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*Newfoundland & Labrador*

**BOARD OF COMMISSIONERS OF PUBLIC UTILITIES**

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**IN THE MATTER OF THE  
2020 CAPITAL BUDGET APPLICATION**

**FILED BY  
NEWFOUNDLAND POWER INC.**

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**DECISION AND ORDER  
OF THE BOARD**

**ORDER NO. P.U. 5(2020)**

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**BEFORE:**

**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. 5(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 2020 Capital Budget of \$96,614,000;
- (b) approving certain capital expenditures related to multi-year projects commencing in 2020; and
- (c) fixing and determining a 2018 rate base of \$1,117,341,000.

**BEFORE:**

Dwanda Newman, LL.B.  
Vice-Chair

John O’Brien, FCPA, FCA, CISA  
Commissioner

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1 **I BACKGROUND**

2  
3 **1. The Application**

4  
5 Newfoundland Power Inc. (“Newfoundland Power”) filed its 2020 capital budget application (the  
6 “Application”) with the Board of Commissioners of Public Utilities (the “Board”) on July 5, 2019.  
7 In the Application Newfoundland Power requests that the Board make an order:

- 8 (a) approving a 2020 Capital Budget of \$96,614,000;  
9 (b) approving certain capital expenditures related to multi-year projects commencing in  
10 2020; and  
11 (c) fixing and determining a 2018 rate base of \$1,117,341,000.

12  
13 Notice of the Application, including an invitation to participate, was published on July 20, 2019.  
14 Details of the Application and supporting documentation were posted on the Board’s website.

15  
16 On July 24, 2019 an intervention was received from Newfoundland and Labrador Hydro (“Hydro”)  
17 indicating its intention to participate in the Application. On July 31, 2019 an intervention was  
18 received from the Consumer Advocate, Dennis Browne, Q.C. (the “Consumer Advocate”),  
19 indicating his intention to participate in the Application.

20  
21 On August 12, 2019 Requests for Information (“RFIs”) were issued to Newfoundland Power by  
22 the Board and Hydro. On September 6, 2019 Newfoundland Power responded to the RFIs.

23  
24 Grant Thornton LLP (“Grant Thornton”), the Board’s financial consultant, was retained to review  
25 the calculations of the 2018 average rate base. Grant Thornton filed a report on September 6, 2019  
26 and copies were provided to Newfoundland Power, the Consumer Advocate and Hydro.

27  
28 On September 11, 2019 a motion was received from the Consumer Advocate requesting that the  
29 Board convene a Technical Conference. A Technical Conference was held on November 14, 2019.

30  
31 Following the Technical Conference additional RFIs were issued to Newfoundland Power by  
32 Hydro and by the Consumer Advocate. On November 28, 2019 Newfoundland Power responded  
33 to the RFIs.

34  
35 On December 4, 2019 Hydro filed a written submission and on December 5, 2019 the Consumer  
36 Advocate filed a written submission. Newfoundland Power filed its reply on December 11, 2019.

37  
38 **2. Board Authority**

39  
40 Section 41 of the *Act* requires a public utility to submit an annual capital budget of proposed  
41 improvements or additions to its property for approval of the Board no later than December 15<sup>th</sup>  
42 in each year for the next calendar year. In addition, the utility is also required to include an estimate  
43 of contributions toward the cost of improvements or additions to its property which the utility  
44 intends to demand from its customers.

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

5  
 6 Section 78 of the *Act* gives the Board the authority to fix and determine the rate base for the service  
 7 provided or supplied to the public by the utility and also gives the Board the power to revise the  
 8 rate base. Section 78 also provides the Board with guidance on the elements that may be included  
 9 in the rate base.

## 10 **II PROPOSED 2020 CAPITAL BUDGET**

11  
 12  
 13 In accordance with the legislation, regulations and Board guidelines the Application includes a  
 14 detailed explanation of each proposed expenditure, setting out a description, justification, costing  
 15 methodology, and future commitments if applicable. Additional studies and reports, including  
 16 detailed engineering reports, are provided in relation to a number of projects.

17  
 18 The Application also includes specific information required to be filed in compliance with previous  
 19 Board Orders, including a status report on 2019 capital expenditures, a five-year capital plan, as  
 20 well as evidence relating to deferred charges and a reconciliation of average rate base to invested  
 21 capital.

### 22 **1. Overview**

23  
 24  
 25 Newfoundland Power's proposed 2020 capital budget is \$96,614,000, with estimated expenditures  
 26 by asset class as follows:

<u>Asset Class</u>	<u>Budget (000s)</u>
1. Generation - Hydro	\$ 6,849
2. Generation - Thermal	349
3. Substations	15,204
4. Transmission	9,623
5. Distribution	44,623
6. General Property	2,467
7. Transportation	3,869
8. Telecommunications	108
9. Information Systems	6,772
10. Unforeseen Allowance	750
11. General Expenses Capitalized	<u>6,000</u>
<b>Total</b>	<b>\$ 96,614</b>

1 The proposed 2020 capital budget includes:

- 2 • \$3.845 million of 2020 multi-year capital expenditures previously approved in Order No.  
3 P.U. 37(2017);
- 4 • \$1.4 million of 2020 multi-year capital expenditures previously approved in Order No.  
5 P.U. 35(2018); and
- 6 • proposed multi-year projects commencing in 2020 that include capital expenditures of  
7 \$8.914 million in 2021
- 8 • \$2.5 million for contributions in aid of construction to be recovered from customers.  
9

## 10 **2. Evidence**

11  
12 Newfoundland Power provided detailed information supporting the proposed 2020 capital budget  
13 as well as the proposed purchase and construction of improvements or additions to its property.  
14 The supporting information filed is consistent with the level of information filed in previous capital  
15 budget applications and in accordance with the Board's Capital Budget Guidelines.  
16

17 The Application explained that approximately 60% of the proposed 2020 capital expenditure  
18 relates to the replacement of plant, 23% is required to meet Newfoundland Power's obligation to  
19 serve new customers and the requirement for increased system capacity, 7% relates to information  
20 systems accounts and the remaining 10% relates to system additions, general expenses capitalized,  
21 third party requirements and financial carrying costs. This allocation of capital expenditures is  
22 broadly consistent with Newfoundland Power's capital budgets for the past five years.  
23

24 Expenditures related to generation, substations, transmission, distribution and information systems  
25 account for \$83.4 million, or 86%, of the proposed 2020 capital budget, with distribution capital  
26 expenditures comprising 46% of this amount. According to Newfoundland Power these  
27 distribution capital expenditures are primarily driven by customer requests for new connections to  
28 the electrical system and rebuilding of aged and deteriorated infrastructure. Newfoundland Power  
29 noted that distribution capital expenditures in 2020 and beyond are expected to reflect reduced  
30 new customer connections.  
31

32 Generation projects account for \$7.2 million of the proposed 2020 capital budget. Newfoundland  
33 Power has budgeted \$5.3 million to refurbish the turbine and generator at the Rattling Brook Plant  
34 and woodstave portions of the penstocks at the Petty Harbour Hydro Plant and the Topsail Hydro  
35 Plant. The remaining generation expenditures relate to rehabilitation at the company's thermal and  
36 hydro facilities.  
37

38 The 2020 capital budget includes expenditures of \$15.2 million related to substations, including  
39 \$10.9 million for the refurbishment and modernization of the Marystown, Bonavista and Grand  
40 Bay substations. Newfoundland Power also plans to replace substation equipment that has been  
41 retired due to storm damage, lightning strikes, vandalism, electrical or mechanical failure,  
42 corrosion damage, technical obsolescence or failure during maintenance testing, as well as  
43 continue its phase-out of polychlorinated biphenyls from breaker and substation transformer  
44 bushings.

1 Newfoundland Power also plans to continue with the rebuilding of the oldest, most deteriorated  
2 transmission lines in its systems. Projects related to transmission lines 363L on the Baie Verte  
3 Peninsula, 49L on the Avalon Peninsula and 403L between St. George's Substation in Bay St.  
4 George and Lookout Brook Hydro Plant with a tap to Robinsons Substation are proposed.

5  
6 Projects related to information systems, transportation, general property and telecommunications  
7 account for \$13.2 million of the proposed 2020 capital budget. Significant projects proposed in  
8 these areas include application enhancements, continued system upgrades, shared server  
9 infrastructure, the purchase of vehicles and aerial devices and building renovations.

10  
11 Newfoundland Power's 2020 Capital Plan shows that annual capital expenditures for 2020-2024  
12 are forecast to average approximately \$116.0 million, compared to an average annual capital  
13 expenditure of approximately \$96.5 million for the period 2015-2019. According to Newfoundland  
14 Power the increase in average annual expenditures through the forecast period is required primarily  
15 to ensure continuity in the customer service delivery function through the necessary replacement  
16 of the customer service system, the large scale replacement of existing street lighting with LED  
17 technology to provide customers with improved service quality at a lower cost, and increased  
18 general expenses capitalized due to a revised capitalization methodology for pension costs.<sup>1</sup>

### 19 20 **3. Submissions**

21  
22 Hydro stated that they do not object to the approval of Newfoundland Power's 2020 capital budget  
23 application but submitted that a review of Newfoundland Power's capitalization of internal costs  
24 and Newfoundland Power's transmission line inspection process and replacement criteria is  
25 warranted.

26  
27 The Consumer Advocate submitted that the Application is incomplete and that the Capital Budget  
28 Guidelines have not been followed. The Consumer Advocate stated that required evidence such as  
29 the history of maintenance, alternatives to extend the life of certain assets as well as outage times  
30 and causes has not been filed. The Consumer Advocate questioned why capital expenditures and  
31 the utility's rate base have not decreased given the superior reliability indicators and the fact that  
32 Newfoundland Power's customer base remains flat and its profits are increasing. The Consumer  
33 Advocate noted that Island Interconnected customer rates are under severe pressure and submitted  
34 that projects that do not relate to near-term safety or pose a threat to the environment or of major  
35 equipment damage should be deferred or spread out over a longer time frame to reduce near-term  
36 impact on rate base and customer rates. The Consumer Advocate stated that Newfoundland Power  
37 ignored the objectives of the Rate Mitigation Reference and assumed "business as usual" for the  
38 Application. According to the Consumer Advocate Newfoundland Power is not doing its part by  
39 putting forward expansive capital budget expenditure applications instead of finding ways and  
40 means of producing savings. The Consumer Advocate requested that the Board be guided by its  
41 own policy to ensure there is a balance of the interests of ratepayers and the utility by acting on  
42 the submission of the Consumer Advocate.

43  
44 In its reply Newfoundland Power stated the Consumer Advocate's submission that the Application  
45 is incomplete and does not follow the Capital Budget guidelines is incorrect and not reflective of

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<sup>1</sup> Order No. P.U. 2(2019).

1 the evidence on the record. Newfoundland Power submitted that the Application fully complies  
 2 with the Capital Budget Guidelines and contains the necessary information on its maintenance and  
 3 reliability performance. Newfoundland Power stated that the Consumer Advocate did not provide  
 4 any evidence upon which to eliminate, defer or extend any project. Newfoundland Power noted  
 5 that Hydro did not object to the approval of the Application and that the two issues in its submission  
 6 do not directly relate to the proposed projects in the Application. Newfoundland Power also noted  
 7 that the Consumer Advocate takes no exception to certain projects and accepts a number of projects  
 8 as appearing reasonable.<sup>2</sup> Newfoundland Power submitted that each of these projects is justified  
 9 and should be approved by the Board.

#### 10 **4. Capital Projects Over \$50,000**

11 Pursuant to section 41(3) of the *Act* the Application seeks approval of the proposed individual  
 12 projects with expenditures in excess of \$50,000. The issues which were raised with respect to a  
 13 number of specific projects are discussed below.

- 14  
 15  
 16  
 17 i) Hydro Plant Projects - Petty Harbour Hydro Plant Refurbishment and Topsail Hydro Plant  
 18 Penstock Refurbishment

19  
 20 The *Petty Harbour Hydro Plant Refurbishment* project involves the replacement of a 250-metre  
 21 section of woodstave penstock installed in 1954. The estimated total project cost is \$3,662,000.  
 22 The planned work includes replacement of the support cradles, wooden staves, steel bands and site  
 23 drainage, as well as the turbine valves on units 2 and 3. The Application set out that investing in  
 24 the life extension of the Petty Harbour hydroelectric development ensures the continued  
 25 availability of 15.2 GWh of energy to the Island Interconnected system. The economic analysis  
 26 indicates that continued operation of the plant is economically justified based on the levelized cost  
 27 of production of 3.31 cents/kWh and the benefit of the plant production of 13.57 cents/kWh for  
 28 run of river and 18.52 cents/kWh for a fully dispatchable plant. An engineering report was filed in  
 29 relation to this project which set out that the woodstave section of penstock is 65 years old and that  
 30 inspection has confirmed that it has reached the end of service life and requires replacement. In  
 31 addition the units 2 and 3 inlet valves are leaking excessively. The Application also included a  
 32 penstock condition assessment completed by an outside engineering firm, Mitchelmore  
 33 Engineering Company, which stated that a typical design life for a wooden penstock is 40 years  
 34 and the remaining woodstave portion of the penstock has many visible problem areas. According  
 35 to Mitchelmore Engineering Company the site inspection verified the poor condition of the  
 36 woodstaves and the steel bands and these are considered a high priority deficiency. In addition ice  
 37 build-up adjacent to the penstock increases risk of penstock instability, rupture and erosion, and  
 38 represents a public safety hazard. Mitchelmore Engineering Company's analysis also confirmed  
 39 that continued operation of the plant is economically justified. Mitchelmore Engineering Company

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<sup>2</sup> These projects are: (i) Hydro Facility Rehabilitation; (ii) Rattling Brook Plant Refurbishment; (iii) Thermal Plant Facility Rehabilitation; (iv) Replacements Due to In-Service Failures; (v) PCB Bushing Phase-out; (vi) Meters; (vii) Street Lighting; (viii) Transformers; (ix) Reconstruction; (x) Relocate/Replace Distribution Lines for Third Parties; (xi) Allowance for Funds Used During Construction; (xii) Tools and Equipment; (xiii) Additions to Real Property; (xiv) Physical Security Upgrades; (xv) all Telecommunications projects; (xvi) all Information Systems projects; and (xvii) Unforeseen Allowance.

1 concluded that the service life and the observed field conditions verify that the current structure  
2 has exceeded the design life and recommended the replacement of the woodstave penstock.

3  
4 The *Topsail Hydro Plant Penstock Refurbishment* project is a two-year project to replace the  
5 1,910-metre woodstave penstock which was installed in 1981. The estimated total project cost is  
6 \$9,399,000 with \$485,000 budgeted for 2020. The project involves the support cradles, wooden  
7 staves, steel bands, site drainage and buried section of the penstock. The Application set out that  
8 investing in the life extension of the Topsail hydroelectric development ensures the continued  
9 availability of 13.3 GWh of energy to the Island Interconnected system. The economic analysis  
10 indicates that continued operation of the plant is economically justified based on the levelized cost  
11 of production of 6.65 cents/kWh and the benefit of the plant production of 13.01 cents/kWh for  
12 run of river and 12.47 cents/kWh for a fully dispatchable plant. An engineering report was filed in  
13 relation to this project which set out that the woodstave section of penstock is 38 years old and  
14 inspection has confirmed that it has reached the end of service life and requires replacement. The  
15 Application also included a penstock condition assessment completed by Mitchelmore  
16 Engineering Company which explained that a typical design life for a wooden penstock is 40 years  
17 but the use of creosote for wood preservation has been discontinued and as a result these  
18 components can be expected to deteriorate more rapidly than in the past. Mitchelmore Engineering  
19 Company found that the woodstave penstock has many visible problem areas and ice build-up  
20 adjacent to the penstock increases risk to penstock instability, rupture and erosion, and represents  
21 a public safety hazard. The site inspection confirmed that the penstock and steel bands are in  
22 unsatisfactory or poor condition and are considered to be a high or very high priority deficiency.  
23 In addition Mitchelmore Engineering Company's analysis confirmed that continued operation of  
24 the plant is economically justified. Mitchelmore Engineering Company concluded that service life  
25 and the observed field conditions verify that the current structure has exceeded the design life and  
26 recommended the replacement of the woodstave penstock.

27  
28 The Consumer Advocate submitted that, while work may be required on some hydro plants, there  
29 is no substantive evidence presented that this work is urgent, necessitating the level of expenditures  
30 specified in the Application. The Consumer Advocate stated that normal maintenance practices  
31 should be continued on hydro plants with capital projects deferred or spread out over a longer  
32 period of time. The Consumer Advocate questioned whether small hydro plants may become  
33 stranded assets post-Muskrat Falls. The Consumer Advocate specifically submitted that the *Petty*  
34 *Harbour Hydro Plant Refurbishment* project could be deferred by two years and that the *Topsail*  
35 *Hydro Plant Refurbishment* project could be delayed for two years to determine if this facility will  
36 be required post-Muskrat Falls.

37  
38 Newfoundland Power stated the Consumer Advocate's submission that there is no substantive  
39 evidence that these projects are urgent is incorrect and is not reflective of the evidence on the  
40 record. Newfoundland Power submitted that condition assessments by Mitchelmore Engineering  
41 Company were provided for both projects. The condition assessment of the Petty Harbour Hydro  
42 Plant penstock concluded that the woodstave portion is in poor condition and requires replacement  
43 in 2020. Newfoundland Power noted that units 2 and 3 turbine inlet valves are not sealing properly  
44 and require replacement. With respect to the Topsail Hydro Plant penstock Newfoundland Power  
45 noted that the condition assessment concluded that the woodstave penstock is in poor condition  
46 and requires replacement. Newfoundland Power also noted that the economic analyses determined

1 that completion of the projects and continued operation of both plants is consistent with the  
2 provision of least-cost reliable service.

3  
4 The Board believes that the evidence demonstrates that the proposed *Petty Harbour Hydro Plant*  
5 *Refurbishment* and *Topsail Hydro Plant Penstock Refurbishment* projects are necessary to ensure  
6 continued reliable and safe operation of the plants and should not be delayed. In addition approval  
7 of these projects is consistent with the provision of least-cost reliable service. The engineering  
8 reports confirm that the woodstave penstocks and steel cradles have reached or passed the end of  
9 useful life and are in poor or very poor condition. In addition ice build-up represents a public safety  
10 hazard. The economic analysis which was done by Newfoundland Power and Mitchelmore  
11 Engineering Company showed that continued operation of both plants is economically justified.  
12 The Board does not believe that the deferral or delay of these projects is in keeping with the  
13 provision of least-cost reliable service. The Board is satisfied that the expenditures associated with  
14 these hydro plant refurbishments have been justified and this project should be approved.

15  
16 ii) Substation Refurbishment and Modernization

17  
18 This project involves the refurbishment and modernization of substations at Marystown, Bonavista  
19 and Grand Bay. The estimated total project cost is \$10,856,000. This project is part of  
20 Newfoundland Power's *Substation Strategic Plan* which was established in 2007 to provide a  
21 structured approach for the overall refurbishment and modernization of Newfoundland Power's  
22 130 substations. The project is justified based on the need to maintain safe, reliable electrical  
23 service and ensure workplace safety by replacing deteriorated or substandard substation  
24 infrastructure. An engineering report was filed in relation to this project which set out that the  
25 Marystown substation was built in 1976, the Bonavista substation was built in 1977, and the Grand  
26 Bay Substation was built in 1984. The proposed work includes new spill containment foundations  
27 to protect against environmental damage, replacement of switches on the 66 kV and 138 kV bus  
28 structures which have in excess of 30 years in service, installation of 66 kV and 138 kV circuit  
29 breakers and associated protective relaying to achieve operational flexibility, installation of new  
30 control buildings, completion of a grounding study and extension of the ground grid to improve  
31 safety for personnel. The power transformer at Marystown which was installed in 1977 will be  
32 refurbished, upgrades will be made to the auxiliary protection and protection relays, control will  
33 be modernized to improve automation and reduce the duration of substation and transmission  
34 outages, and communications will be upgraded to allow for remote administration of upgraded  
35 devices. In addition the power transformer at the Grand Bay Substation which is 53 years old will  
36 be replaced with a new transformer. This transformer has experienced several tap change failures  
37 and multiple life extension projects recently. The report which was filed in relation to this  
38 transformer set out that a transformer condition assessment by Kooy Transformer Consulting  
39 Services Inc. indicated that based on the age and the inoperative state of the on load tap changer,  
40 removal from service in a planned, controlled manner should be considered ahead of a failure and  
41 unplanned outage. In addition, to extend the useful life of the mobile unit at the Grand Bay  
42 Substation and to help mitigate the risk of outages, a placement pad will be installed with an oil  
43 spill containment system.

44  
45 The Consumer Advocate acknowledged that some of the work in this category may be required if  
46 safety is proven an issue but submitted that substation modernization is not a requirement when

1 ratepayers are under severe rate pressures. The Consumer Advocate stated that there was no  
2 evidence that this work is urgent and recommended that it be deferred indefinitely. If problems  
3 arise the Consumer Advocate suggested that required work be undertaken under the  
4 “Replacements Due to In-service Failures” project.

5  
6 Newfoundland Power submitted that the *Substation Refurbishment and Modernization* project is  
7 necessary to address deteriorated and obsolete equipment and should be approved by the Board.  
8 In Newfoundland Power’s view indefinite deferral essentially recommends that the substation  
9 equipment be run to failure, which would be inconsistent with the delivery of safe and reliable  
10 service to customers. Newfoundland Power stated that its substations are critical to electrical  
11 system reliability and that it is essential that substation outages be avoided where possible.  
12 According to Newfoundland Power the planned replacement and modernization of deteriorated  
13 and substandard infrastructure at its Marystown, Bonavista and Grand Bay substations, is work  
14 that has been identified through inspections, engineering assessments and operating experience  
15 and is necessary to maintain safe and reliable operation of the substations. Newfoundland Power  
16 stated that this project also involves the replacement of electromechanical relays which tend to fail  
17 as they approach 40 years of age. Newfoundland Power noted that the Liberty Consulting Group<sup>3</sup>  
18 concluded that Newfoundland Power uses reasonable practices in replacement of such relays.

19  
20 The Board believes that the evidence demonstrates that the proposed substation work at  
21 Marystown, Bonavista and Grand Bay is consistent with the provision of least-cost reliable service  
22 and should not be delayed. The required work is part of the *Substation Refurbishment and*  
23 *Modernization Plan* which assesses the requirement for work based on infrastructure and  
24 equipment condition and the need for upgrades for protection and control systems. The evidence  
25 included detailed engineering reports and a transformer condition assessment. The Board is  
26 satisfied based on the evidence in relation to the age and condition of the equipment that the  
27 proactive replacement and modernization of the equipment at these substations will minimize the  
28 risk of outages to customers. In addition this work will improve safety for personnel working in  
29 the substations. The proposed projects are critical to the continued reliability of the Island  
30 Interconnected system and a decision to delay or defer this work indefinitely is not consistent with  
31 the obligation of the utility to provide safe and reliable service to its customers. The Board is  
32 satisfied that the expenditures associated with the proposed substation refurbishment and  
33 modernization work have been justified and the project should be approved.

34  
35 iii) Feeder Additions for Load Growth

36  
37 This project is proposed to address overload conditions and provide additional capacity to address  
38 growth in the number of customers and volume of energy deliveries. The estimated total project  
39 cost is \$2,302,000. According to the Application actual peak load conditions and customer growth  
40 indicate that this project is warranted in order to maintain the electrical system within  
41 recommended guidelines. An engineering report was filed in relation to this project which set out  
42 that upgrades are planned in relation to several feeders. According to this report the Bay Roberts  
43 feeder BRB-05 exceeds planning criteria for maximum current on a single-phase distribution line,  
44 as a result of residential growth in the communities of Shearstown and Butlerville, and there are  
45 no adjacent distribution lines that can be extended at a reasonable cost. In addition a section of

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<sup>3</sup> Report on Island Interconnected System to Interconnection with Muskrat Falls, December 17, 2014.

1 Oxen Pond feeder OXP-01 will be upgraded to address an unbalanced condition that developed as  
2 a result of load growth and an adjacent distribution line cannot be extended due to lack of capacity.  
3 Similarly sections of Pulpit Rock feeder PUL-05 and the Broad Cove feeder BCV-03 will be  
4 upgraded to address an unbalanced condition that developed as a result of load growth and adjacent  
5 distribution lines cannot be extended at less cost. A new feeder will also be constructed originating  
6 at the Glendale substation to alleviate overload conditions on the Hardwoods transformers and to  
7 accommodate growth in the Donovan's Industrial Park and Galway development areas. There is  
8 ample transformer capacity at Glendale Substation and this new feeder is the least-cost option to  
9 resolve the overload conditions.

10  
11 The Consumer Advocate submitted that this project should be spread out over an additional one to  
12 six years until demographic and load issues are settled.

13  
14 Newfoundland Power submitted that the *Feeder Additions for Load Growth* project addresses  
15 identified overload conditions and provides additional capacity to address growth in the number  
16 of customers and the volume of energy deliveries. Newfoundland Power stated that overload  
17 conditions must be addressed in 2020 to ensure the continued provision of safe and reliable service  
18 to customers and that the individual projects are the least-cost solution to address the existing  
19 overload conditions on identified distribution feeders. Newfoundland Power submitted that the  
20 necessity of this project was provided in a detailed engineering report and that the project should  
21 be approved. Newfoundland Power stated that there is no evidentiary basis for the Consumer  
22 Advocate's submission that this project should be spread out over additional years until  
23 demographic and load issues are settled.

24  
25 The Board is satisfied that the evidence which was filed demonstrates that the *Feeder Additions*  
26 *for Load Growth* project is consistent with the provision of least-cost reliable service. The  
27 engineering report filed in support of this project sets out that this work is necessary to address the  
28 identified overload conditions and to provide additional capacity to address growth in the number  
29 of customers and volume of energy deliveries and that it is the least-cost alternative. The Consumer  
30 Advocate did not provide any evidence to support the suggestion to protract the period over which  
31 this project is completed. The Board believes that the evidence demonstrates that this project  
32 should proceed in 2020 and should not be deferred. The Board is satisfied that the expenditures  
33 associated with the feeder additions for load growth have been justified and this project should be  
34 approved.

35  
36 iv) Substation Feeder Termination

37  
38 This project involves the termination of a new 12.5 kV feeder at the Glendale Substation and is  
39 required to accommodate the *Feeder Additions for Load Growth* project which includes the  
40 installation of a new distribution feeder at Glendale Substation. The estimated total project cost is  
41 \$290,000. This project is justified based on actual peak load conditions and customer growth and  
42 the need to maintain reliability of the system.

43  
44 The Consumer Advocate agreed that the *Substation Feeder Termination* project may be reasonable  
45 but that more information pertaining to the project should be forthcoming.

1 Newfoundland Power stated that the project is clustered with the construction of the new 12.5 kV  
2 distribution feeder at Glendale Substation which is required to alleviate existing overload  
3 conditions on the 12.5 kV transformers in Hardwood's Substation and to accommodate load  
4 growth in the Donovan's Industrial Park and Galway Development areas. Newfoundland Power  
5 noted that the Consumer Advocate did not issue any RFIs in relation to this project nor did he  
6 specify what further information was required. Newfoundland Power submitted that the *Substation*  
7 *Feeder Termination* project is justified and should be approved.

8  
9 The Board is satisfied that the evidence which was filed demonstrates that the *Substation Feeder*  
10 *Termination* project is consistent with the provision of least-cost reliable service. The project is  
11 justified on the basis of customer load growth and actual peak load conditions and is required to  
12 accommodate the *Feeder Additions for Load Growth* project. The Consumer Advocate submitted  
13 that additional information was required but did not detail the information which he believes is  
14 necessary and did not request the additional information through requests for information or the  
15 technical conference. The Board is satisfied that the expenditures associated with the proposed  
16 substation feeder termination have been justified and this project should be approved.

17  
18 v) Transmission Line Rebuild

19  
20 This multi-year project involves the rebuild of a total of 27.7 km of three transmission lines with  
21 an average age of 57.7 years. The estimated total 2020 project cost is \$9,623,000. The transmission  
22 line rebuild project is part of the long-term plan to rebuild aging transmission lines set out in the  
23 *Transmission Line Rebuild Strategy* filed as part of Newfoundland Power's 2006 capital budget  
24 application. Inspections and engineering assessments determined transmission lines 363L, 49L,  
25 403L and 103L have reached a point where continued maintenance is no longer feasible and the  
26 lines must be rebuilt to continue providing safe and reliable electrical service to customers.

27  
28 Transmission line 363L was constructed in 1963 and includes approximately 62 km of original  
29 construction. It is a radial line that serves as the only supply to customers on the Baie Verte  
30 Peninsula making it critical for residents in the area and some mining operations. In 2017,  
31 inspections identified significant deterioration of the line due to decay, splits, and checks of the  
32 poles and spar arms, cracks in insulators and other hardware deficiencies. Many of these  
33 components were identified as being in advanced stages of deterioration requiring replacement.  
34 The inspections also identified conductor damage requiring repair. Work began in 2018 to rebuild  
35 this transmission line and the final 21 km section is proposed to be rebuilt in 2020.<sup>4</sup>

36  
37 Transmission line 49L provides a critical tie between Hydro's Hardwoods terminal station and  
38 Newfoundland Powers Chamberlains substation and is essential in supplying electricity to  
39 customers in the Conception Bay South area. The 2.7 km section of this line to be rebuilt was built  
40 in 1966 and inspections have identified significant deterioration of the line due to decay, splits and  
41 checks in the poles and crossarms, cracks in insulators and other hardware deficiencies. In addition  
42 some of the structure types have been identified as failure points when subjected to extreme  
43 weather loads. The line was built without armour rods which protect the conductor from fatigue  
44 caused by Aeolian vibrations, and it was constructed using older vintage porcelain suspension  
45 insulators which have been known to form hairline cracks over time.

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<sup>4</sup> Order No. P.U. 37(2017).

1 A 4 km section will be rebuilt of transmission line 403L which runs between St. Georges substation  
2 and Lookout Brook Hydro plant which was originally constructed in 1960 and is comprised of 46  
3 deteriorated single-pole structures with non-standard conductor. This is a critical transmission line  
4 for supplying reliable service to approximately 1,300 customers as the tap to Robinsons Substation  
5 is a radial line that serves as the only supply to Newfoundland Power customers in the area.  
6 Inspections have identified significant deterioration of the line due to decay, splits and checks in  
7 the poles and crossarms, cracks in insulators and other hardware deficiencies. This section of the  
8 line has reached a point where continued maintenance is no longer feasible and it has to be rebuilt  
9 to continue the provision of safe reliable service to customers in the area.

10  
11 A 14 km section of transmission line 103L will be rebuilt to 138 kV standards, splitting 136L into  
12 two 138 kV transmission lines which will be renamed to 147L and will extend from Lewisporte  
13 substation to Cobb's Pond substation in Gander. This is necessary to achieve the reconfiguration  
14 of the 138 kV system to serve all customers, and the subsequent dismantling of the 66 kV system,  
15 consistent with the *Central Newfoundland System Planning Study* filed as part of Newfoundland  
16 Power's 2019 Capital Budget Application.<sup>5</sup>

17  
18 The Consumer Advocate submitted that there is no proven evidentiary urgency for the  
19 *Transmission Line Rebuild* project and that the work should be spread out into the future from five  
20 to ten years to reduce the impact on rate base. The Consumer Advocate noted that Newfoundland  
21 Power is forecasting these costs will increase to almost \$14 million annually in the 2021 to 2024  
22 time period, compared to an average of \$7.6 million annually over the 4-year period ending 2019.  
23 The Consumer Advocate stated that further evaluation and opportunity for further expert  
24 intervenor scrutiny is required. According to the Consumer Advocate there is no information as to  
25 whether transmission inspection and maintenance practices should not be employed further to  
26 extend the life of items for which the utility is now seeking replacement. The Consumer Advocate  
27 noted that Newfoundland Power confirmed that there are no independent studies concerning the  
28 proposed rebuilding of transmission lines. In the Consumer Advocate's view it is telling that  
29 annual inspections over the last ten years found the need to replace a limited number of poles and  
30 further evidence and detailed studies should be provided before approval.

31  
32 Newfoundland Power submitted that the *Transmission Line Rebuild* project is necessary to replace  
33 deteriorated transmission line infrastructure and that it involves the rebuilding of their oldest, most  
34 deteriorated transmission lines. Newfoundland Power explained that transmission line failures  
35 typically result in outages to thousands of customers at once, and that the criticality of transmission  
36 lines in the delivery of electricity to large numbers of customers requires them to be proactive in  
37 their approach to addressing the risk of prolonged customer outages. Newfoundland Power noted  
38 that evidence demonstrating the necessity of the capital expenditures was provided in a detailed  
39 engineering report and that its transmission line rebuild strategy was reviewed and validated by  
40 the Liberty Consulting Group.<sup>6</sup> Newfoundland Power stated that the Consumer Advocate's  
41 submission that there is no urgency to this project and that there is no information on whether  
42 transmission line maintenance practices should be used to further extend the life of the  
43 transmission lines proposed to be rebuilt is incorrect and not reflective of the evidence on the  
44 record. Newfoundland Power noted that the review schedule for the Application provided for more

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<sup>5</sup> Order No. P.U. 35(2018).

<sup>6</sup> Report on Island Interconnected System to Interconnection with Muskrat Falls, December 17, 2014.

1 than 5 weeks of evaluation and expert intervenor scrutiny before RFIs were required to be filed  
2 and that the Consumer Advocate did not issue any RFIs or expert evidence on the Application.  
3

4 The Board is satisfied that the evidence filed in relation to the *Transmission Line Rebuild* project  
5 demonstrates that it is necessary and appropriate for the provision of least-cost reliable service.  
6 The work in relation to both 363L and 103L/147L are part of multi-year plans approved in previous  
7 Board orders. The engineering report which was filed in support of this project sets out in detail  
8 the need for this project based on both inspections and engineering assessments. The Consumer  
9 Advocate did not provide any evidence to suggest that this work can or should be delayed. The  
10 Board believes that the evidence demonstrates that the proposed work should proceed in 2020 and  
11 that further information and assessments are not required. The Board is satisfied that the  
12 expenditures associated with the transmission line rebuild have been justified and this project  
13 should be approved.  
14

15 vi) Distribution - Extensions  
16

17 This project involves the construction of both primary and secondary distribution lines to connect  
18 new customers to the electrical distribution system as well as upgrades to the capacity of existing  
19 lines to accommodate increased loads. The estimated total 2020 project cost is \$11,318,000 or  
20 \$4,289 per customer, based on historical annual expenditures over the past five years. Independent  
21 economic projections are used to forecast the number of new customers. Competitive tendering is  
22 used to source material and labour.  
23

24 The Consumer Advocate noted that *Distribution - Extensions* project expenditures are significant  
25 and submitted that there is no evidence of urgency and that some of the distribution work can be  
26 deferred. According to the Consumer Advocate customers have not indicated a willingness to pay  
27 for reliability improvements. The Consumer Advocate stated that Newfoundland Power has not  
28 provided where load growth is coming from or who the new customers could be and why these  
29 upgrades are required. The Consumer Advocate stated that there will be further information on  
30 load growth once we know the outcome of rate mitigation and the cost of electricity.  
31

32 Newfoundland Power submitted that the *Distribution - Extensions* project is justified based on its  
33 obligation to provide equitable access to an adequate supply of power and should be approved.  
34 Newfoundland Power submitted that the Consumer Advocate's position that there is insufficient  
35 information as to growth is not reflective of the evidence on the record. The project involves the  
36 construction of both primary and secondary distribution lines to connect new customers to the  
37 electrical distribution system and also includes upgrades to the capacity of existing lines to  
38 accommodate customers' increased electrical loads. Newfoundland Power stated that, while  
39 customer growth has declined in recent years it is projecting 2,639 new customers in 2020 which  
40 is derived from economic projections provided by independent agencies.  
41

42 The Board is satisfied that the evidence filed in relation to the *Distribution - Extensions* project  
43 demonstrates that it is consistent with the provision of least-cost reliable service. This project is  
44 justified on the need to address customers' new or additional service requirements and the forecast  
45 number of new customers is derived from economic projections provided by independent agencies.  
46 The Consumer Advocate suggested that some of this work can be deferred but did not specify

1 which work and did not provide any evidence to support this suggestion. The Board is satisfied  
2 that the expenditures associated with the distribution extensions have been justified and this project  
3 should be approved.

4  
5 vii) Distribution - Services  
6

7 This project involves the installation of service wires to connect new customers to the electrical  
8 distribution system, the replacement of existing service wires due to deterioration, failure or  
9 damage, and the installation of larger service wires to accommodate additional customer load. The  
10 estimated total 2020 project cost is \$3,272,000 or \$960 per customer, based on historical annual  
11 expenditures over the past five years. Independent economic projections are used to forecast the  
12 number of new customers. Competitive tendering is used to source material and labour.

13  
14 The Consumer Advocate expressed surprise that the *Distribution - Services* project expenditure  
15 was so high when load growth has slowed and stated that this project required further scrutiny.

16  
17 Newfoundland Power submitted that the *Distribution - Services* project is justified and should be  
18 approved. Newfoundland Power noted that this project involves the installation of service wires to  
19 connect new customers, the replacement of existing service wires due to deterioration, and the  
20 installation of larger service wires to accommodate customers' additional loads. Newfoundland  
21 Power submitted that the Consumer Advocate's submission that this project requires further  
22 scrutiny is not reflective of the evidence on the record.

23  
24 The Board is satisfied that the evidence which was filed demonstrates that the *Distribution -*  
25 *Services* project is consistent with the provision of least-cost reliable service. The new components  
26 of this project are justified based on the need to address customers' new service requirements and  
27 the replacement components are justified based on the obligation to provide safe reliable electrical  
28 service. The project cost is calculated on the basis of historical data and the forecast of new  
29 customers is based on economic projections provided by independent agencies. The Board is  
30 satisfied that the expenditures associated with distribution services have been justified and this  
31 project should be approved.

32  
33 viii) Distribution - Street Lighting  
34

35 This project involves the installation of street lighting fixtures for new customers, the replacement  
36 of existing fixtures and the provision of associated overhead and underground wiring. The  
37 estimated total 2020 project cost is \$2,635,000, based on historical annual expenditures over the  
38 past five years. Independent economic projections are used to forecast the number of new  
39 customers. Competitive tendering is used to source material and labour.

40  
41 The Consumer Advocate recommended that the plan to replace existing street lighting fixtures  
42 with LED fixtures be deferred.

43  
44 Newfoundland Power clarified that specific capital expenditure for the replacement of existing  
45 fixtures with LED does not commence until 2021 and as such a decision on this replacement can  
46 be deferred to a future proceeding. Newfoundland Power stated that it adopted LED technology as

1 their street lighting standard after its 2019/2020 General Rate Application when the Board found  
2 that this service offering would be beneficial to customers and would offer lower rates.<sup>7</sup>

3  
4 The Board is satisfied that the evidence which was filed in relation to the *Distribution – Street*  
5 *Lighting* project demonstrates that it is consistent with the provision of least-cost reliable service.  
6 The Board notes that the LED replacement program begins in 2021 and concerns in relation to  
7 whether it should be deferred can be addressed in Newfoundland Power’s 2021 Capital Budget  
8 Application. The Board is satisfied that the expenditures associated with distribution street lighting  
9 have been justified and this project should be approved.

10  
11 ix) Rebuild Distribution Lines

12  
13 This project involves the replacement of deteriorated distribution structures and electrical  
14 equipment that have been identified through the ongoing preventative maintenance program or  
15 engineering review and includes work on 42 of Newfoundland Power’s 305 distribution feeders.  
16 The estimated total 2020 project cost is \$3,985,000. The project is justified on the basis of the need  
17 to replace defective or deteriorated electrical equipment to maintain a safe, reliable electrical  
18 system. The Application explained that the proposed expenditures are consistent with the *Rebuild*  
19 *Distribution Lines Update* included in Newfoundland Power’s 2013 Capital Budget Application.  
20 Newfoundland Power’s distribution inspection standards identify deficiencies that are a risk to  
21 public or employee safety or are likely to result in imminent failure of a structure or hardware and  
22 specific line components targeted for replacement based on engineering reviews. Since inspections  
23 for the lines to be worked on in 2020 are ongoing, the projected 2020 expenditure is based on  
24 average historical expenditures over the previous five years.

25  
26 The Consumer Advocate submitted this project should be extended over the next two to five years  
27 during this period of rate pressure until there is greater clarity on rate mitigation and Muskrat Falls  
28 and its impacts and further data is available for intervenor scrutiny. The Consumer Advocate noted  
29 that the inspection data will not be available until late 2019 and the 2020 budget is estimated on  
30 the basis of average historical expenditures over the previous five years.

31  
32 Newfoundland Power stated that the *Rebuild Distribution Lines* project involves the replacement  
33 of deteriorated distribution structures and electrical equipment. Newfoundland Power submitted  
34 that extending the work required for a single year over two to five years would have a cumulative  
35 effect on the overall distribution inspection and maintenance program, resulting in the extension  
36 of the time required to replace defective or deteriorated electrical equipment on distribution feeders  
37 and would have an unacceptable impact on safety and reliability. Newfoundland Power submitted  
38 that the project is justified and should be approved.

39  
40 The Board is satisfied that the evidence filed in relation to the *Rebuild Distribution Lines* project  
41 demonstrates that it is consistent with the provision of least-cost reliable service. The proposed  
42 work was identified through preventative maintenance or engineering reviews, is consistent with  
43 Newfoundland Power’s previously filed rebuild distribution lines update and is based on historical  
44 spending. This project is justified based on the need to replace defective or deteriorated electrical  
45 equipment to maintain a safe, reliable electrical system and the Board believes that the extension

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<sup>7</sup> Order No. P.U. 2(2019), page 8, lines 19-20.

1 of this project over two to five years would not be consistent with the orderly replacement of  
 2 deteriorated equipment. The Board is satisfied that the expenditures associated with the  
 3 replacement of deteriorated distribution structures and electrical equipment have been justified and  
 4 this project should be approved.

5  
 6 x) Distribution - Trunk Feeders  
 7

8 This project involves individual high priority projects that arise from preventative maintenance  
 9 inspections or engineering reviews that are beyond the scope of other distribution projects. The  
 10 total estimated cost for this project is \$2,820,000. The project involves refurbishment or  
 11 replacement of distribution infrastructure due to deterioration or safety or environmental factors  
 12 and is justified based on the obligation to provide safe, least-cost reliable service. This project  
 13 consists of the replacement of deteriorated distribution infrastructure on feeder GFS-06 which  
 14 serves 1,900 customers in the communities of Grand-Falls-Windsor and Badger as well as the  
 15 elimination of the London Building Vault in the St. John's underground system.<sup>8</sup>  
 16

17 The planned work in relation to feeder GFS-06 includes the replacement of 20 km of conductor,  
 18 poles and structures and the relocation of 3 km of line away from the flood plain which will resolve  
 19 all identified deficiencies, meet current Newfoundland Power distribution standards and increase  
 20 reliability. Inspections on this feeder have identified deteriorated poles and cross arms, poor  
 21 conductor condition, sub-standard pole spacing, and other hardware deficiencies, many of which  
 22 are in advanced stages of deterioration and require replacement. An engineering report was filed  
 23 which set out that approximately 20 km of the feeder is primarily 1960s vintage overhead line with  
 24 a 3 km section which runs adjacent to the Exploits River within the flood plain. Poles in the area  
 25 regularly flood limiting access and also ice damage has occurred on poles, anchors and timber  
 26 cribbing. In addition as a result of environmental considerations, cedar poles were used which  
 27 typically have a rated life of 10 years. Inspections in 2019 identified a significant number of  
 28 deficiencies. The conductor is in poor condition and the average span length is longer than current  
 29 standards. In addition of the 176 total structures, 146 have vintage framing arrangements that do  
 30 not comply with Newfoundland Power standards. The feeder is radial and there are no tie-points  
 31 or backup to other feeders.  
 32

33 The London Building Vault which was built in 1975 will be eliminated as a part of this project.  
 34 An engineering report was filed which set out that eliminating this vault will address known safety  
 35 and environmental hazards, including substandard electrical clearances to exposed high-voltage  
 36 conductor, arc flash hazards, lack of spill containment, and issues with accessibility, illumination  
 37 and ventilation. The vault has three oil-filled pole mount type transformers resting on the vault  
 38 floor with exposed high-voltage electrical connection within easy reach, presenting a safety risk  
 39 to anyone entering the vault and also poses an environmental hazard as there is no spill  
 40 containment. Newfoundland Power filed a *Vault Refurbishment and Modernization Plan* with its  
 41 2014 Capital Budget Application which addressed the need to refurbish and modernize vaults to

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<sup>8</sup> GFS-06 is 1 of 5 distribution feeders originating from the Grand Falls 25 kV substation located on the TCH in the Town of Grand Falls –Windsor and supplies electricity to 1900 customers in Grand Falls-Windsor and Badger. The vault contains high voltage equipment supplying customers utilizing special underground arrangements.

1 address known safety and environmental issues and to achieve compliance with Canadian  
2 standards for the equipment and Newfoundland Power's operational procedures.<sup>9</sup>

3  
4 The Consumer Advocate submitted that the *Distribution – Trunk Feeders* project requires more  
5 information.

6  
7 Newfoundland Power submitted that the necessity of the *Trunk Feeders* project was provided in  
8 detailed engineering reports and that the project should be approved. Newfoundland Power noted  
9 that the Consumer Advocate did not issue any RFIs in relation to this project nor did he specify  
10 what further information was required.

11  
12 The Board is satisfied that the evidence filed in relation to the *Distribution – Trunk Feeders* project  
13 demonstrates that it is consistent with the provision of least-cost reliable service. The feeder GFS-  
14 06 serves 1,900 customers in the communities of Grand-Falls-Windsor and Badger and consists  
15 of old deteriorated structures and equipment which has been identified through inspections and  
16 engineering assessments to require replacement. The engineering report in relation to the London  
17 Building Vault demonstrates that that it is inconsistent with current standards and operating  
18 procedures and poses a safety and environmental risk. The Board is satisfied that the expenditures  
19 associated with the distribution trunk feeders have been justified and this project should be  
20 approved.

21  
22 xi) Distribution Reliability Initiative

23  
24 This multi-year project involves the replacement of deteriorated poles, conductor and hardware to  
25 reduce both the frequency and duration of power interruptions to the customers served by specific  
26 distribution lines. The estimated total 2020 project cost is \$1,950,000. This project is justified on  
27 the basis of the obligation to provide reliable electrical service and the work has been prioritized  
28 based on historic interruption statistics. The 2020 project will address feeders DUN-01, GBY-03  
29 and GDL-04. An engineering report was filed which set out that the performance of these feeders  
30 is significantly poorer than the company average. Distribution feeder DUN-01 currently provides  
31 service to 1,049 customers and GBY-03 provides service to 762 customers. An engineering  
32 assessment in 2018 determined that reliability has been negatively affected on these feeders by  
33 equipment failures.<sup>10</sup> Distribution feeder GDL-04 provides service to 1,472 customers and an  
34 engineering assessment in 2019 determined that reliability has also been negatively affected by  
35 equipment failures. This feeder was originally constructed in the late 1960s and engineering  
36 assessments identified deteriorated poles, hardware and non-standard conductor, deteriorated  
37 insulators, decayed or damaged crossarms and porcelain cutouts. Component failure during high  
38 winds has been an issue in recent years and corrosion issues have been experienced with the non-  
39 standard 266 ACSR conductor. The section of the line with small non-standard conductor limits  
40 the capacity for load transfer and the ability to quickly restore power. In addition there are a number  
41 of locations where the existing infrastructure has failed and the deteriorated condition of the

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<sup>9</sup> Canadian Standards Association Z462-08 Arc Flash Standard, the Canadian Electrical Code and the National Building Code.

<sup>10</sup> The work on DUN-01 was approved by the Board in Order No. P.U. 35(2018) and will be spread over three years to be completed in 2021. Work on GBY-03 was also approved in Order No. P.U. 35(2018) and will be completed in 2020.

1 overhead copper conductors makes it highly likely that there will be further failures. Due to the  
2 age and condition of the poles, crossarms, insulators, cutouts and conductor, the feeder is becoming  
3 more susceptible to damage when exposed to severe wind, ice and snow loading.  
4

5 The Consumer Advocate submitted that the *Distribution Reliability Initiative* project should be  
6 delayed by two years until there is greater clarity on rate mitigation. According to the Consumer  
7 Advocate this project is not justified during this time of severe rate pressures, particularly for  
8 customers who have not expressed a willingness to pay for increased reliability. In the view of the  
9 Consumer Advocate the reliability statistics for the three identified feeders are reasonable and the  
10 expenditures cannot be justified at this time.  
11

12 Newfoundland Power submitted that the *Distribution Reliability Initiative* project is justified and  
13 should be approved. Newfoundland Power noted that the reliability experienced by customers  
14 served by these feeders is significantly poorer than the company average. Newfoundland Power  
15 submitted that targeting capital expenditures in areas experiencing the worst service reliability is  
16 consistent with both customers' service expectations and the obligation to provide equitable access  
17 to adequate supply of power. Newfoundland Power stated that there is no evidentiary basis for the  
18 Consumer Advocate's submission that the reliability statistics are reasonable for the three feeders  
19 included in this project.  
20

21 The Board is satisfied that the evidence in relation to the *Distribution Reliability Initiative* project  
22 demonstrates that it is consistent with the provision of least-cost reliable service. The identified  
23 work in relation to the DUN-01 and GBY-03 feeders is part of an ongoing project to improve the  
24 reliability of two of Newfoundland Power's worst performing feeders in accordance with the  
25 previous approval of the Board. The proposed work in relation to the GDL-04 feeder was supported  
26 by an engineering report which demonstrated the age and poor condition of the components as  
27 well as the poor reliability of this feeder. The Board is satisfied that the expenditures associated  
28 with these feeders have been justified and this project should be approved.  
29

#### 30 xii) Distribution Feeder Automation 31

32 This project involves the installation of downline automated reclosers on distribution feeders  
33 which will enhance the response to system outages and offer a number of customer and operational  
34 benefits to increase grid resilience. The estimated 2020 total project cost is \$756,000. The  
35 deployment of automated distribution equipment will enhance response time as sections of feeders  
36 no longer need to be patrolled to identify the cause of outages. Installing automated distribution  
37 feeder equipment to sectionalize distribution feeders provides a greater degree of reliability in all  
38 operating conditions, including local and system-wide outages. An engineering report was filed in  
39 relation to this project which set out that distribution feeder automation has become commonplace  
40 in modern utility operations. Automated downline reclosers can reduce the number of customers  
41 that experience an outage by upwards of 67%. The installation of automated downline reclosers  
42 provide the capability to remotely and automatically sectionalize distribution feeders which  
43 became a focus following the cold load pick-up issues that hindered the restoration of service to  
44 customers in January 2014.

1 The Consumer Advocate submitted that while in normal times such a project could be  
2 recommended, this project should be deferred or spread over a period of two to four years given  
3 the circumstances.

4  
5 Newfoundland Power submitted that the necessity of the *Distribution Feeder Automation* project  
6 was provided in a detailed engineering report and that the project should be approved.  
7 Newfoundland Power stated that the project will provide both reliability and efficiency benefits to  
8 customers. Newfoundland Power noted that the project is consistent with a recommendation from  
9 the Board's Investigation and Hearing into Supply Issues and Power Outages on the Island  
10 Interconnected System. Newfoundland Power stated that there is no evidentiary basis for the  
11 Consumer Advocate's submission that this project should be deferred or extended.

12  
13 The Board is satisfied that the evidence filed in relation to the *Distribution Feeder Automation*  
14 project demonstrates that it is consistent with the provision of least-cost reliable service. The  
15 project will reduce the impact of outages and will improve reliability. The Board is satisfied that  
16 the expenditures associated with increasing the level of automation on the distribution system have  
17 been justified and this project should be approved.

#### 18 19 xiii) General Property – Company Building Renovations

20  
21 This project involves the renovation of the Stephenville Area Office Building and the Whitbourne  
22 District Building. The estimated total project cost is \$1,172,000.

23  
24 The Stephenville Area Office Building is the primary operations facility for the Stephenville area  
25 which serves approximately 16,000 customers. Capital improvements are proposed to replace  
26 deteriorated components and systems, reconfigure the layout and improve customer service at the  
27 facility. An engineering report was filed which set out that the building was originally constructed  
28 in the late 1950s and was acquired by Newfoundland Power in 1975. A condition assessment was  
29 completed in 2019 which found that the roof is in poor condition with a history of leaks, the  
30 exterior siding was installed in 1988 and is showing deterioration, some windows are showing  
31 signs of leakage and some are difficult to open or have been permanently closed, and the personnel  
32 doors have significant corrosion from exposure to de-icing salts. In addition the customer service  
33 area does not meet the requirements for barrier-free design, the customer service counter does not  
34 meet current accessibility requirement and does not provide adequate safety and security for the  
35 area staff and the washroom facilities do not meet the current regulatory requirements. Sections of  
36 the parking areas are in poor condition and there is a grading issue that forces water toward the  
37 doorway area. The Gallant Street Building at Stephenville was constructed in 1959 and the  
38 building envelope is showing signs of failure. A condition assessment was done in 2019 and water  
39 infiltration was evident on the interior. In addition a hazardous materials assessment completed by  
40 an external consultant in 2019 indicated that the exterior metal cladding has paint containing high  
41 lead content, asbestos is present in the drywall joint compound, vinyl floor tiles and window  
42 caulking and also that there are locations of suspected mould growth due to water damage within  
43 the structures. Several alternatives were considered and the proposed refurbishment of the  
44 Stephenville Area Office Building and partial demolition of the Gallant Street Building was found  
45 to be least-cost.

1 The Whitbourne District Building was originally constructed in 1978 and the proposed project is  
 2 to replace deteriorated infrastructure, address inadequate ventilation and provide adequate office  
 3 and storage facilities. A condition assessment was completed which found that the windows which  
 4 are 41 years old are showing signs of deterioration, including rusting and leakage. The metal  
 5 roofing is original to the building and was repaired in 1998 but has continued to deteriorate with  
 6 localized leaking. The building is largely unventilated and does not have efficient air exchange or  
 7 cooling systems. The parking areas and walkways range in age from 21 to 31 years and have  
 8 experienced spider cracking, potholes and shifting.

9  
 10 The Consumer Advocate stated that there is no evidence provided that the building renovations  
 11 are urgent. The Consumer Advocate recommended that consideration be given to deferring  
 12 renovations unless required to address safety or environmental issues.

13  
 14 Newfoundland Power submitted that the *General Property - Company Building Renovations* is  
 15 justified and should be approved. Newfoundland Power stated that a condition assessment  
 16 completed of the Stephenville Area Office Building in 2019 found that a number of components  
 17 required refurbishment to ensure the continued provision of safe and reliable service to customers  
 18 in the area, and that evidence demonstrating the necessity of the expenditure was provided in a  
 19 detailed engineering report. Newfoundland Power stated that a condition assessment completed of  
 20 the Whitbourne District Building in 2019 found that capital improvements are necessary in 2020  
 21 to replace deteriorated infrastructure, address inadequate ventilation, and provide suitable office  
 22 and storage facilities. Newfoundland Power stated that the proposal is the least-cost option.  
 23 Newfoundland Power submitted that the Consumer Advocate has not provided any evidence that  
 24 this project can be readily deferred.

25  
 26 The Board is satisfied that the evidence filed in relation to the *General Property - Company*  
 27 *Building Renovations* project demonstrates that it is consistent with the provision of least-cost  
 28 reliable service. The Stephenville Area Office Building was constructed in the 1950s and the  
 29 Whitbourne District Building was constructed in 1978 and there has been no extensive renovations  
 30 of either in recent years. Detailed engineering reports were filed and, based on the condition  
 31 assessments which were completed, the building envelope at Stephenville and Whitbourne is  
 32 deteriorated. The roof, siding, windows and doors are in poor condition with evidence of leaking  
 33 In addition the Stephenville building does not meet current regulatory or work requirements, the  
 34 Gallant Street building was found to contain hazardous materials, and the Whitbourne building has  
 35 inadequate ventilation. The Board is satisfied that the expenditures associated with the building  
 36 renovations have been justified and this project should be approved.

37  
 38 xiv) Transportation – Purchase Vehicle and Aerial Devices

39  
 40 This project involves the addition and necessary replacement of heavy fleet, passenger and off-  
 41 road vehicles which have reached the end of their useful service lives based on age, mileage and  
 42 condition parameters.<sup>11</sup> The estimated total 2020 expenditure is \$3,869,000. Newfoundland  
 43 Power's replacement criteria for vehicles and aerial devices are as set out in the *Vehicle*  
 44 *Replacement Criteria* report filed with the 2016 Capital Budget Application. All vehicles  
 45 considered for replacement according to a number of criteria, including overall condition,

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<sup>11</sup> The proposed vehicle replacements include 6 heavy fleet, 30 passenger and 8 off-road vehicles.

1 maintenance history, and immediate repair requirements to ensure replacement is the least-cost  
2 option. Evaluation of heavy fleet vehicles is initiated at 10 years or 250,000 km, passenger vehicles  
3 at 5 years or 150,000 km. New vehicles are acquired through competitive tendering to ensure the  
4 lowest possible cost.

5  
6 The Consumer Advocate stated that there is no evidence to suggest Newfoundland Power's  
7 vehicles require replacement. The Consumer Advocate submitted that without an opinion from an  
8 independent expert to state replacement is necessary, the expenditure should be put on hold.

9  
10 Newfoundland Power submitted that the *Transportation – Purchase Vehicle and Aerial Devices*  
11 project is justified and should be approved. Newfoundland Power stated that it undertook a review  
12 of the vehicle replacement criteria of other Canadian utilities and filed the results in its 2016  
13 Capital Budget Application. Newfoundland Power submitted that the report showed its approach  
14 is consistent with current Canadian utility practice and consistent with the least-cost delivery of  
15 service to customers. In Order No. P.U. 28(2015) the Board indicated that it was satisfied that  
16 Newfoundland Power's vehicle replacement criteria and practices provide an objective and sound  
17 basis for decision making. Newfoundland Power stated that there is no evidentiary basis for the  
18 Consumer Advocate's submission that the proposed vehicle replacements are inconsistent with  
19 sound utility practice or the least-cost delivery of service to customers.

20  
21 The Board is satisfied that the evidence filed in relation to the *Transportation – Purchase Vehicle*  
22 *and Aerial Devices* project demonstrates that it is consistent with the provision of least-cost reliable  
23 service. The proposed project is based on Newfoundland Power's vehicle replacement criteria  
24 which are consistent with Canadian utility practice, the previous findings of the Board and  
25 historical levels of spending. The Board is satisfied that the expenditures associated with the  
26 purchase of vehicles and aerial devices have been justified and this project should be approved.

## 27 28 **5. Other Issues Raised**

29  
30 Issues were raised during the review of Newfoundland Power's 2020 Capital Budget Application  
31 with respect to capitalization practices, transmission line maintenance and the capital budget  
32 review process.

### 33 34 i) Capitalization Practices

35  
36 As with previous capital budgets Newfoundland Power's 2020 Capital Budget includes both  
37 indirect and direct capitalized internal costs associated with new capital assets. These costs include  
38 labour, overheads and general expenses capitalized ("GEC").

39  
40 In its submission Hydro stated that Newfoundland Power's and Hydro's approaches to  
41 capitalization of internal costs vary greatly. In particular Hydro noted that Newfoundland Power's  
42 total amount of capitalized labour has increased substantially over the last 20 years, from \$10.9  
43 million in 2000 to \$24.1 million in 2018. Hydro noted that over the five years from 2014 to 2018,  
44 Newfoundland Power capitalized 35% of its labour costs on average, as compared to the 25%  
45 capitalized by Hydro over the same time period. Hydro submitted that the use of different

1 accounting standards makes comparisons of costs between the two utilities difficult but does not  
2 alone account for the difference in the levels of capitalization.<sup>12</sup> Hydro stated:

3  
4 It is Hydro's position that an examination of the practices for capitalization, including GEC,  
5 in this jurisdiction is warranted to determine an approach that would result in the lowest  
6 possible cost for ratepayers, taking into consideration both short- and long-term revenue  
7 requirement impacts. Hydro proposes that a comprehensive review of the capitalization  
8 practices of both Newfoundland Power and Hydro with respect to generally accepted sound  
9 public utility practice would benefit ratepayers and promote least-cost service in  
10 Newfoundland and Labrador.<sup>13</sup>

11  
12 The Consumer Advocate noted that Newfoundland Power and Hydro use different approaches and  
13 recommended that the Board order a review to determine if these different approaches are justified  
14 or if one approach should be implemented over the other based on benefits to ratepayers.

15  
16 Newfoundland Power submitted that its capitalized labour has been reasonably consistent and that,  
17 beyond inflation, long-term changes in capitalized labour costs reflect the projects contained in its  
18 annual capital budget applications. Newfoundland Power stated there is no evidence that a  
19 harmonized approach to capitalization practices is either practical or necessary. Newfoundland  
20 Power submitted that its GEC calculation is consistent with Board orders and sound public utility  
21 practice but acknowledged that its practice has not been reviewed since 1999 and that it would  
22 undertake a review of its calculation if deemed appropriate by the Board.

23  
24 Both Hydro and the Consumer Advocate suggest that a review of the practice for capitalization in  
25 this jurisdiction is warranted and Newfoundland Power acknowledged that its practice with respect  
26 to its GEC calculation has not been reviewed since 1999. The Board agrees that it would be timely  
27 to review the capitalization practices to ensure consistency with sound public utility practice and  
28 the provision of least-cost service to customers. The Board will establish a process for this review.

29  
30 ii) Transmission Line Maintenance - Wood Pole Management

31  
32 In its submission Hydro expressed concerns with the level of analysis Newfoundland Power  
33 performs in its inspection and maintenance practices related to wood pole transmission lines.  
34 Hydro stated:

35  
36 ...Newfoundland Power completes a visual inspection of the pole from the ground line to  
37 the top, completes a sounding test from the ground line to two metres above grade and  
38 performs core sampling to test for deterioration. Newfoundland Power does not require its  
39 technicians to climb each pole fully for inspection unless a visual inspection from the ground  
40 has identified an issue or an acceptance inspection of newly constructed line is required.<sup>14</sup>

41  
42 Hydro noted that Newfoundland Power does not have a treatment program for its poles. Hydro  
43 referenced a recent survey completed by Hydro of other utilities on wood pole management

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<sup>12</sup> Hydro follows International Financial Reporting Standards (IFRS) and Newfoundland Power follows United States Generally Accepted Accounting Principles (US GAAP).

<sup>13</sup> Hydro Submission, page 3.

<sup>14</sup> Hydro Submission, page 3.

1 practices which revealed that 15 of the responding 17 utilities have a “test and treat” program. BC  
 2 Hydro, FortisBC, SaskPower, NB Power and NS Power reported having a similar wood pole  
 3 management program as Hydro’s which includes inspection and treatment philosophy, inspection  
 4 cycles and condition-based refurbishment. Hydro submitted that Newfoundland Power should  
 5 reassess its practices to ensure the most accurate and comprehensive information is obtained to  
 6 justify future projects and to ensure its inspection and maintenance practices are consistent with  
 7 the provision of least-cost reliable service.  
 8

9 Newfoundland Power provided a copy of its *Transmission Inspection and Maintenance Practices*  
 10 and submitted that its practices are continuously reviewed to ensure they are consistent with its  
 11 obligation to provide safe, least-cost, reliable service to customers. Newfoundland Power  
 12 acknowledged that many utilities have test and treat programs for transmission line assets and that  
 13 Hydro stated that two full inspection cycles of its program are required to determine quantitative  
 14 benefits. Newfoundland Power submitted that it would be prudent to await the results of the second  
 15 cycle of Hydro’s inspection program, which is scheduled for completion in 2023, before  
 16 determining whether a wood pole test and treatment program is warranted for its transmission  
 17 lines.  
 18

19 The Board notes that Newfoundland Power’s inspection and maintenance practices require that its  
 20 transmission lines are subject to one ground inspection per year which includes a detailed visual  
 21 inspection of wood poles from the ground line to the top on all quadrants, a sounding test for poles  
 22 that have been in service for more than 35 years and random sounding tests for the remainder. If  
 23 the visual inspection or the sounding test indicate a problem a core sampling test can be performed.  
 24 The Board is satisfied that Newfoundland Power’s current practices are reasonable in the  
 25 circumstances. The Board believes that it may be appropriate for Newfoundland Power to review  
 26 its practices upon the completion of the second inspection cycle in relation to Hydro’s test and  
 27 treat program.  
 28

### 29 iii) Capital Budget Guidelines and Process

30  
 31 The Consumer Advocate raised a number of concerns about the Capital Budget guidelines and the  
 32 process for reviewing and approving capital budget applications, including reliance upon staff to  
 33 review the capital budget applications and RFIs, which are not sworn or subject to scrutiny by  
 34 counsel during a hearing. The Consumer Advocate submitted that the utilities should be required  
 35 to convene a technical conference to explain each and every expenditure, and that the technical  
 36 conference should be held as early as possible to allow intervenors the time to retain experts to  
 37 review expenditures and offer expert opinion. According to the Consumer Advocate the capital  
 38 budget procedure is inadequate and a stringent process must be put in place prior to awarding  
 39 utilities ratepayer money. The Consumer Advocate stated that procedures to review capital budget  
 40 applications must change to recognize cost efficiencies between the two utilities in the Muskrat  
 41 Falls era.  
 42

43 Newfoundland Power submitted that the Capital Budget guidelines:

- 44 (i) are effective in providing clarity and consistency in the submission of capital  
 45 expenditures by a utility;

- 1 (ii) provide adequate guidance with respect to the presentation of capital budget filings,  
2 including the definition of capital expenditures and the basis upon which capital  
3 expenditures may be justified; and  
4 (iii) set out a comprehensive review process to ensure expenditures are in the interests of  
5 customers.  
6

7 Newfoundland Power also noted that a separate process to review the guidelines is currently being  
8 undertaken by the Board and that it intends to participate fully in this review.  
9

10 The Board believes that appropriate oversight of capital expenditures is an important aspect of the  
11 regulation of public utilities given the potential impact of capital spending decisions on rates and  
12 the provision of reliable service. To ensure the appropriate balance between the provision of least-  
13 cost and reliable service it is critical that determinations with respect to capital spending are made  
14 in consideration of all of the facts after a full examination of all of the circumstances.  
15

16 The *Act* requires that a utility must apply to the Board for approval of both its annual capital budget  
17 as well as projects over \$50,000. The Board's Capital Budget Guidelines set out the requirements  
18 with respect to these applications. These guidelines were developed and implemented in 2005 with  
19 the assistance and agreement of the utilities, the Industrial Customer Group and the Consumer  
20 Advocate. The information which is required includes, the age of the equipment and useful life,  
21 maintenance history and condition analysis, environmental and safety issues, alternatives  
22 considered and a cost benefit analysis. During the review of the application additional information  
23 can be requested and, while the responses are not required to be sworn, the information may be  
24 reviewed in a technical conference or hearing. Normally the capital budget applications are  
25 addressed through a paper hearing, however, where warranted in the circumstances a technical  
26 conference or a public hearing may be held.  
27

28 The Board is satisfied that the Capital Budget Guidelines have provided the opportunity to fully  
29 examine the capital budget applications and that the necessary and appropriate information has  
30 been provided by the utilities in accordance with the guidelines. To ensure continued appropriate  
31 oversight of the utilities' capital spending in the future a review of the capital budget approval  
32 process is underway. This review is being conducted with the participation of the utilities, the  
33 Consumer Advocate and the Industrial Customer Group and with the assistance of the Board's  
34 consultant. This review is ongoing and it is expected that some changes will be implemented for  
35 the capital budget applications to be filed in 2020. Long-term changes will be addressed as the  
36 review progresses through 2020.  
37

38 In this case comprehensive information was filed with the Application, including numerous  
39 engineering reports and condition assessments and additional information was provided in  
40 response to requests for information from the Board and the intervenors. A technical conference  
41 was held followed by the opportunity to issue further requests for information. Board staff was  
42 fully involved throughout the process and all of the evidence and information on the record was  
43 fully reviewed and considered by the Board in its evaluation of the application proposals. The  
44 Board is satisfied that the process followed in this matter provided a full, fair and transparent  
45 review of Newfoundland Power's 2020 Capital Budget Application.

1 **6. Conclusion**

2

3 The Board has reviewed Newfoundland Power's 2020 Capital Budget Application and the  
4 proposed capital projects, the reports filed in support and the additional information filed by  
5 Newfoundland Power in response to RFIs. After consideration of the evidence and the submissions  
6 filed the Board finds Newfoundland Power's 2020 Capital Budget Application to be justified and  
7 the proposed projects to be prudent, reasonable and necessary for Newfoundland Power to  
8 continue to provide safe and reliable service. Newfoundland Power's 2020 Capital Budget in the  
9 amount of \$96,614,000 and the proposed capital projects should be approved.

1 **III 2018 AVERAGE RATE BASE**  
 2

3 The following table shows the calculation of the average rate base as of December 31 for 2018  
 4 compared with 2017:<sup>15</sup>

<b>Newfoundland Power Inc.</b>		
<b>Computation of Average Rate Base</b>		
<b>For The Years Ended December 31</b>		
<b>(\$000's)</b>		
	<u>2018</u>	<u>2017</u>
<b>Net Plant Investment</b>		
Plant Investment	1,864,271	1,804,559
Accumulated Depreciation	(752,932)	(725,127)
Contributions in Aid of Construction	(38,575)	(38,373)
	<u>1,072,764</u>	<u>1,041,059</u>
<b>Additions to Rate Base</b>		
Deferred Pension Costs	89,678	92,017
Deferred Credit Facility Costs	120	110
Cost Recovery Deferral – Hearing Costs	-	341
Cost Recovery Deferral – Conservation	15,889	14,116
Weather Normalization Reserve	1,517	4,771
Customer Finance Programs	2,460	1,496
Demand Management Incentive Account	-	1,490
	<u>109,664</u>	<u>114,341</u>
<b>Deductions from Rate Base</b>		
Other Post-Employment Benefits	57,112	52,584
Customer Security Deposits	1,071	1,066
Accrued Pension Obligation	5,016	5,572
Accumulated Deferred Income Taxes	4,887	3,915
2016 Cost Recovery Deferral	-	723
	<u>68,086</u>	<u>63,860</u>
<b>Year End Rate Base</b>	1,114,342	1,091,540
<b>Average Rate Base Before Allowances</b>	1,102,941	1,077,964
<b>Rate Base Allowances</b>		
Materials and Supplies Allowance	6,184	6,137
Cash Working Capital Allowance	8,216	8,153
	<u>14,400</u>	<u>14,290</u>
<b>Average Rate Base at Year End</b>	<u>1,117,341</u>	<u>1,092,254</u>

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<sup>15</sup> Application, Schedule D.

1 Grant Thornton reviewed the calculation of the average rate base for 2018 and provided an opinion  
2 that the calculation is accurate and in accordance with established practice and Board Orders. Grant  
3 Thornton also reviewed the additions, deductions and allowances included in the rate base and  
4 found no discrepancies or unusual items, and that they are consistent with approved Board Orders.  
5

6 The Consumer Advocate and Hydro did not make any comment on Newfoundland Power's 2018  
7 rate base. Newfoundland Power submitted that the Board should fix and determine its average rate  
8 base for 2018 at \$1,117,341,000.  
9

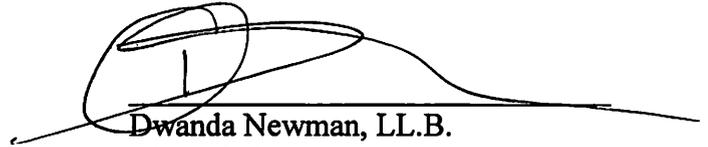
10 The Board finds that the components of Newfoundland Power's average rate base for 2018 in the  
11 amount of \$1,117,341,000 should be approved.

1 **IV ORDER**

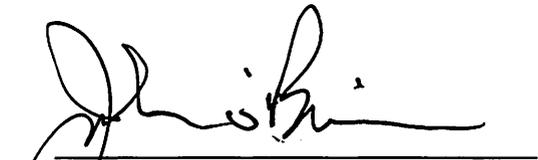
2  
3 **IT IS THEREFORE ORDERED THAT:**

- 4
- 5 **1. Newfoundland Power's proposed construction and purchase of improvements or**  
6 **additions to its property to be completed in 2020, as set out in Schedule A to this Order,**  
7 **are approved.**  
8
  - 9 **2. Newfoundland Power's proposed multi-year construction and purchase of**  
10 **improvements or additions to its property to begin in 2020, as set out in Schedule B to**  
11 **this Order, are approved.**  
12
  - 13 **3. Newfoundland Power's 2020 Capital Budget for improvements or additions to its**  
14 **property in an amount of \$96,614,000, as set out in Schedule C to this Order, is**  
15 **approved.**  
16
  - 17 **4. Newfoundland Power's average rate base for the year ending December 31, 2018 is**  
18 **hereby fixed and determined at \$1,117,341,000.**  
19
  - 20 **5. Unless otherwise directed by the Board, Newfoundland Power shall file an annual**  
21 **report to the Board on its 2020 capital expenditures by March 1, 2021.**  
22
  - 23 **6. Unless otherwise directed by the Board, Newfoundland Power shall provide, in**  
24 **conjunction with the 2021 capital budget application, a status report on the 2020 capital**  
25 **budget expenditures showing for each project:**  
26
    - 27 **(i) the approved budget for 2020;**
    - 28 **(ii) the expenditures prior to 2020;**
    - 29 **(iii) the 2020 expenditures to the date of the application;**
    - 30 **(iv) the remaining projected expenditures for 2020;**
    - 31 **(v) the variance between the projected total expenditures and the approved budget;**  
32 **and**
    - 33 **(vi) an explanation of the variance.**
  - 34
  - 35 **7. Newfoundland Power shall pay all costs and expenses of the Board incurred in**  
36 **connection with the Application.**

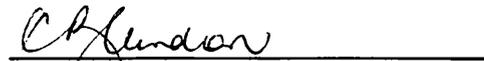
**DATED** at St. John's, Newfoundland and Labrador, this 21<sup>st</sup> day of February, 2020.



Dwanda Newman, LL.B.  
Vice-Chair



John O'Brien, FCPA, FCA, CISA  
Commissioner



Cheryl Blundon  
Board Secretary

**Newfoundland Power Inc.**  
**2020 Capital Budget**  
**Single-Year Projects Over \$50,000**  
**(000s)**

<b><u>Project Description</u></b>	<b><u>2020</u></b>
<b><u>Generation - Hydro</u></b>	
Hydro Facility Rehabilitation	\$1,519
Rattling Brook Plant Refurbishment	1,183
Petty Harbour Hydro Plant Refurbishment	3,662
<b>Total Generation - Hydro</b>	<b><u>\$6,364</u></b>
<b><u>Generation - Thermal</u></b>	
Thermal Plant Facility Rehabilitation	<u>\$349</u>
<b>Total Generation - Thermal</b>	<b><u>\$349</u></b>
<b><u>Substations</u></b>	
Substations Refurbishment and Modernization	<u>\$10,856</u>
Replacements Due to In-Service Failures	3,269
PCB Bushing Phase-out	789
Substation Feeder Termination	290
<b>Total Substations</b>	<b><u>\$15,204</u></b>
<b><u>Transmission</u></b>	
Transmission Line Rebuild	<u>\$5,792</u>
<b>Total Transmission</b>	<b><u>\$5,792</u></b>
<b><u>Distribution</u></b>	
Extensions	\$11,318
Meters	741
Services	3,272
Street Lighting	2,635
Transformers	6,581
Reconstruction	5,513
Rebuild Distribution Lines	3,985
Relocate/Replace Distribution Lines for Third Parties	2,553
Trunk Feeders	2,820
Feeder Additions for Load Growth	2,302
Distribution Reliability Initiative	550
Distribution Feeder Automation	756
Allowance for Funds Used During Construction	<u>197</u>
<b>Total Distribution</b>	<b><u>\$43,223</u></b>

**General Property**

Tools and Equipment	\$476
Additions to Real Property	519
Company Buildings Renovations	1,172
Physical Security Upgrades	300
<b>Total General Property</b>	<b><u>\$2,467</u></b>

**Transportation**

Purchase Vehicles and Aerial Devices	\$3,869
<b>Total Transportation</b>	<b><u>\$3,869</u></b>

**Telecommunications**

Replace/Upgrade Communications Equipment	\$108
<b>Total Telecommunications</b>	<b><u>\$108</u></b>

**Information Systems**

Application Enhancements	\$1,428
System Upgrades	2,347
Personal Computer Infrastructure	493
Shared Server Infrastructure	1,276
Network Infrastructure	473
Cybersecurity Upgrades	510
<b>Total Information Systems</b>	<b><u>\$6,527</u></b>

**Unforeseen Allowance**

Allowance for Unforeseen Items	\$750
<b>Total Unforeseen Allowance</b>	<b><u>\$750</u></b>

**General Expenses Capitalized**

General Expenses Capitalized	\$6,000
<b>Total General Expenses Capitalized</b>	<b><u>\$6,000</u></b>

**Total Expenditures Single-Year Projects over \$50,000**

**\$90,653**

**Newfoundland Power Inc.**  
**2020 Capital Budget**  
**Multi-Year Projects Over \$50,000**  
**(000s)**

**Multi-Year Projects Commencing in 2020**

<b>Class</b>	<b>Project Description</b>	<b>2020</b>	<b>2021</b>	<b>Total</b>
Generation	Topsail Hydro Plant Refurbishment	\$485	\$8,914	9,399
	<b>Total</b>	<b>\$485</b>	<b>\$8,914</b>	<b>9,399</b>

**Multi-Year Projects Approved in Previous Years**

<b>Class</b>	<b>Project Description</b>	<b>2020</b>	<b>2021</b>
Distribution	Distribution Reliability Initiative	\$1,400	700
Transmission	Transmission Line Rebuild	3,831	3,750
Information Systems	Microsoft Enterprise Agreement	245	
	<b>Total</b>	<b>\$5,476</b>	<b>\$4,450</b>

**Newfoundland Power Inc.**  
**2020 Capital Budget**  
**(000s)**

Projects over \$50,000 to be completed in 2020	\$90,653
Multi-Year Projects over \$50,000 commencing in 2020	485
Multi-Year Projects Approved in Previous Years	5,476
<b>Total 2020 Capital Budget</b>	<b><u><u>\$96,614</u></u></b>

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*Newfoundland & Labrador*

**BOARD OF COMMISSIONERS OF PUBLIC UTILITIES  
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