

1 **Q. Please describe what Newfoundland Power's capabilities in voltage reduction are:**  
2 **one step of 8-percent, two steps of 4-percent, or what else.**  
3

4 A. Newfoundland Power exercises its voltage reduction capabilities to be within the voltage  
5 variation limits of CSA Standard CAN3-C235-83 to ensure acceptable voltage levels are  
6 maintained with customers. The level of voltage reduction and the number of steps  
7 utilized to achieve reduced voltage operation will vary by location.<sup>1</sup>  
8

9 Newfoundland Power exercises voltage reduction in three ways. These include (i)  
10 requesting Newfoundland and Labrador Hydro to adjust voltage at Newfoundland  
11 Power's power purchase supply locations; (ii) implementing pre-programmed voltage  
12 reduction settings via its SCADA system; and (iii) by manually operating voltage  
13 regulating equipment at the substation.  
14

15 A request made to Newfoundland and Labrador Hydro to lower voltage levels at  
16 Newfoundland Power's power purchase supply locations is typically done in two stages.  
17 Initially a 3% voltage reduction is requested followed by a further 2% reduction, if  
18 required.  
19

20 Newfoundland Power implements its automated voltage reduction capabilities via its  
21 SCADA system. This voltage reduction capability consists of remotely operating voltage  
22 regulating equipment in 14 substations from the Company's System Control Center. Up  
23 to three stages of voltage reduction can be implemented remotely. The voltage reduction  
24 achieved with each stage can vary depending on the characteristics of the distribution  
25 feeders served by the transformer. The voltage reduction initiated is typically 2% or 3%,  
26 up to a maximum 7% overall voltage reduction. The average overall voltage reduction  
27 achieved from all stages is approximately 5%.  
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29 Voltage reduction is conducted manually in some locations by operating voltage  
30 regulating equipment within some of the Company's substations. The voltage is typically  
31 reduced by between 3% and 7%.

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<sup>1</sup> For example, the length and electrical load on a distribution feeder will impact the voltage reduction exercised to maintain CSA standards. Longer distribution feeders or distribution feeders with a large electrical load will have a greater voltage drop between the beginning and end of the distribution feeder. This limits the amount of voltage reduction that can be achieved in order to maintain CSA standards.