

1 **Reference: 2024 Capital Budget Overview**

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3 **Q. Appendix B, Tables B-2 and B-3. Explain in detail the process Newfoundland**  
 4 **Power follows to determine whether a proposed capital project should be**  
 5 **deferred or accelerated and the criteria that is used to make the decision to**  
 6 **defer or accelerate.**

7

8 A. Newfoundland Power employs a comprehensive capital planning process which applies  
 9 sound engineering and objective data to determine which capital expenditures are  
 10 required annually to provide customers with access to safe and reliable service at the  
 11 lowest possible cost.

12

13 The annual update of Newfoundland Power's capital plan reflects the latest: (i) condition  
 14 assessments of electrical system assets; (ii) forecasts of electrical system load;  
 15 (iii) changes in economic factors or industry requirements; and (iv) changes in  
 16 operational requirements.<sup>1</sup> This annual update can result in planned projects being  
 17 modified, advanced to an earlier year, deferred to future years, or removed entirely from  
 18 the planning period.

19

20 As capital projects move from the forecast period to the budget year, they are examined  
 21 in detail to further assess the scope and justification of the required work using criteria  
 22 outlined below. Once it is determined that a capital expenditure may be necessary,  
 23 Newfoundland Power assesses all viable alternatives for executing the required work.  
 24 This includes both alternatives to the scope of a capital expenditure, such as a like-for-  
 25 like replacement or upgrade, and alternatives that could result in the deferral of capital  
 26 expenditures.

27

28 For the purposes of the organization of this response, the Company has provided details  
 29 on the specific criteria used in the decision-making process by investment classification  
 30 as they appear in the Provisional Guidelines, as outlined below.

31

32 **Mandatory**

33

34 Capital expenditures classified as Mandatory are driven primarily by legislative or  
 35 regulatory requirements.<sup>2</sup> This could be in the form of a Board Order, statute or  
 36 regulation.<sup>3</sup>

37

38 Should legislation be enacted or amended that impacts the Company's assets, capital  
 39 investments may be required to ensure compliance. For this reason, Mandatory capital

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1 See Newfoundland Power's *2024 Capital Budget Application, 2024 Capital Budget Overview, Section 2.2.3 Capital Project Planning*.

2 Newfoundland Power's capital expenditures are informed by a variety of regulations, including regulations under the *Occupational Health and Safety Act* and *Electricity and Gas Inspection Act*.

3 For example, *General Expenses Capitalized* as outlined in the *2024 Capital Budget Application, Schedule B*, page 139, are charged in accordance with Order No. P.U. 3 (2022). The *PCB Removal* project outlined in Newfoundland Power's *2024 Capital Budget Application, Schedule C*, page 3 is mandatory based on federal regulations regarding the removal from service of substation equipment with polychlorinated biphenyls concentrations in excess of 50 parts-per-million by 2025.

1 investments may be accelerated, but are generally not deferred within the Company's  
2 capital plan.

### 3 4 **Access**

5  
6 Capital expenditures classified as Access are driven primarily by customer connection  
7 forecasts and responding to third-party requests.

8  
9 Newfoundland Power updates its capital plan annually to reflect its most recent  
10 Customer, Energy and Demand Forecast. The Customer, Energy and Demand Forecast  
11 estimates new customer connections that are expected over the next five years based  
12 on economic inputs from the Conference Board of Canada, such as forecast housing  
13 starts and completions. This data is then used to determine forecast expenditures to  
14 connect new customers, including forecast for meters, services, and extensions to the  
15 distribution system.<sup>4</sup>

16  
17 Generally, Access capital investments are not accelerated or deferred as they are an  
18 ongoing requirement of the Company to provide customers with equitable access to an  
19 adequate supply of power.

### 20 21 **System Growth**

22  
23 Capital expenditures classified as System Growth are driven primarily on forecasts of  
24 electrical system load. System load forecasts are produced annually using computer  
25 modelling to identify any areas where capital expenditures are required to respond to  
26 customers' changing electrical system requirements.

27  
28 System load forecasts may indicate that a substation power transformer or distribution  
29 feeder are forecast to become overloaded in the five-year forecast period. In this  
30 instance, the Company may initiate a study to determine the least-cost alternative to  
31 address the overload condition.<sup>5</sup>

32  
33 Generally, System Growth capital investments may be deferred or accelerated based on  
34 the Company's annual update of its system load forecasts and assessment of actual load  
35 measurements.

### 36 37 **Renewal**

38  
39 Capital expenditures classified as Renewal are primarily driven by the condition of  
40 electrical system assets. Information on asset condition is obtained through annual

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<sup>4</sup> See Newfoundland Power's *2024 Capital Budget Application, Schedule B*, pages 26 and 49 for details on how customer connections are incorporated into the planning process for the *Extensions* and *New Services* programs.

<sup>5</sup> For example, the *St. John's North – Portugal Cove System Planning Study* filed as part of the Company's *2021 Capital Budget Application* was a study in response to significant electrical system growth in the St. John's North - Portugal Cove area. System load forecasts indicated that three of six transformers in the area were forecast to be overloaded in 2021 and five of the six transformers in 2040. An assessment of alternatives and net present value analysis was completed to determine the least-cost alternative to address existing and forecast system load growth in the area.

1 inspection programs,<sup>6</sup> engineering reviews<sup>7</sup> and recent operating experience.<sup>8</sup> This  
 2 information identifies equipment that is deteriorated, deficient, or has failed and requires  
 3 replacement or refurbishment to extend its useful service life.  
 4

5 In some cases, Newfoundland Power may engage third-party consultants. For example,  
 6 for proposed projects involving the replacement of power transformers, Newfoundland  
 7 Power may engage a consultant to complete an analysis of the power transformer.<sup>9</sup> As  
 8 another example, report 4.2 *Mobile Hydro Plant Surge Tank Refurbishment* includes an  
 9 inspection report from Kleinschmidt Canada Inc. which determined that the surge tank is  
 10 deteriorated and requires refurbishment.<sup>10</sup>  
 11

12 Generally, Renewal capital investments may be deferred or accelerated based on the  
 13 Company's annual review of the five-year capital plan and detailed condition  
 14 assessments as outlined above. As capital projects move from the forecast period to the  
 15 budget year, they are examined in detail to further assess the scope and justification of  
 16 the required work. For additional details on engineering assessments which are  
 17 considered for potential capital projects, see the response to Request for Information  
 18 PUB-NP-007.  
 19

## 20 **Service Enhancement**

21  
 22 Capital expenditures classified as Service Enhancement are primarily driven on  
 23 quantified cost reductions to customers or investments that would result in customers  
 24 receiving better service through the implementation of technology.  
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26 Certain capital management projects or programs reduce *overall* costs to customers.  
 27 For example, the *LED Street Lighting Replacement* project provides customers with  
 28 lower rates for a more reliable service.<sup>11</sup>

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<sup>6</sup> For example, the Company's *Transmission and Distribution Inspection and Maintenance Practices* establish classification priorities for transmission and distribution infrastructure based on the condition observed in the field. For both transmission and distribution, high-priority deficiencies and in-service failures are prioritized for the year in which they are identified. Other deficiencies are tracked and planned for execution during the following year.

<sup>7</sup> For example, the *Distribution Reliability Initiative* involves: (i) calculating reliability performance indices for all feeders; (ii) analyzing the reliability data for the worst performing feeders to identify the cause of the poor reliability performance; and (iii) completing engineering assessments for those feeders where poor reliability performance cannot be directly related to isolated events that have already been addressed.

<sup>8</sup> For example, scopes of work identified in the *Hydro Facility Rehabilitation* project are identified based on component failures that have been identified through routine inspections, operating experience or engineering studies.

<sup>9</sup> For example, the refurbishment of Humber Substation approved as part of Newfoundland Power's *2022 Capital Budget Application* included a condition assessment of power transformer HUM-T2 which was completed by a power transformer consultant. See Newfoundland Power's *2022 Capital Budget Application*, report 2.1 *2022 Substation Refurbishment and Modernization*, Appendix B, Attachment B.

<sup>10</sup> The *Sandy Brook Plant Penstock Replacement* project approved as part of the Company's *2022 Capital Budget Application* also included an inspection and condition assessment report from Kleinschmidt Canada Inc. which determined that failure of the penstock is likely due to wood stave collapse and/or loss of support from the saddles due to excessive cracking in the timbers. See Newfoundland Power's *2022 Capital Budget Application*, report 1.2 *Sandy Brook Plant Penstock Replacement*.

<sup>11</sup> See Newfoundland Power's *2024 Capital Budget Application*, *Schedule B*, page 2.

1 Leveraging technology to improve service delivery to customers is an additional criterion  
2 in the decision-making process for Service Enhancement capital investments. For  
3 example, the *Distribution Feeder Automation* project involves increasing automation of  
4 the distribution system through the installation of downline reclosers. These devices are  
5 controlled remotely to: (i) isolate a fault so only a portion of customers on a feeder  
6 experience an outage; and (ii) systematically restore power to customers following a  
7 prolonged outage. The installation of downline reclosers allows a more efficient  
8 response to customer outages, improves restoration times and decreases costs to  
9 customers.<sup>12</sup>

10  
11 As new technologies become available and are proven to provide a benefit to customers,  
12 either through an economic analysis or efficiency savings, capital investments may be  
13 required to continue the provision of least-cost, reliable service. For this reason,  
14 generally Service Enhancement capital investments may be accelerated, but are  
15 generally not deferred within the Company's capital plan.

### 16 17 **General Plant**

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19 Capital expenditures classified as General Plant are broken out into three asset classes:  
20 General Property, which involves physical assets, Transportation, which involves the  
21 Company's vehicle fleet, and Information Systems, which involves computer hardware  
22 and software.

23  
24 General Property expenditures are primarily driven by the condition of the Company's  
25 physical assets.<sup>13</sup> In some cases, Newfoundland Power may engage a consultant to  
26 complete inspections and condition assessments of its facilities.<sup>14</sup> Transportation capital  
27 expenditures are the result of the application of the Company's evaluation criteria to  
28 determine whether a vehicle requires replacement.<sup>15</sup> When these criteria are met,  
29 vehicles are inspected by a certified mechanic to assess their condition and any required  
30 repairs. The results of the inspections determine whether a vehicle can be economically  
31 maintained for additional service or whether it has reached the end of its useful service  
32 life. Only vehicles that are identified as being in poor condition and as having reached  
33 the end of their useful service lives are replaced.

34  
35 Information Systems capital expenditures are prioritized based on a number of factors,  
36 including: (i) the criticality of a software application in providing service to customers;  
37 (ii) vendor requirements, including the expiration of vendor support and necessary

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<sup>12</sup> See Newfoundland Power's *2024 Capital Budget Application, Schedule B*, pages 15 to 19.

<sup>13</sup> For larger-scale scopes of work, such as the proposed *Gander Building Renovation* project, Newfoundland Power conducts detailed condition assessments of the facility to identify deteriorated or failed components.

<sup>14</sup> For example, the *Clarenville Area Office Building Refurbishment* project approved as part of the Company's *2022 Capital Budget Application* included an assessment report from Crosbie Engineering Ltd. which determined that replacement of the HVAC system was necessary. See Newfoundland Power's *2022 Capital Budget Application*, report *5.1 Clarenville Area Office Building Refurbishment*, Appendix A.

<sup>15</sup> Newfoundland Power's replacement criteria for vehicles were described in the Company's *2016 Capital Budget Application* report *5.1 Vehicle Replacement Criteria*. This report also compared the criteria to those used by other Canadian electrical utilities. It shows the current approach of the Company is consistent with current Canadian utility practice and the least-cost delivery of service to customers.

1 cybersecurity patches;<sup>16</sup> (iii) equipment failures or observed performance issues;<sup>17</sup> and  
2 (iv) industry guidance on optimal technology lifecycles.<sup>18</sup> Newfoundland Power applies  
3 industry best practices to ensure the reliable operation of its IT infrastructure, including  
4 computing equipment.

5  
6 Generally, General Plant capital investments may be deferred or accelerated based on  
7 the Company's annual review of the five-year capital plan, the application of evaluation  
8 criteria, and detailed condition assessments as outlined above.

9  
10 Overall, the criteria applied to all of the Company's assets to determine whether capital  
11 expenditures are required in a given year demonstrate the comprehensive capital  
12 planning process that Newfoundland Power follows. Evaluating capital expenditures  
13 using these criteria ensure that only those capital expenditures required to provide  
14 customers with safe and reliable service at the lowest possible cost are proposed in the  
15 Company's annual capital budget applications.

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<sup>16</sup> For example, the replacement of Newfoundland Power's workforce management system was prioritized for 2022 as the existing system was discontinued and is no longer supported by its vendor. See Newfoundland Power's *2022 Capital Budget Application*, report 7.3 *Workforce Management System Replacement*.

<sup>17</sup> The Company monitors its personal computers ("PCs"), servers and network components to identify issues with their operation. Infrastructure that consistently fails or experiences degraded reliability, performance or security is upgraded or replaced.

<sup>18</sup> Newfoundland Power historically has achieved a five-year lifecycle for PCs before they require replacement, compared to an industry average of three to five years. The shift to more mobile computers for the Company's flexible workforce has shifted the average life to four years across all computers in 2024. The Company achieves average lifecycles for its servers of seven years, compared to industry guidance of five years. The average lifecycles for network components vary by component.