

*Requests for Information*

1 **Q. Has Newfoundland Power identified all critical spares for key generation,**  
2 **transmission, terminal station and other equipment and are such spares currently**  
3 **available in the Province? When was the determination and availability of such**  
4 **spares last reviewed?**

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6 A. Newfoundland Power operates 23 small hydro plants and 5 thermal plants with a total of  
7 139 MW of capacity.<sup>1</sup> Given the relatively small size of the generating units, and the  
8 diversity of original equipment manufacturers and vintages, Newfoundland Power does  
9 not identify critical spares for each individual unit. The Company does maintain spares  
10 for the generation components that are most susceptible to failure.<sup>2</sup> The inventory of  
11 spare parts required by the Company is replenished routinely by maintenance staff most  
12 experienced with the operation and maintenance of the Company's generators.

13  
14 Newfoundland Power maintains a sufficient inventory for transmission assets to  
15 completely rebuild 5km of transmission line.<sup>3</sup>

16  
17 Newfoundland Power maintains an inventory of critical substation equipment including  
18 power transformers, breakers, reclosers, voltage regulators, switches, lightning arrestors  
19 and instrument transformers.<sup>4</sup> In addition, Newfoundland Power currently has 3 mobile  
20 portable substations.<sup>5</sup> Newfoundland Power's inventory of critical substation equipment  
21 is reviewed regularly.<sup>6</sup>

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<sup>1</sup> Newfoundland Power's 23 small hydro plants have a total of 32 generating units with approximately 97 MW of total capacity or approximately 3 MW per unit on average. The average age of these 23 small hydro plants is 71 years. The Company's 5 thermal plants provide approximately 41.5 MW of total capacity or approximately 8 MW per unit on average. The average age of these 5 thermal plants is 36 years.

<sup>2</sup> For example, the Company would not have replacement parts for the 1950s vintage Brown Boveri model voltage regulator at the Mobile Hydroelectric plant. In the event of failure of this piece of equipment, the Company would replace it with a spare current vintage voltage regulator. Such a replacement would require a modest degree of additional engineering compared to direct replacement with equipment of like vintage. The Company has in excess of 900 spare parts on hand to assist with repair and maintenance of its 23 small hydro and 5 thermal generating facilities.

<sup>3</sup> Experience has indicated that this standard is reasonable. During both the 2007 and 2010 ice storms, the timely sourcing of the components necessary to repair and maintain Newfoundland Power's damaged transmission lines was not an issue. In addition, Newfoundland Power and Newfoundland and Labrador Hydro can share inventory when circumstances require.

<sup>4</sup> Newfoundland Power uses the term "substation" to describe locations that contains power transformers and switches. A substation is comparable to "terminal station", a term used by Hydro.

<sup>5</sup> Together with the replacement power transformers in inventory, these 3 mobile portable substations provide the Company with emergency backup for each unit in its power transformer fleet. A 4<sup>th</sup> mobile portable substation is scheduled for delivery in early 2014.

<sup>6</sup> Newfoundland Power's annual Capital Budget Applications to the Board contains the *Substations Project Replacements Due to In-Service Failures (Pooled)*. Part of Newfoundland Power's justification for this annual capital expenditure is that "An adequate pool of spare equipment is necessary to enable the Company to quickly respond to in-service failure. The size of the pool is based on past experience and engineering judgement as well as a consideration of the impact the loss of a particular apparatus would have on the electrical system" See, for example, Newfoundland Power's 2014 Capital Budget Application, Schedule B, Page 16 of 85.