Newfoundland & Labrador

BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

IN THE MATTER OF THE

2021 CAPITAL BUDGET APPLICATION

FILED BY

NEWFOUNDLAND POWER INC.

DECISION AND ORDER OF THE BOARD

ORDER NO. P.U. 37(2020)

BEFORE:

Darlene Whalen, P. Eng., FEC
Chair and CEO

Dwanda Newman, LL.B.
Vice-Chair

John O'Brien, FCPA, FCA, CISA
Commissioner

NEWFOUNDLAND AND LABRADOR
BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

AN ORDER OF THE BOARD

NO. P.U. 37(2020)

IN THE MATTER OF the *Electrical Power Control Act, 1994*, SNL 1994, Chapter E-5.1 (the "*EPCA*") and the *Public Utilities Act*, RSNL 1990, Chapter P-47 (the "*Act*"), as amended, and regulations thereunder; and

IN THE MATTER OF an application by Newfoundland Power Inc. for an Order pursuant to sections 41 and 78 of the *Act*:

(a) approving a 2021 Capital Budget of $111,298,000;
(b) approving certain capital expenditures related to multi-year projects commencing in 2021; and
(c) fixing and determining a 2019 rate base of $1,153,556,000.

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I BACKGROUND

1. The Application

Newfoundland Power Inc. ("Newfoundland Power") filed its 2021 Capital Budget Application (the "Application") with the Board of Commissioners of Public Utilities (the "Board") on July 9, 2020. In the Application Newfoundland Power requested that the Board make an order:

(a) approving a 2021 Capital Budget of $111,298,000;
(b) approving certain capital expenditures related to multi-year projects commencing in 2021; and
(c) fixing and determining a 2019 rate base of $1,153,556,000.

Notice of the Application, including an invitation to participate, was published on July 18, 2020. Details of the Application and supporting documentation were posted on the Board's website.

On July 30, 2020 intervenor submissions were received from Newfoundland and Labrador Hydro ("Hydro") and the Consumer Advocate, Dennis Browne, Q.C. (the "Consumer Advocate"), indicating an intention to participate in the Application.

On August 11, 2020 Newfoundland Power provided an overview of the Application in a presentation to representatives from Hydro, the Consumer Advocate, counsel for the Consumer Advocate, consultants for the Consumer Advocate and Board staff. Participants were given an opportunity to ask questions or raise areas of concern.

On August 19, 2020 a total of 181 Requests for Information ("RFIs") were issued to Newfoundland Power by the Board, Hydro and the Consumer Advocate. The Consumer Advocate also requested that the Board convene a technical conference in relation to the Application. On August 21, 2020 the Board advised that a determination as to whether a technical conference would be scheduled would be made subsequent to the responses to the RFIs from Newfoundland Power.

On September 9, 2020 Newfoundland Power responded to the RFIs.

On September 9, 2020 Grant Thornton LLP ("Grant Thornton"), the Board's financial consultant, filed a report in relation to its review of the calculations of the 2019 average rate base. Grant Thornton's report was circulated to Newfoundland Power, the Consumer Advocate and Hydro.

On September 14, 2020 the Board asked the Consumer Advocate to confirm whether a technical conference was still requested. On September 25, 2020 the Consumer Advocate confirmed his request for a technical conference and provided a list of issues to be addressed.

On October 9, 2020 the Board advised the parties that a technical conference would be held with respect to the proposed expenditures related to the Customer Service System replacement and that, to ensure the timely consideration of Newfoundland Power's 2021 Capital Budget Application, these expenditures would be addressed in a separate order of the Board.[1]

On October 22, 2020 Hydro and the Consumer Advocate filed written submissions. Newfoundland Power filed its reply on October 29, 2020.

[1] A technical conference was convened in relation to this project on November 10, 2020 and this matter is ongoing.

2. Board Authority

Section 41 of the *Act* requires a public utility to submit an annual capital budget of proposed improvements or additions to its property for approval of the Board no later than December 15th in each year for the next calendar year. The utility is also required to include an estimate of contributions toward the cost of improvements or additions to its property which the utility intends to demand from its customers.

Subsection 41(3) of the *Act* prohibits a utility from proceeding with the construction, purchase or lease of improvements or additions to its property without the prior approval of the Board where (a) the cost of the construction or purchase is in excess of $50,000, or (b) the cost of the lease is in excess of $5,000 in a year of the lease.

Section 78 of the *Act* gives the Board the authority to fix and determine the rate base for the service provided or supplied to the public by the utility and also gives the Board the power to revise the rate base. Section 78 also provides the Board with guidance on the elements that may be included in the rate base.

3. Capital Budget Guidelines

In 2007 the Board established Capital Budget Guidelines ("Guidelines"). In 2019 the Board commenced a review of the Guidelines and in early 2020, as part of this review, the Board advised that additional requirements would be implemented for the 2021 capital budgets, including:

i. introductory presentations outlining the capital budget application;
ii. additional information with respect to the deferral of projects; and
iii. additional information on the revenue requirement impacts of the proposed capital projects.

The review of the Guidelines is ongoing in a separate regulatory process and, until the conclusion of this review, the existing Guidelines remain in effect.

II PROPOSED 2021 CAPITAL BUDGET

In accordance with the legislation, regulations and Guidelines, the Application included detailed information in relation to proposed expenditures and, for a number of projects, additional studies and reports were also provided. The Application also included specific information required to be filed in compliance with previous Board Orders, including a status report on 2020 capital expenditures, a five-year capital plan, as well as evidence relating to deferred charges and a reconciliation of average rate base to invested capital.

1. Overview

The Application proposed the approval of Newfoundland Power's 2021 Capital Budget in the amount of $111,298,000 with estimated expenditures by asset class as follows:

Asset Class	Budget (000s)
1. Generation - Hydro	$ 11,180
2. Generation - Thermal	330
3. Substations	14,280
4. Transmission	9,751
5. Distribution	45,875
6. General Property	2,776
7. Transportation	4,032
8. Telecommunications	462
9. Information Systems	15,362
10. Unforeseen Allowance	750
11. General Expenses Capitalized	6,500
Total	**$111,298**

The Application proposed:

- capital expenditures of $700,000 for 2021 related to multi-year capital expenditures previously approved in Order No. P.U. 35(2018);
- capital expenditures of $8,914,000 for 2021 related to multi-year capital expenditures previously approved in Order No. P.U. 5(2020);
- the approval of future year capital expenditures associated with capital projects proposed for 2021 in the amount of $16,071,000 in 2022 and $6,162,000 in 2023; and
- contributions in aid of construction of $2,500,000 to be recovered from customers.

As a result of the Board's determination that the expenditures related to the proposed Customer Service System replacement will be considered in a separate order, the proposed capital expenditures to be addressed in this order are $101,395,000 for 2021, $245,000 for 2022, and $245,000 for 2023.[2]

2. Evidence Filed with the Application

The Application provided detailed information supporting the proposed 2021 Capital Budget as well as the proposed purchase and construction of improvements or additions to Newfoundland Power property. The supporting information filed is consistent with the level of information filed in previous capital budget applications and is in accordance with the current Guidelines.

The 2021 Capital Plan provided with the Application sets out that approximately 50% of the proposed capital expenditures relate to the replacement of existing plant, 23% are driven by connecting new customers and responding to system load growth, with the remaining 27% relating to system additions, general expenses capitalized, third party requirements, financial carrying costs, and information systems. These percentages are broadly consistent with Newfoundland

[2] The proposed expenditures for the Customer Service System Replacement project are 9,903,000 for 2021, $15,826,000 for 2022 and $5,917,000 for 2023.

Power's capital budgets for the past five years. Annual capital expenditures are forecast to average approximately $120.3 million annually over the period 2021 to 2025 as compared to $96.5 million annually over the previous five-year period, or $100.3 million annually on an inflation adjusted basis. The forecast increase in annual expenditures is primarily attributed to implementation of the Light Emitting Diode ("LED") street lighting replacement plan which accounts for approximately $5.5 million in capital expenditures annually throughout the five-year period, and the Customer Service System replacement which accounts for approximately $10.5 million annually over the first three years of the five-year period.[3] General expenses capitalized have also increased due to a revised capitalization methodology for pension costs.[4]

The proposed capital expenditures are broken down by asset class with expenditures related to generation, substations, transmission, and distribution accounting for 73% of the proposed 2021 Capital Budget and distribution expenditures alone comprising 41%. The Application sets out the following proposed expenditures for 2021:

- Generation expenditures of $11.5 million which include expenditures of $9.3 million associated with the replacement of the penstock at the Topsail hydro plant.
- Substation expenditures of $14.3 million which include a new substation for St. John's North-Portugal Cove, refurbishment of the Dunville and Rattling Brook substations, and the mandatory phase-out of substation equipment with PCBs.
- Transmission expenditures of $9.8 million which include a transmission line rebuild in Central Newfoundland and the extension of two transmission lines, one into the Rattling Brook substation and one to the proposed new substation for St. John's North-Portugal Cove.
- Distribution expenditures of $45.9 million which include expenditures related to extensions of $10.9 million as well as the first year of the six-year LED street lighting replacement plan.
- Expenditures related to general property, transportation and telecommunications of $7.3 million which include building renovations and the purchase of vehicles and aerial devices.
- Information systems expenditures of $15.4 million which include $9.9 million related to the Customer Service System replacement. The other information systems expenditures include $2.4 million for system upgrades.[5]
- Other expenditures related to the Unforeseen Allowance of $0.75 million and General Expenses Capitalized of $6.5 million.

3. Submissions

The Consumer Advocate did not oppose any specific capital expenditures proposed in the Application but recommended that the Board approve a budget cap limiting Newfoundland Power's 2021 capital expenditures to $86.7 million, the level approved last year.[6] The Consumer Advocate recommended that Newfoundland Power be directed to re-submit its capital budget reflecting its prioritized list of projects within this cap. The Consumer Advocate noted that, as part of the ongoing Guideline review process Midgard Consulting Inc. ("Midgard") indicated that the

[3] The Customer Service System Replacement project is being reviewed separately from the rest of the Application.
[4] Order No. P.U. 2(2019).
[5] The system upgrades expenditures also include the amount of $245,000 for each of 2022 and 2023.
[6] The amount approved for 2020 in Order No. P.U. 5(2020) of $96.6 million less $9.9 million related to the customer service system expenditures.

Board has the authority to approve an envelope of expenditures rather than approve/disapprove individual projects. The Consumer Advocate submitted that there is nothing stopping the Board from incorporating the Midgard recommendations in this Application.

The Consumer Advocate stated that there is significant asymmetry of information between the utilities and the intervenors. According to the Consumer Advocate there is an incentive for Newfoundland Power to undertake projects that are only marginally beneficial to its customers because investment in capital plant increases rate base. The Consumer Advocate asserted that Newfoundland Power has taken no specific actions in response to the current economic conditions in the Province. The Consumer Advocate submitted that Newfoundland Power does not know what its customers are willing to pay for improvements in reliability, does not employ a methodology for prioritizing projects, has done virtually no benchmarking against other utilities, used no reliability risk metrics to justify expenditures, did no laboratory testing on equipment, and cannot quantify benefits relating to reliability versus cost. The Consumer Advocate also stated that it is arguable that the Board should reject the Application and require Newfoundland Power to re-file with project benefits and risks quantified. The Consumer Advocate submitted that the Application is deficient because it does not (i) quantify the risks of not proceeding with projects, (ii) quantify the customer benefits, or (iii) include a prioritized list of projects.

Hydro stated in its submission that it does not object to the approval of the Application and the projects contained therein but suggested changes with respect to Newfoundland Power's transmission line testing. Hydro noted that Newfoundland Power has not mechanically tested any of its transmission infrastructure and stated that it believes that further testing is warranted. Hydro submitted that Newfoundland Power should be required to mechanically test a representative sample of poles removed from service as part of the 2021 transmission line rebuild project and report the results of this testing in its next capital budget application. In Hydro's view beginning testing now would enable the compilation of data that would be useful in a later review of Newfoundland Power's transmission inspection and maintenance practices.

In its reply Newfoundland Power submitted that the Application requests approval of the capital expenditures required to meet its statutory obligations, including the delivery of electrical power to customers at the lowest possible cost consistent with reliable service. Newfoundland Power stated that its capital planning process ensures the provision of services and facilities that are reasonably safe and adequate and just and reasonable as mandated by section 37(1) of the *Act*. According to Newfoundland Power its capital planning process is grounded in sound engineering and objective data, and is consistent with good utility practice. Newfoundland Power stated that its five-year capital plan is reviewed and updated annually based on sound engineering and objective data including the latest inspection data, the most recent energy and demand forecasts and updated assessments of potential customer benefits for capital projects. Newfoundland Power noted specific examples of projects that have been deferred as a result of its capital planning process, including four cases where projects proposed for 2021 were deferred as a part of previous planning cycles and three cases where projects planned for 2021 were deferred to subsequent years. Newfoundland Power submitted that its capital planning process balances both the cost and quality of the service and noted that, over the 20-year period from 1999 to 2019, service reliability improved by over 50% and its contribution to customer rates reduced by 20% on an inflation-adjusted basis. Newfoundland Power noted that neither the Consumer Advocate nor Hydro challenged any specific capital expenditures proposed in the Application.

With respect to the Consumer Advocate's proposal for a cap limiting capital expenditures Newfoundland Power submitted that such a cap is not contemplated in the current Guidelines nor is it consistent with the past practice of the Board. Newfoundland Power noted that the concept of envelope-based approvals will be considered by the Board in the ongoing Guidelines review process. Newfoundland Power noted that whether envelope-based approvals are permissible under section 41(3) of the *Act* is among the issues being considered as part of that proceeding and submitted that it would not be reasonable or consistent with the least-cost delivery of reliable service to impose an arbitrary cap on 2021 capital expenditures. Newfoundland Power also stated that the quantification of risks and the prioritization of capital projects are not currently a requirement of the Guidelines or any applicable directive of the Board.

Newfoundland Power stated that the projects proposed in the Application are necessary to (i) respond to customer growth and changes in customer requirements; (ii) replace deteriorated, defective or obsolete equipment; (iii) respond to legislative and regulatory requirement; (iv) address safety and environmental issues; and (v) maintain or improve customer service levels and operational efficiency. Newfoundland Power submitted that the Application meets all the requirements of the legislation and the Guidelines. Newfoundland Power argued that there is no reasonable basis upon which to require that the Application be resubmitted and that the Consumer Advocate's claim that the Application is deficient is unfounded, dismissive of the existing Guidelines and not reflective of the information on the record. Newfoundland Power submitted that the Consumer Advocate's claims regarding the capital expenditure approval process are unfounded and ignore the comprehensive information provided with the company's annual capital budget applications. Newfoundland Power submitted that there is no evidence before the Board in this proceeding that: (i) contradicts the engineering reflected in the capital projects presented in the 2021 Capital Budget; (ii) demonstrates reasonable alternatives that were not considered by Newfoundland Power; or (iii) demonstrates that not proceeding with a particular capital project is a preferable alternative.

In response to Hydro's submission Newfoundland Power stated that its transmission inspection and maintenance practices are consistent with good utility practice and that it would be premature for the Board to direct Newfoundland Power to adopt a specific testing program for its transmission assets. Newfoundland Power noted that it manages its transmission infrastructure based on the criteria in its Transmission Inspection and Maintenance Practices which outline the inspection and testing procedures used to determine the integrity of transmission infrastructure, including sounding and core sampling tests. According to Newfoundland Power these testing procedures allow experienced transmission and distribution planners to obtain the required information about the condition of poles, including whether replacement is required, and therefore additional mechanical testing is not required. Newfoundland Power argued that there is no information on the record of this proceeding demonstrating that mechanical testing is necessary in order to undertake a test and treat program nor is there any information on the record of this proceeding that demonstrates mechanical testing is consistent with good utility practice or would provide a tangible benefit for Newfoundland Power's customers. Newfoundland Power stated that it plans to conduct a review of its practices in accordance with Order No. P.U. 5(2020).

4. Board Findings

The Board has reviewed the Application, the responses to the RFIs and the submissions of the parties and sets out its determinations in relation to the proposed capital expenditures and the 2021 Capital Budget in the following sections.

4.1 Proposed Capital Expenditures

Newfoundland Power requested that the Board approve capital expenditures for 2021 in the amount of $101,395,000, and related capital expenditures for 2022 in the amount of $245,000 and 2023 in the amount of $245,000.[7]

The Application provided support for each of the proposed capital expenditures and set out the project description, justification, expenditures, costing methodology and future commitments. For thirteen of the more significant projects additional reports were provided in relation to the proposed expenditures and the justification for approval. The 2021 Capital Plan report included with the Application provides information in relation to Newfoundland Power's capital planning, the Five-Year Capital Plan and the 2021 Capital Budget. Additional support for the expenditures was provided in Newfoundland Power's responses to 181 RFIs filed in relation to the Application. The Board addresses the proposed expenditures by asset class below.

Generation - Hydro and Thermal

The proposed hydro generation expenditures of $11,180,000 include facility rehabilitation and the Topsail hydro plant refurbishment. The thermal generation expenditures of $330,000 are for thermal plant rehabilitation. The proposed hydro facility rehabilitation and Topsail hydro plant refurbishment were the subject of additional reports filed with the Application. Based on the information provided the energy-related value of production from Newfoundland Power's hydro facilities is estimated at $18,380,000 annually while the capacity-related value is estimated at $18,272,000 annually.[8] In addition the cost of production from Newfoundland Power's hydro facilities are lower than the forecast marginal cost of production for the Island Interconnected system following the completion of the Muskrat Falls Project and the prices currently paid by Hydro under arms-length negotiated Power Purchase Agreements.[9] The benefits of continued operation of the Topsail hydro plant were also shown to be greater than the cost of production.[10] As well as being a source of lower cost energy, Newfoundland Power's hydro facilities also provide localized reliability benefits including supplying customers during maintenance work, unplanned localized transmission line outages as well supplying customers during periods of major electrical system distress.[11] Newfoundland Power's thermal generation facilities are used to provide emergency generation both locally and for the Island Interconnected system and to minimize customer outages during scheduled maintenance on transmission, distribution or substation assets. The Board accepts that the proposed generation expenditures are justified and should be approved.

Substations

The proposed substation expenditures of $14,280,000 include substation refurbishment and modernization, replacements due to in-service failures, additions due to load growth, and the required PCB bushing phase-out. The proposed expenditures related to substation refurbishment and modernization are justified in a report which demonstrates that the work related to the Dunville and Rattling Brook substations is necessary to ensure continued reliable operation of these

[7] Newfoundland Power's Submission, page 21.
[8] 2021 Facility Rehabilitation report, page 1.
[9] PUB-NP-010.
[10] The Topsail Hydro Plant Refurbishment report stated at page 8 that the benefit of plant production was determined to be 12.47 cents per kWh for fully dispatchable and 13.01 cents per kWh for a run of river plant and the levelized cost of production was calculated as 6.65 cents per kWh.
[11] PUB-NP-010.

facilities. The proposed expenditures related to replacements due to in-service failures are necessary to replace equipment that has been removed from service due to storm damage, lightning strikes, vandalism, electrical or mechanical failure, corrosion damage, technical obsolescence or failure during maintenance testing. The proposed expenditures for additions due to load growth include the amount of $701,000 related to the replacement of a substation transformer at Dunville. Based on the report filed with the Application the 20-year forecast projects increased electrical demand such that the Dunville substation transformer will be overloaded in 2021.

The proposed expenditures for additions due to load growth also include expenditures of $4,296,000 related to the construction of a new substation for St. John's North-Portugal Cove. The total proposed capital expenditures associated with this substation are $6,794,000, which includes the related amounts proposed in other asset classes.[12] The St. John's North-Portugal Cove Area Planning Study (the "Planning Study") filed with the Application sets out that the number of customers within the area increased by 11% over the period 2009 to 2018 and the total electrical load on the three substations that supply customers in the area increased by 14% over the same period.[13] According to the Planning Study residential and commercial development is forecast to continue, including additional expansion of the airport and new commercial developments. The Planning Study stated that customer growth will continue to increase electrical load in the area and expansion of the electrical system is required to address existing capacity limitations and future load growth. The total combined load on the substation transformers supplying the area was forecast to be 98% in 2021 and 112% in 2040. Without additional capacity, three of the six transformers were forecast to be overloaded in 2021 and five of the six in 2040. The Airport Substation Project Report filed with the Application concluded that, due to residential load growth and expansion of the St. John's International Airport, capacity in the area is no longer sufficient to meet the demand of the electrical system. Newfoundland Power explained the consequences of not completing the proposed work:

> First, overload conditions can lead to in-service equipment failures, which can result in significant repair costs and extended customer outages. Second, overload conditions can practically limit the ability of Newfoundland Power to connect new customers to the distribution system in the Study Area. The probability of these consequences occurring is high considering equipment will be expected to operate above rated capacity.[14]

While the Board is satisfied that Newfoundland Power's decision to propose the new substation was reasonable based on the information available at the time, since the filing of the Application there have been significant changes with respect to the economic conditions in the Province. The forecast of energy sales and demand reflected in the Application was based on the *Conference Board of Canada Provincial Outlook Medium-Term, Economic Forecast*, dated February 12, 2020. The Application did not address the impacts of the COVID-19 pandemic on the forecasts. When asked Newfoundland Power reported that energy sales as of July 31, 2020 were 0.7% lower than forecast due to shutdowns in the commercial sector associated with COVID-19.[15] Newfoundland Power stated that the potential impact of the COVID-19 on future energy sales is uncertain but that

[12] Additional expenditures of $2,498,000 related to transmission, distribution and telecommunications include the construction of transmission line extensions, fibre optic cables for transmission line protection, SCADA monitoring and remote control, upgrading an existing distribution feeder and constructing new aerial distribution exits.
[13] The rate of load growth in the area is higher than the rate of customer growth due to commercial developments and expansion of the airport.
[14] CA-NP-100, page 2.
[15] PUB-NP-002.

it is expected that the impact of the COVID-19 pandemic on energy sales in 2021 would be less than in 2020 as restrictions continue to be lifted. Newfoundland Power also stated:

> Should customer load growth vary from forecast during the current or future years, so too will the capital expenditures that are sensitive to growth.[16]

Since the justification for the proposed new St. John's North-Portugal Cove substation is based on load growth the Board believes it is important to confirm that the changed circumstances have not impacted the justification for this substation. The Board notes that the Planning Study does not set out the date of the forecasts used, though given the timing of the Application it seems likely that the forecasts were completed prior to the COVID-19 pandemic. The Board also notes that, based on these forecasts, there will be no substation transformer overloads until 2028 and 2035 on substation transformers RRD-T2 and VIR-T2. In addition the magnitude of the overloads are not forecast to exceed 15% until 2026, 2030 and 2035 for VIR-T3, RRD-T3 and BCV-T1. Further it appears that the forecast substation transformer overloads did not occur in 2019 and 2020 as anticipated. Based on the information provided with respect to monthly peak transformer loading over the period 2017 to the end of March 2020:

- There was no overload on VIR-T3 in 2019 or 2020.[17]
- The only months where there were overloads on BCV-T1 were February and March 2017 and February 2019, with no overloads in 2018 or 2020.
- There were overload conditions on RRD-T3 in March 2017, February 2019, January 2020 and March 2020, though the 2020 overloads were relatively minor.
- With respect to all three of the transformers the peak loading was in excess of 5% on only four occasions and of those, was in excess of 10% on only one occasion. [18]

There was no information provided as to the length of the overload conditions or the associated temperatures and as such it is difficult to assess the impact of the forecast overloads on the transformers.

To ensure that the proposed expenditures with respect to the new St. John's North-Portugal Cove substation are justified in the current circumstances, Newfoundland Power should provide updated information with respect to the actual and forecast loads, the basis of the forecasts, the actual and forecast overloads and the impacts of these overloads and, to the extent that there continues to be significant uncertainty as to the impact of the ongoing circumstances on the forecasts, a sensitivity analysis with respect to reasonable alternate scenarios. This information should reflect the most current data available, including actuals up to December 31, 2020. This project will be addressed in a separate order following the filing of updated information and a further opportunity for additional information requests and submissions. A schedule will be established upon receipt of the additional information from Newfoundland Power.

The Board is satisfied that, apart from the expenditures related to the new substation for St. John's North-Portugal Cove, the proposed substation expenditures are justified and should be approved.

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[16] PUB-NP-002, page 3.
[17] It is noted that in 2017, 2018 and 2019 all of the overloads occurred in the January to March period.
[18] CA-NP-098.

Transmission

The proposed transmission expenditures of $9,751,000 include amounts related to transmission line rebuilds, maintenance and 3rd party relocations, and transmission line extensions. A detailed report was filed in relation to the rebuild expenditures which demonstrates that the work related to transmission line 124L between Clarenville and Gambo is necessary based on recent inspections which identified significant deterioration and non-standard equipment. The extension of 136L into the Rattling Brook substation is necessary to connect the substation to the transmission network to complete the multi-year plan to reconfigure the 138kV transmission system in Central Newfoundland. The maintenance and 3rd party relocation expenditures are based on an assessment of historical expenditures though the actual expenditures will be a function of the amount of the work which is required based on the deficiencies identified and the 3rd party requests received. The proposed expenditure of $1,343,000 for the extension of transmission line 35L is associated with the construction of the new substation for St. John's North-Portugal Cove and therefore will not be addressed in this order. The Board is satisfied that the remaining proposed transmission expenditures are justified and should be approved.

Distribution

The proposed distribution expenditures of $45,875,000 make up 41% of Newfoundland Power's 2021 Capital Budget and are outlined below:

- Extensions expenditures of $10,891,000 for the construction of both primary and secondary distribution lines to connect new customers to the electrical system and for upgrades to the capacity of existing lines to accommodate customers' increased loads.
- Meters expenditures which are consistent with Newfoundland Power's 2016 Metering Strategy.
- Services expenditures for the installation of service wires to connect new customers, and larger service wires to accommodate customer loads and the replacement of existing wires due to deterioration, failure or damage.
- Street lighting expenditures for the installation of new street lighting fixtures and the replacement of overhead and underground wiring where necessary.
- Expenditures associated with the LED street lighting replacement plan which will cost approximately $32.8 million over six years and are estimated to reduce energy and maintenance costs by $52 million over 20 years resulting in lower overall costs for customers. The program was approved in Order No. P.U. 2(2019), is consistent with current Canadian utility practice and is supported by Municipalities Newfoundland and Labrador.
- Transformers expenditures associated with purchasing transformers to serve customer growth and the replacement or refurbishment of units that have deteriorated or failed.
- Reconstruction expenditures for the replacement of deteriorated or damaged distribution structures and electrical equipment comprised of high priority deficiencies identified during the budget year or recognized during follow-up on operational problems.
- Rebuild distribution lines expenditures for planned work in relation to lines or other equipment on 42 feeders which were identified based on a seven-year inspection cycle. Deteriorated line components that need to be addressed immediately, or in the following year are identified by company planners while in the field and a subsequent engineering review is conducted with respect to the identified work.[19]

[19] NLH-NP-029.

- Expenditures to relocate/replace distribution lines for third parties which are necessary to accommodate requests.
- Trunk feeders expenditures for refurbishing or replacing distribution infrastructure primarily due to deterioration or factors such as safety or the environment. A detailed report was filed to support these expenditures.
- Expenditures for feeder additions for load growth to address overload conditions and provide additional capacity to address growth in the number of customers and volume of energy deliveries. A detailed report was filed to support these expenditures which identified six overload conditions to be addressed in 2021 based on computer modelling and follow-up field visits. The proposed feeder additions for the upgrade of the Ridge Road feeder and the new aerial feeder exits in the amount of $805,000 are related to the proposed new substation for St. John's North-Portugal Cove which will not be approved in this order.
- Distribution reliability initiative expenditures to replace deteriorated poles, conductor and hardware for the worst performing feeders to reduce both the frequency and duration of power interruptions. The supporting report sets out that individual feeder projects are identified and prioritized based on historic interruption statistics and engineering assessments are completed to determine whether targeted capital investments would improve reliability. The proposed work includes the final year of work on distribution feeder DUN-01 approved in Order No. P.U. 35(2018).
- Distribution feeder automation expenditures to improve customer service through reduced restoration times.
- Allowance for funds used during construction which are consistent with Order No. P.U. 32(2007) and regulated Canadian utility practice.

The proposed distribution expenditures are primarily driven by preventative and corrective maintenance on aged and deteriorated distribution structures as well as the need to serve new customers and address system load growth. The majority of the proposed distribution expenditures are based on historical data and the actual 2021 expenditures will depend on the work which is required in the year.[20] Newfoundland Power operates 10,000 kilometers of distribution lines and the proposed expenditures are generally consistent with previous levels of distribution expenditures apart from the increase associated with the LED street lighting replacement plan. The Board is satisfied that, apart from the feeder additions for load growth expenditures related to the proposed new St. John's North-Portugal Cove substation, the proposed distribution expenditures are justified and should be approved.

General Property

The proposed general property expenditures of $2,776,000 include amounts related to tools and equipment, additions to real property, company building renovations and physical security upgrades. Company building renovations expenditures are addressed in a comprehensive report filed with the Application. The physical security upgrades involve 14 substations and three company facilities and it was noted that there have been 24 substation break-ins since 2016. The proposed tools and equipment expenditures and additions to real property are largely based on historical data though the actual expenditures will depend on the required work. The Board is satisfied that the proposed general property expenditures are justified and should be approved.

[20] The proposed extension, meters, services, street lighting expenditures, transformers, reconstruction, and relocate/replace distribution lines for 3rd parties are largely based on historical expenditures.

Transportation

The proposed transportation expenditures of $4,032,000 involve the addition and necessary replacement of heavy fleet, passenger and off-road vehicles in accordance with Newfoundland Power's replacement criteria. The Board is satisfied that the proposed transportation expenditures are justified and should be approved.

Telecommunications

The proposed telecommunications expenditures in the amount of $462,000 include $112,000 to replace/upgrade communications equipment necessary to ensure the continued integrity of Newfoundland Power's operation voice systems and the remote monitoring and control of field devices. The proposed telecommunications expenditures also include $350,000 for fibre optic cable builds related to the new substation for St. John's North-Portugal Cove and therefore will not be approved in this order. The Board is satisfied that the remaining proposed telecommunications expenditures are justified and should be approved.

Information Systems

The proposed information systems expenditures are $5,459,000 for 2021 and $245,000 for each of 2022 and 2023, excluding the expenditures related to the Customer Service System replacement.[21] The proposed information systems expenditures include application enhancements, system upgrades, personal computer infrastructure, shared server infrastructure, network infrastructure, and cybersecurity upgrades as outlined below:

- Application enhancements expenditures which are justified on the basis of improving customer service and operational efficiencies and addressed in a detailed report which shows that these expenses are necessary to enhance the functionality of software applications.
- System upgrades expenditures to upgrade third-party software products primarily driven by the expiration of support arrangements with vendors. These expenditures are detailed in a supporting report and include the renewal of the Microsoft Enterprise Agreement for a three-year term.
- Personal computer infrastructure expenditures to replace or upgrade personal computers, workgroup printers and associated assets that have reached the end of useful life. A total of 145 mobile computers and peripheral equipment will be purchased based on specifications which are reviewed annually. It is noted that Newfoundland Power achieves an approximate five-year lifecycle for its personal computers.
- Shared server infrastructure expenditures for the addition, upgrade and replacement of computer hardware components and related technology. The existing shared server infrastructure will be upgraded to accommodate growth in information storage needs, to extend the service life and improve performance of applications, and to upgrade to the current, vendor-supported versions operating systems. Additional server infrastructure is also required to support the website, the GIS and outage management system.
- Network infrastructure expenditures for the addition of network components that provide employees with access to applications and data to provide service to customers and operate efficiently. The proposed expenditures will address network equipment that has reached

[21] The total proposed Information Systems expenditures for 2021 are $15,362,000 which includes expenditures related to the Customer Service System replacement to be addressed in a separate order of the Board in the amount of $9,903,000. In addition the Application proposed the approval of future years' expenditures for the replacement of this system in the amount of $15,826,000 for 2022 and $5,917,000 for 2023.

the end of its useful life and increase overall network availability and disaster recovery capabilities.

- Cybersecurity upgrades expenditures for upgrades and improvements to identity and access management, network security, firewall technology and other miscellaneous items to reduce risk and meet cybersecurity standards and performance requirements.

The Board is satisfied that the proposed information system expenditures, apart from the Customer Service System replacement expenditures, are justified and should be approved.

Other

The proposed unforeseen allowance in the amount of $750,000 is necessary to permit capital expenditures that have not been budgeted so that Newfoundland Power can respond expeditiously to events affecting the electrical system. This allowance is consistent with the amount approved in previous Newfoundland Power capital budget applications and should be approved.

The proposed general expenses capitalized ("GEC") of $6,500,000 are amounts that are capitalized due to the fact that they are related, directly or indirectly to capital projects. These include two sources: direct charges to GEC and amounts allocated from specific operating accounts. The budget estimate of GEC is determined in accordance with pre-determined allocations to GEC based on guidelines approved by the Board.[22] The Board is satisfied that the proposed GEC is justified and should be approved.

4.2 2021 Capital Budget

The Consumer Advocate recommended that the Board approve a budget cap limiting 2021 capital expenditures to $86.7 million. While the Consumer Advocate contended that Newfoundland Power has taken no specific actions in response to the current economic conditions in the Province, Newfoundland Power noted several examples of capital projects that had been deferred as part of its capital planning process in previous years and in 2021. When specifically asked what actions have been taken in response to the current economic conditions to control and or reduce capital expenditures Newfoundland Power set out the following:

- An assessment of alternatives for all capital projects including whether the project can be deferred. Three plant replacement projects planned for 2021 with an approximate cost of $12 million were deferred.
- Coordination of capital projects to realize productivity gains and reduce customer outages, such as the coordination of the substation refurbishment with additions due to load growth.
- Economic analysis to ensure capital projects benefit customers as in the case of the replacement of street lights with LED fixtures.
- Targeted capital expenditures to provide the most benefits for customers, such as the distribution reliability initiative.
- Long-term asset management strategies which provide a structured approach for maintaining the electrical system, such as the 2006 transmission line rebuild strategy and the 2007 substation strategic plan.
- The programmatic approach which addresses planned replacement of plant that is identified through inspections so that capital projects are prioritized based on risk of failure and the potential impact on customers.

[22] The GEC of both Newfoundland Power and Hydro is currently being reviewed by the Board in a separate process.

- Capital projects are undertaken to extend the useful life of electrical system assets that continue to provide value which tends to reduce the requirement for larger, one-of capital expenditures as in the case of its hydro generating facilities.[23]

As observed by Newfoundland Power the legislative framework requires Newfoundland Power to provide safe and reliable electrical service to customers at the lowest possible cost and this legislative framework governs Newfoundland Power's service delivery under all economic conditions. The Board notes that approximately 25% of the proposed capital expenditures for 2021 are driven by the requirement to serve new customers and address increasing electrical system requirements, and approximately 50% are driven by the requirement to replace plant that is deteriorated, deficient or failed in service.[24] Newfoundland Power's capital investment has increased at the lowest rate of any Atlantic Canadian utility while at the same time experiencing the highest rate of growth in customers served.[25] Investment in transmission and distribution has increased 10% less than the average of other Atlantic Canadian utilities over the 10-year period ending in 2018. The duration and frequency of customer outages were reduced by over half in the period 1999 to 2009 and, since that time, customer service reliability has been reasonably consistent. At the same time Newfoundland Power reduced its contribution to customer rates by 20% on an inflation-adjusted basis and customer rates have not changed as a result of Newfoundland Power's general rate applications since 2016.[26]

Based on the information and submissions filed the Board does not believe that the evidence shows that a cap should be placed on Newfoundland Power's 2021 Capital Budget. Apart from the proposed expenditures related to the Customer Service System replacement and new substation for St. John's North-Portugal Cove, the proposed projects and associated expenditures have been justified by Newfoundland Power. A budget cap is not currently contemplated in the Guidelines and is not consistent with the past practice of the Board. While the concept of envelope-based approvals is among the proposals being considered as part of the ongoing Guidelines review the Board has not yet concluded this review and addressed whether such a change will be implemented. The implementation of a cap would be a significant departure from established practice and before such a change the issues and concerns raised in the review should be addressed. The Board will not implement a cap on Newfoundland Power's 2021 Capital Budget.

4.3 Transmission and Maintenance Practices

Hydro raised issues with respect to Newfoundland Power's approach to inspection and maintenance practices for wood pole transmission lines and suggested changes with respect to transmission line testing. Issues with respect to Newfoundland Power's transmission line inspection practices were also raised in Newfoundland Power's 2020 Capital Budget Application and the Board concluded that:

> The Board is satisfied that Newfoundland Power's current practices are reasonable in the circumstances. The Board believes that it may be appropriate for Newfoundland Power to review its practices upon the completion of the second inspection cycle in relation to Hydro's test and treat program.[27]

[23] PUB-NP-001, pages 3-5.
[24] CA-NP-008, pages 1-2.
[25] 2021 capital plan pages 16-17, NLH-NP-035.
[26] PUB-NP-001, pages 1-2.
[27] Order No. P.U. 5(2020), page 22/24-27.

The Board notes that over the 10-year period 2010 to 2019 Newfoundland Power has replaced approximately 13% of its total transmission system in accordance with Transmission Inspection Maintenance Practices which set out the criteria for replacement, including the use of sounding and core sampling tests.[28] The Board remains satisfied that changes with respect to Newfoundland Power's transmission line testing practices are not necessary at this time but that it may be appropriate for Newfoundland Power to review its practices upon the completion of Hydro's test and treat program in 2023.

4.4 Conclusion

The Application set out detailed support for the proposed capital expenditures for 2021 and future years related to generation, substation, transmission, distribution, general property, transportation, telecommunications, information systems, the unforeseen allowance and general expenses capitalized. In addition Newfoundland Power's responses to the RFIs provide further support for these expenditures. Neither the Consumer Advocate nor Hydro submitted that the Board should deny any of the specific capital expenditures proposed in the Application. Apart from the capital expenditures related to the new substation for St. John's North-Portugal Cove and the Customer Service System replacement, Newfoundland Power has demonstrated that the proposed expenditures for 2021, 2022 and 2023 are justified in the circumstances. The Board does not believe that it is reasonable to impose a cap on Newfoundland Power's 2021 Capital Budget which reflects the capital expenditures that the Board has found are justified in the circumstances. Newfoundland Power's 2021 Capital Budget in the amount of $94,601,000 and the proposed capital expenditures for 2021 and 2022 and 2023 will be approved. The Board will not approve any changes with respect to Newfoundland Power's transmission line testing practices at this time.

[28] NLH-NP-025 and NLH-NP-004.

III 2019 AVERAGE RATE BASE

The following table shows the calculation of the average rate base as of December 31 for 2019 compared with 2018:[29]

Newfoundland Power Inc.
Computation of Average Rate Base
For The Years Ended December 31
($000's)

	2019	2018
Net Plant Investment		
Plant Investment	1.954,715	1,864,271
Accumulated Depreciation	(790,243)	(752,932)
Contributions in Aid of Construction	(44,616)	(38,575)
	1,119,856	1,072,764
Additions to Rate Base		
Deferred Pension Costs	91,824	89,678
Deferred Credit Facility Costs	61	120
Cost Recovery Deferral – Hearing Costs	494	-
Cost Recovery Deferral – Conservation	17,371	15,889
Weather Normalization Reserve	5,654	1,517
Customer Finance Programs	2,494	2,460
Demand Management Incentive Account	1,881	-
	119,779	109,664
Deductions from Rate Base		
Other Post-Employment Benefits	61,791	57,112
Customer Security Deposits	1,420	1,071
Accrued Pension Obligation	5,104	5,016
Accumulated Deferred Income Taxes	10,088	4,887
2019 Cost Recovery Deferral	1,226	-
	79,629	68,086
Year End Rate Base	1,160,006	1,114,342
Average Rate Base Before Allowances	1,137,174	1,102,941
Rate Base Allowances		
Materials and Supplies Allowance	6,475	6,184
Cash Working Capital Allowance	9,907	8,216
Average Rate Base at Year End	1,153,556	1,117,341

Grant Thornton reviewed the calculation of the average rate base for 2019 and provided an opinion that the calculation is accurate and in accordance with established practice and Board Orders. Grant

[29] Application, Schedule D.

Thornton also reviewed the additions, deductions and allowances included in the rate base and found no discrepancies or unusual items, and that they are consistent with Board Orders.

The Consumer Advocate and Hydro did not comment on Newfoundland Power's 2019 rate base. Newfoundland Power submitted that the Board should fix and determine its average rate base for 2019 at $1,153,556,000.

The Board finds that the components of Newfoundland Power's average rate base for 2019 in the amount of $1,153,556,000 should be approved.

IV ORDER

IT IS THEREFORE ORDERED THAT:

1. **Newfoundland Power's proposed construction and purchase of improvements or additions to its property to be completed in 2021, as set out in Schedule A to this Order, are approved.**

2. **Newfoundland Power's proposed multi-year construction and purchase of improvements or additions to its property, as set out in Schedule B to this Order, are approved.**

3. **Newfoundland Power's 2021 Capital Budget for improvements or additions to its property in an amount of $94,601,000, as set out in Schedule C to this Order, is approved.**

4. **Newfoundland Power's average rate base for the year ending December 31, 2019 is hereby fixed and determined at $1,153,556,000.**

5. **Unless otherwise directed by the Board, Newfoundland Power shall file an annual report to the Board on its 2021 capital expenditures by March 1, 2022.**

6. **Unless otherwise directed by the Board, Newfoundland Power shall provide, in conjunction with the 2022 capital budget application, a status report on the 2021 capital budget expenditures showing for each project:**

   (i) the approved budget for 2021;
   (ii) the expenditures prior to 2021;
   (iii) the 2021 expenditures to the date of the application;
   (iv) the remaining projected expenditures for 2021;
   (v) the variance between the projected total expenditures and the approved budget; and
   (vi) an explanation of the variance.

7. **Newfoundland Power shall pay all costs and expenses of the Board incurred in connection with the Application.**

DATED at St. John's, Newfoundland and Labrador, this 15th day of December, 2020.

Darlene Whalen, P. Eng., FEC
Chair and Chief Executive Officer

Dwanda Newman, LL.B.
Vice-Chair

John O'Brien, FCPA, FCA, CISA
Commissioner

Cheryl Blundon
Board Secretary

Newfoundland Power Inc.
2021 Capital Budget
Single-Year Projects Over $50,000
(000s)

Project Description	**2021**
Generation - Hydro	
Hydro Facility Rehabilitation	$1,806
Topsail Hydro Plant Refurbishment	460
Total Generation - Hydro	$2,266
Generation - Thermal	
Thermal Plant Facility Rehabilitation	$330
Total Generation - Thermal	$330
Substations	
Substations Refurbishment and Modernization	$5,153
Replacements Due to In-Service Failures	3,413
Additions Due to Load Growth	4,296
PCB Bushing Phase-out	717
Total Substations	$9,984
Transmission	
Transmission Line Rebuild	$6,170
Transmission Line Maintenance and 3rd Party Relocations	2,238
Total Transmission	$8,408
Distribution	
Extensions	$10,891
Meters	680
Services	3,110
Street Lighting	1,979
Street Lighting – LED Replacement Program	5,402
Transformers	5,945
Reconstruction	5,567
Rebuild Distribution Lines	3,965
Relocate/Replace Distribution Lines for Third Parties	3,155
Trunk Feeders	800
Feeder Additions for Load Growth	1,850
Distribution Feeder Automation	821
Allowance for Funds Used During Construction	205
Total Distribution	$44,370

General Property	
Tools and Equipment	$486
Additions to Real Property	598
Company Buildings Renovations	1,392
Physical Security Upgrades	300
Total General Property	$2,776
Transportation	
Purchase Vehicles and Aerial Devices	$4,032
Total Transportation	$4,032
Telecommunications	
Replace/Upgrade Communications Equipment	$112
Total Telecommunications	$112
Information Systems	
Application Enhancements	$978
System Upgrades	2,165
Personal Computer Infrastructure	495
Shared Server Infrastructure	538
Network Infrastructure	363
Cybersecurity Upgrades	675
Total Information Systems	$5,214
Unforeseen Allowance	
Allowance for Unforeseen Items	$750
Total Unforeseen Allowance	$750
General Expenses Capitalized	
General Expenses Capitalized	$6,500
Total General Expenses Capitalized	$6,500
Total Expenditures Single-Year Projects over $50,000	$84,742

Newfoundland Power Inc.
2021 Capital Budget
Multi-Year Projects Over $50,000
(000s)

Multi-Year Projects Commencing in 2021

Class	Project Description	2021	2022	2023	Total
Information Systems	Microsoft Enterprise Agreement	$245	$245	$245	$735
	Total	**$245**	**$245**	**$245**	**$735**

Multi-Year Projects Approved in Previous Years

Class	Project Description	2021
Distribution	Distribution Reliability Initiative[1]	$700
Generation - Hydro	Topsail Plant Penstock Replacement[2]	$8,914
	Total	**$9,614**

[1] Order No. P.U. 35(2018).
[2] Order No. P.U. 5(2020).

Newfoundland Power Inc.
2021 Capital Budget
(000s)

Projects over $50,000 to be completed in 2021	$84,742
Multi-Year Projects over $50,000 commencing in 2021	$245
Multi-Year Projects Approved in Previous Years	$9,614
Total 2021 Capital Budget	**$94,601**

Newfoundland & Labrador
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