

1     Q.     What is the maximum system load that can be supplied with the loss of a second  
2           transformer within the Stony Brook-Sunnyside Loop while Sunnyside T1 is out of  
3           service? Please provide estimated times that this load is normally exceeded.

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6     A.     With Sunnyside T1 out of service and the subsequent loss of Stony Brook T1 or T2, a  
7           maximum Stony Brook – Sunnyside 138 kV Loop load of 280 MW can be supplied  
8           without overloading the remaining two 230/138 kV transformers. The 280 MW  
9           maximum transfer assumes that 146L is open between the Newfoundland Power  
10          (NP) Substations at Gander and Gambo to provide appropriate load balance on  
11          each end of the loop and that both NP combustion turbines at Greenhill (20 MW)  
12          and Wesleyville (10 MW) are in service, along with the Paradise River Generating  
13          Station (8 MW). Based upon NP's Five Year Infeed Load Forecast, with a 2014 peak  
14          load of 302.1 MVA and a hourly load shape based upon Hydro's Energy  
15          Management System hourly readings for the 2010 to 2013 period, there is an  
16          estimated 274 hours during the year in which the transfer limit will be exceeded.  
17          The transfer limit is exceeded during peak load periods in the January to March  
18          time frame and in the month of December.

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20          With both Sunnyside T1 and T4 out of service, a maximum Stony Brook – Sunnyside  
21          138 kV Loop load of 194 MW can be supplied before 138 kV bus voltages fall below  
22          the minimum acceptable limit of 90% (124.2 kV) on the Burin Peninsula. The  
23          transfer limit assumes that both the Greenhill and Wesleyville combustion turbines  
24          are in service along with the Paradise River Generating Station. There is an  
25          estimated 2,746 hours during a year in which this transfer limit would be exceeded.  
26          The transfer limit is exceeded during peak load periods in the January to mid-May  
27          time frame as well as the mid-October to December time frame.