

1 **Q. Further to the response to PUB-NP-066, explain the reasons for the low job**
2 **completion rates for power transformer and breaker maintenance jobs (73% and**
3 **84%). In the response state whether staffing issues prevent compliance with the**
4 **schedule.**

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6 A. Newfoundland Power's completion rates for power transformer and breaker maintenance
7 jobs in 2013 were 106% and 89%, respectively.

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9 Completion rates for power transformer and breaker maintenance jobs over the period
10 2011 through 2013 were 73% and 84%, respectively. The lower completion rates as
11 compared to 2013 were the result of a number of factors.

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13 Maintenance for power transformers and breakers is prioritized based upon condition
14 assessment of the specific assets. These condition assessments consider matters such as
15 system criticality, oil sampling, noted deficiencies, maintenance history and physical
16 condition. Because asset condition can change during the course of a year, maintenance
17 priorities are subject to change.¹

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19 Maintenance targets and schedules are based upon expected work load. Changes in the
20 work load can result in variability in the amount of scheduled maintenance which is
21 completed in any particular year. Common causes of changes in work load are major
22 electrical system events, such as hurricanes and ice storms, and unusually high numbers
23 of in-service equipment failures. Increases in work load can result in lower priority work
24 being deferred.

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26 Maintenance scheduling is influenced by capital work in substations which can provide
27 an opportunity to perform maintenance with minimal disruption of customer service.
28 Because capital priorities can change during the course of the year, maintenance
29 schedules can also change, depending upon asset condition.

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31 In 2010, Newfoundland Power experienced both a severe ice storm and hurricane.
32 Amongst other things, these severe electrical system events resulted in material changes
33 to the Company's capital program through 2011. In 2012, the Company experienced
34 Tropical Storm Leslie which was also a severe electrical system event. The response to
35 Tropical Storm Leslie required redirection of resources which affected completion of
36 lower priority jobs which were part of existing maintenance schedules. Finally, during
37 the period 2011 through 2013, the Company's annual capital investment in substations

¹ In-service equipment failures are one type of condition based changes that can affect maintenance priorities. For example, in July 2014, Newfoundland Power took a power transformer out of service as a result of dissolved gas in oil analysis which indicated a sharp increase in acetylene gas in transformer oil.

1 increased materially.² The adjustment to this increased capital expenditure likely
2 hampered completion of maintenance in 2011 and 2012.

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4 Newfoundland Power's current staffing levels are sufficient to fulfil its obligation to
5 serve its customers. Changes in circumstances which the Company faces in any year can
6 affect the actual maintenance work performed in that year. Provided that the higher
7 priority maintenance is performed every year as required and overall maintenance
8 practices remain reasonably vigorous, Newfoundland Power's customers should continue
9 to receive reliable service.

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11 Please see the responses to Requests for Information PUB-NP-061, PUB-NP-065 and
12 PUB-NP-068 for further information on the reliability of service provided by
13 Newfoundland Power's electrical system.

² From 2011 to 2013, substation capital expenditures were approximately \$13 million per year. This is over 60% higher than the approximately \$8 million per year in substation capital expenditures for the period 2008 through 2010.