries (arts funding and economic impact), Public Affairs Management, Inc., City of Toronto, Parks and Recreation Department, and Goldfarb Consultants.

CLIENTS

Private Sector Companies

Alfred Bunting & Co.
Auto Haulaway Inc.
BC Rail
Buttcon Ltd.
Canadian National Investments
Comdisco Canada Inc.
Devon Canada
Eastern Power
EnCana
Enbridge Gas Distribution
Enron Trade and Capital Canada
Fine Line Communications Ltd.
Fuji Electric (Tokyo)
Great West Life Assurance Co.
Hydro One Networks Inc.
Insurance Corp. of British Columbia
New Brunswick Power (Disco)
Ontario Power Generation
Sithe Canada
Terasen Gas
Union Gas Limited
Over 30 Ontario electricity distributors

Algonquin Power
BC Gas Utilities Limited
Canavest House Ltd.
Coral Energy
Direct Energy
ENERconnect
EnCana Corporation
Financial Times of Canada
FortisBC
Goldfarb Consultants
Highmark Properties
Hydro Québec
McLeod Young Weir
Ontario Hydro Services
Shulman Communications Inc.
Star Produce
The Morassutti Group
Wirebury Connections Inc.
Client Law Firms include:

- Borden Ladner Gervais
- Gowlings
- Stewart McKelvey
- Stikeman Elliott

Industry and Other Associations

Association for Furthering Ontario's Rental Development
Australian Merchant Bankers' Association
Canadian Association of Members of Public Utilities Tribunals (CAMPUT)
Canadian Business Telecommunications Alliance
Canadian Film and Television Association
Canadian Independent Telephone Association
Canadian Museums Association

Cornerstone Hydro Electric Concepts
Electricity Distributors Association
Manitoba Keewatinowi Okmakanak
Ontario Association of Art Galleries
Ontario Energy Association
Ontario Federation of Symphony Orchestras
Power Workers' Union (CUPE 1000)
Toronto Theatre Alliance

Consumers' Association

Action réseau consommateurs (formerly La Fédération Nationale des Associations de Consommateurs du Québec)
Alberta Council onAging
Alert on Welfare
British Columbia Old age Pensioner' Association
Canadian Pensioners Concerned (Nova Scotia Division)
Consumers Association of Canada (National; Manitoba Branch; Alberta Branch; Northwest Territories Branch)
Consumers Fight Back Association
Council of Senior Citizens' Organizations
Co-operative Housing Assoc. of Ontario
Federated Anti-Poverty Groups of British Columbia
Manitoba Society for Seniors
The National Anti-Poverty Organization
Nova Scotia League for Equal Opportunities
Ontario Coalition Against Poverty
Option Consommateurs
PEI Council for the Disabled
PEI Senior Citizens Federation
People on Welfare for Equal Rights
Public Interest Research Centre
Rural Dignity of Canada
Rural Dignity, PEI Chapter
Senior Citizen' Association
Social Action Commission

Counsel for Consumers' Associations

British Columbia Public Interest Advocacy Centre
Legal Aid Manitoba, Public Interest Law Centre
Newfoundland Consumer Advocate
Public Interest Advocacy Centre (Ottawa)

Government

Regulatory Tribunals

Alberta Utilities Commission
Manitoba Public Utilities Board
Ontario Energy Board
Ontario Securities Commission
Régie de l'énergie

Federal

Canada Mortgage and Housing Corporation
Canadian Conference on Heritage Resources
Consumer and Corporate Affairs (Canada)
Department of Communications (Canada)
Director of Investigation and Research, Combines Investigation Act
St. Lawrence Seaway Authority

Provincial

Alberta Department of Energy
Commission of Inquiry into Residential Tenancies
Efficiency Nova Scotia
Independent Electricity System Operator (IESO)
New Brunswick, Department of Energy
Niagara Region Review Commission
Ontario Economic Council
Ontario Institute for Studies in Education, Department of Educational Planning
Ontario Ministry of Community and Social Services
Ontario Ministry of Health
Ontario Ministry of Housing (Corporate Policy and Planning; Rent Review Policy, Housing Field Operations)
Ontario Task Force on the Investment of Public Sector Pension Funds
Ottawa/Carleton Region Review Commission
University of Toronto

Other

City of Calgary Electrical System
City of Peterborough
City of Toronto, (Telecom; Housing; Parks and Recreation)
City of Winnipeg
Halifax Regional Municipality
Manitoba NDP Caucus
Office of Fair Trading (United Kingdom)
St. Francis Xavier University
Toronto Harbour Commissioners
Four municipally operated public utility telephone system