

1 **Re: 2009 Capital Projects \$200,000 - \$500,000 p. D-69 - 138V Voltage**

2 **Transformer - St. Anthony**

3 Q. At pages D 69-70, NLH states that “Consequently, the line protection circuits  
4 have been deactivated, leaving TL-256 without protection. This diminishes  
5 the overall reliability and security of supply to customers.”

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7 a) Have there been outages due to the de-activation of line protection  
8 circuits?

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10 b) Have there been outages during the time(s) which the line protection  
11 circuits have been de-activated?

12

13 c) Table 3 located at page D-23 indicates that TL-256 has a frequency of  
14 0.90 per terminal year and an unavailability of 0.0009%. “Unavailability” is  
15 defined therein as “The amount of time the line is not available for terminal  
16 related causes.” Is the unavailability rating of this line, therefore, already  
17 better than both the NLH 138 KV Average and the CEA 138 KV Average for  
18 the years 2001-2005?

19

20

21 A a) The protection circuits for TL-256 are located at Bear Cove and St.  
22 Anthony Airport terminal stations. The Bear Cove circuits are for normal  
23 power flows from south to north. The circuits at St. Anthony Airport are for  
24 times when the St. Anthony diesel plant is on and power flow is from north to  
25 south.

1 The protection circuits at St. Anthony Airport are the ones which malfunction.  
2 When they are deactivated, outages on TL-256 are prevented. Therefore,  
3 there are no outages due to the deactivation of the protection circuits.

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5 b) There have been outages on TL-256 during the same times as the  
6 protection is deactivated, but these outages were caused by other system  
7 conditions unrelated to the protection on TL-256. For example, normal  
8 power flow is from the Deer Lake terminal station north to St Anthony. If there  
9 was an interruption on any of the lines between Deer Lake and Bear Cove, it  
10 would result in an outage on TL-256. Thus, TL-256 would experience an  
11 outage unrelated to its own protection circuits.

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13 c) The unavailability rating of Line TL-256 is better than both the NLH 138  
14 kV Average and the CEA 138 kV Average for the years 2001-2005.