

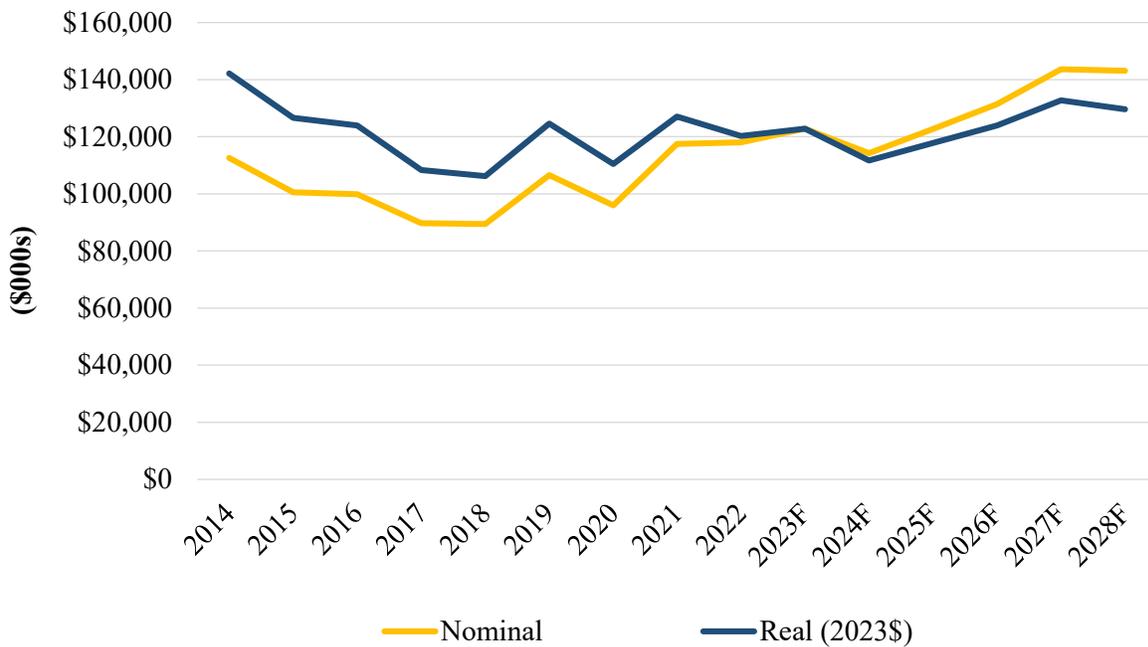
**Section 2: Customer Operations/Capital Expenditures**

**Q. What actions or strategies is Newfoundland Power taking to manage its capital spending and prevent increases on an annual basis?**

**A. 2024-2028 Capital Plan**

Newfoundland Power’s 2024-2028 capital plan reflects an increase in capital expenditures in the next five years.<sup>1</sup> This reflects Newfoundland Power’s focus on maintaining current levels of service reliability, the planned refurbishment of assets, and the requirement to connect new customers and respond to system growth. On an inflation-adjusted basis, Newfoundland Power’s 2024-2028 capital plan is consistent with levels of capital spending over the last 10 years. Figure 1 below shows the Company’s historic capital spending, as well as forecasted capital spending over the next five years.

**Figure 1:  
Newfoundland Power Capital Expenditures  
(2013-2028F)**



Newfoundland Power’s capital expenditures over the last 10 years have averaged approximately \$121 million annually on an inflation-adjusted basis.<sup>2</sup> The Company’s forecasted capital spending over the next five years averages approximately \$123 million annually on an inflation-adjusted basis.

<sup>1</sup> See the response to Request for Information PUB-NP-045.

<sup>2</sup> 2023 capital expenditures reflect the approved 2023 capital budget amount.

1 A significant portion of the Company's electrical system assets were constructed in the  
2 1960s and 1970s. As a result, a large quantity of assets with expected useful service lives  
3 of between 50 and 60 years are now aging beyond their expected useful service lives. For  
4 example:<sup>3</sup>

- 5 i) Approximately 13% of distribution wooden support structures have exceeded  
6 the average industry expected useful service life of 54 years. An additional  
7 14% of distribution wooden support structures will reach 54 years in service  
8 over the next decade.  
9
- 10 ii) Approximately 22% of distribution overhead conductor has currently  
11 exceeded the average industry expected useful service life of 50 years. An  
12 additional 21% of distribution overhead conductor will reach 50 years in  
13 service within the next decade.  
14
- 15 iii) Approximately 2% of transmission wooden support structures have exceeded  
16 the average industry expected useful service life of 58 years.<sup>4</sup> An additional  
17 11% of transmission wooden support structures will reach 58 years in service  
18 over the next decade.  
19
- 20 iv) Approximately 35% of substation power transformers have exceeded the  
21 industry expected useful service life of 50 years. An additional 34% of  
22 substation power transformers will reach 50 years in service over the next  
23 decade.  
24

25 Newfoundland Power's aging assets are expected to result in increased levels of asset  
26 replacement and be a primary driver of capital spending over the next five years.  
27

28 Newfoundland Power also observes that in recent years, the cost of materials used as part  
29 of the Company's capital program have increased. For example, since 2020 the cost of a  
30 substation power transformer has nearly doubled<sup>5</sup>, the average cost of wood poles used  
31 for distribution and transmission lines has increased by 20%<sup>6</sup>, the average cost of pole-  
32 mounted distribution transformers has increased by nearly 60%<sup>7</sup>, and the average cost of  
33 commonly used overhead conductors has increased by 30-50%.<sup>8</sup> Materials cost increases  
34 have been observed across the utility industry, and have placed upward pressure on  
35 capital expenditures as the requirement to refurbish or replace aging assets increases.

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<sup>3</sup> Ibid., Attachment A, pages A-8 to A-14.

<sup>4</sup> This is a result of the execution of the Company's *Transmission Line Rebuild Strategy* which commenced in 2006 and will be approximately 85% complete by the end of 2024. The strategy outlined a long-term plan to rebuild the Company's aging transmission lines.

<sup>5</sup> In 2020, the cost of a 66-25/12.5 kV, 25 MVA power transformer was approximately \$850,000. In 2023, the same power transformer cost approximately \$1.6 million.

<sup>6</sup> In 2020, the average cost of a wooden support structure was approximately \$1,020. In 2023, the cost was approximately \$1,230.

<sup>7</sup> In 2020, the average cost of a pole-mounted distribution transformer was approximately \$3,000. In 2023, the cost was approximately \$4,690.

<sup>8</sup> In 2020, the unit cost of #4 Copper conductor was \$13.66. In 2023, the unit cost was \$17.86, an increase of 30%. In 2020, the unit cost of #397.5 ACSR conductor was \$3.96. In 2023, the unit cost was \$6.04, an increase of approximately 50%.

## Management of Capital Spending

Newfoundland Power manages its capital investments to ensure the delivery of reliable, least-cost service to customers in all operating environments. Managing its capital investments, however, is not expected to prevent overall increases in capital spending over the next five years.<sup>9</sup> As described below, Newfoundland Power employs a comprehensive capital planning process based on sound engineering and objective data to determine which expenditures are required annually to provide customers with access to safe and reliable service at the lowest possible cost.

Balancing the cost and reliability of the service provided to customers is consistent with the provincial power policy<sup>10</sup> and customers' service expectations.<sup>11</sup> Newfoundland Power balances the cost and reliability of its service delivery through a comprehensive capital planning process and a focus on the overall costs borne by customers through customer rates.<sup>12</sup> A collaboration between managers, as well as senior management, determines the nature, scope and timing of capital projects included in the annual capital budget, including which projects can be deferred. This process employs practices to ensure capital projects are consistent with the delivery of reliable service to customers at the lowest possible cost.<sup>13</sup>

Certain capital projects are prioritized through the Company's capital planning process to reduce overall costs to customers. Examples of capital projects approved as part of the *2024 Capital Budget Application* include:

- (i) *LED Street Lighting Replacement* project. This project involves the replacement of existing High Pressure Sodium ("HPS") street light fixtures with Light Emitting Diode ("LED") fixtures. LED fixtures require 60% less energy to provide equivalent lighting output and require less maintenance. Current customer rates for LED street lights are between 12% and 44% lower than rates for HPS street lights.<sup>14</sup>
- (ii) *Mobile Hydro Plant Surge Tank Refurbishment* project. This project involves the refurbishment of the surge tank at the Mobile hydroelectric generating plant (the "Mobile Plant" or the "Plant"). An updated lifecycle cost analysis of the Mobile Plant was completed and confirmed that continued operation of the Plant will provide an economic benefit to customers over the long term. The updated analysis showed the Plant's production provides a net benefit for customers

<sup>9</sup> See the response to Request for Information PUB-NP-045, Attachment A.

<sup>10</sup> Section 3(b) of the *Electrical Power Control Act, 1994* requires that customers receive reliable service at the lowest possible cost in an environmentally responsible manner.

<sup>11</sup> Quarterly surveys indicate the two most important issues to customers are reliability and price.

<sup>12</sup> For a more fulsome discussion on how the Company balances reliability and cost, see the response to Request for Information PUB-NP-040.

<sup>13</sup> In some instances, the Company's ability to reduce its capital costs is practically limited. For example, approximately one quarter of capital expenditures included in the Company's *2024 Capital Budget Application* are associated with requirements to connect new customers and respond to system load growth. These expenditures are required as part of Newfoundland Power's obligation to serve.

<sup>14</sup> See Newfoundland Power's *2024 Capital Budget Application, Schedule B*, page 3.

1 between 4.52 ¢/kWh and 6.05 ¢/kWh. The cost of replacement production would  
2 need to be reduced by between 62% and 69% to be less than the cost of operating  
3 the Plant.<sup>15</sup>  
4

5 (iii) *Lookout Brook Hydro Plant Refurbishment* project. This project involves  
6 refurbishment of the Lookout Brook hydroelectric generating plant (the “Lookout  
7 Brook Plant” or the “Plant”), located in western Newfoundland near the  
8 community of St. George’s. A lifecycle cost analysis determined that continued  
9 operation of the Lookout Brook Plant will provide an economic benefit to  
10 customers over the long term. The analysis shows the Plant’s production provides  
11 a net benefit for customers of between 2.11 ¢/kWh and 2.97 ¢/kWh. The cost of  
12 replacement production would need to be reduced by between 37% and 46% to be  
13 less than the cost of operating the Plant.<sup>16</sup>  
14

15 (iv) *Application Enhancements* project. This project includes the enhancement or  
16 replacement of six software applications in 2024 to reduce costs to customers or  
17 improve customer service delivery. Combined, the Digital Forms Portfolio  
18 Enhancement, Workforce Management System Enhancement, Daily Time Entry  
19 Application Enhancement, and IT Service Management System Enhancement will  
20 provide a positive net present value for customers of approximately \$236,000.<sup>17</sup>  
21

22 Newfoundland Power also uses a variety of measures through its capital planning process  
23 to ensure proposed capital expenditures are consistent with the least-cost delivery of  
24 reliable service to customers. These include:  
25

26 (i) An assessment of alternatives is completed for capital projects. The *2024 Capital*  
27 *Budget Application* included assessments of alternatives for 18 projects and  
28 programs.<sup>18</sup> As an example, two alternatives were explored for the *Transmission*  
29 *Line 146L Rebuild* project. A net present value analysis determined that  
30 rebuilding Transmission Line 146L in a parallel right of way is the lowest cost of  
31 the viable alternatives.<sup>19</sup>  
32

33 (ii) Capital projects are deferred when possible. Seven projects that were planned for  
34 2024 were deferred to subsequent years.<sup>20</sup> For example, the *Kenmount Road*  
35 *Building Emergency Diesel and Main Electrical Upgrade* project was deferred to

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<sup>15</sup> See Newfoundland Power’s *2024 Capital Budget Application, Schedule B*, page 96. See also, Newfoundland Power’s *2024 Capital Budget Application*, report 4.2 *Mobile Hydro Plant Surge Tank Refurbishment*, page 12 and, *Appendix A: Updated Lifecycle Cost Analysis of the Mobile Plant*, page 3.

<sup>16</sup> See Newfoundland Power’s *2024 Capital Budget Application, Schedule B*, page 92. See also, Newfoundland Power’s *2024 Capital Budget Application*, report 4.1 *Lookout Brook Hydro Plant Refurbishment*, page 14.

<sup>17</sup> See Newfoundland Power’s *2024 Capital Budget Application, report 5.1 Application Enhancements, Appendices*.

<sup>18</sup> See Newfoundland Power’s *2024 Capital Budget Application, Schedule B*, section *Assessment of Alternatives* for the relevant capital projects and programs.

<sup>19</sup> See Newfoundland Power’s *2024 Capital Budget Application, Schedule B*, page 82. See also, Newfoundland Power’s *2024 Capital Budget Application*, report 3.1 *2024 Transmission Line Rebuild*, page 12.

<sup>20</sup> See Newfoundland Power’s *2024 Capital Budget Application, 2024 Capital Budget Overview, Appendix B*.

1 allow further analysis to confirm the least-cost approach and is now planned for  
2 2026 and 2027.

3  
4 (iii) Capital expenditures are targeted in the areas that provide the most benefit for  
5 customers. For example, the Company's 2024 *Distribution Reliability Initiative*  
6 included the relocation of a 4.8-kilometre section of Western Avalon Substation  
7 ("WAV") distribution feeder where customers experience among the worst  
8 service reliability in Newfoundland Power's service territory. Relocating this  
9 section of distribution feeder to the roadside of Route 201 will improve access to  
10 the line during outage response activities and will improve the efficiency of  
11 preventative maintenance and inspection activities.<sup>21</sup>

12  
13 (iv) Capital projects are coordinated, where possible, to realize productivity gains and  
14 other cost benefits. For example, the *Mobile Hydro Plant Surge Tank*  
15 *Refurbishment* project will be coordinated with the previously approved  
16 refurbishment work to be completed in 2023 and 2024 as detailed in  
17 Newfoundland Power's 2023 *Capital Budget Application*, report 4.2 *Mobile*  
18 *Hydro Plant Refurbishment*. This reduces requirements for plant downtime and  
19 the need to purchase more expensive replacement production from Newfoundland  
20 and Labrador Hydro. The present value of the cost of continued operation of the  
21 Plant is \$17.8 million.<sup>22</sup> This compares to a cost of replacing the Plant's  
22 production of between \$47.3 million and \$57.3 million.<sup>23</sup>

23  
24 These examples demonstrate how Newfoundland Power's capital projects are reasonable  
25 and necessary to provide reliable service to customers at the lowest possible cost. The  
26 Company's cost management associated with its capital expenditures has been previously  
27 recognized by the Board.<sup>24</sup>

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<sup>21</sup> See Newfoundland Power's 2024 *Capital Budget Application, Schedule B*, page 11. See also, Newfoundland Power's 2024 *Capital Budget Application*, report 1.1 *Distribution Reliability Initiative*.

<sup>22</sup> See Newfoundland Power's 2024 *Capital Budget Application*, report 4.2 *Mobile Hydro Plant Surge Tank Refurbishment, Section 5.0 Lifecycle Cost Analysis*.

<sup>23</sup> Ibid.

<sup>24</sup> For example, in Order No. P.U. 36 (2021), the Board stated, "the record shows that Newfoundland Power's capital planning process is comprehensive and includes reasonable controls on capital spending."