

1 **Distribution**  
2

3 **Q. Reference: "2024 Capital Budget Application," Newfoundland Power Inc.,**  
4 **June 22, 2023, sch. B, Feeder Additions for Load Growth, pp. 6–10.**

- 5  
6 **a) Given that the customers are residential and commercial, what Customer**  
7 **Demand Management opportunities were considered as part of the**  
8 **analysis for the three load growth projects?**  
9  
10 **b) What degree of feeder overloading does Newfoundland Power believe can**  
11 **be addressed through Customer Demand Management?**  
12  
13 **c) Please provide a load forecast for feeders OXP-01, BVS-04, and PUL-02 for**  
14 **the next five years.**

15  
16 A. a) The *Feeder Additions for Load Growth* project includes three items to upgrade  
17 existing overloaded single-phase lines to three-phase. Distribution feeder  
18 BVS-04 requires an upgrade to address an overload on a single-phase line that  
19 exceeds the maximum rating of 85 Amps by 47%. Distribution feeder OXP-01  
20 requires an upgrade to address an overload on a single-phase line that exceeds the  
21 maximum rating of 85 Amps by 112%. Distribution feeder PUL-02 requires an  
22 upgrade to address an overload on a single-phase line that exceeds the maximum  
23 rating of 85 Amps by 55%. Customer demand management initiatives are  
24 implemented under the takeCHARGE initiative. The energy and demand savings  
25 achieved as a result of these initiatives are dependent upon customer interest in  
26 available programs and would not be sufficient to address the significant overload  
27 conditions that exist on these distribution feeders.

- 28  
29 b) Newfoundland Power does not evaluate customer demand management  
30 opportunities on a distribution feeder level. The Company considers demand  
31 management potential on the Island Interconnected System.

32  
33 Newfoundland Power's portfolio of customer demand management programs  
34 continue to cost-effectively reduce customer energy consumption and peak demand.  
35 As of the end of 2022, Newfoundland Power's conservation and demand  
36 management activities have produced cumulative energy savings of 237 GWh and  
37 reduced peak demand by 62 MW.<sup>1</sup>

38  
39 An addendum to the *Newfoundland and Labrador Conservation Potential Study*  
40 *(2020-2034)*, completed by Dunsky Energy Consulting, considered demand  
41 management potential on the Island Interconnected System. While the study did  
42 not consider load at a distribution feeder level, it asserted that by 2034, there could

---

<sup>1</sup> Newfoundland Power's most recent system peak occurred in February 2023 at 1,499 MW. The reduced peak demand of 62 MW is approximately 4% of system peak ( $62/1,499 = 0.041$  or approximately 4%). As an example, the load on a single-phase section distribution feeder OXP-01 was identified to be approximately 180 amps. A reduced system peak demand of 4% would amount to approximately 7 amps being reduced on this feeder ( $180 \times 0.041 = 7.4$ ).

- 1 be up to 227 MW of demand response potential, with 9 MW coming from customer  
 2 owned equipment, 24 MW from dual fuel heating systems, 47 MW from dynamic  
 3 rates and 147 MW from industrial curtailment. Government policies and incentives  
 4 pushing electrification show the need for an update of this assessment. For  
 5 example, government incentives for customers to electrify their heating system come  
 6 with the requirement of the customer removing their oil tank, thereby nullifying the  
 7 potential dual fuel demand response programs.  
 8  
 9 c) Table 1 provides the five-year load forecast for distribution feeders BVS-04, OXP-01,  
 10 and PUL-02.

Table 1 Five-Year Load Forecast for Select Distribution Feeders (MVA)					
Feeder	2023	2024	2025	2026	2027
BVS-04	8.4	8.4	8.4	8.5	8.6
OXP-01	10.8	10.8	10.9	10.9	11.4
PUL-02	10.7	10.9	11.0	11.1	11.6