

1 Q. Further to PUB-NLH-266 it is noted that for a 3 phase fault at the Gull Island rectifier  
2 the PSSE model gives much faster dc power restoration at Soldiers Pond than the  
3 PSCAD model. Since the stability studies have used the PSSE model, it is possible  
4 that the predicted frequency excursion will be smaller than will be the actual case,  
5 and that more load shedding will occur unless additional inertia is added to the  
6 Newfoundland system. Has Nalcor considered this? If yes, what additional inertia  
7 will be required? If no, why not?

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10 A. It is noted in the plots provided in the DC1210 Report that dc power restoration at  
11 Soldiers Pond is shown to be slower in PSCAD™ simulation results. It is also  
12 observed that all traces from PSS®E and PSCAD™ simulations are approximately  
13 equal to 200 ms following the disturbance and have (approximately) reached post-  
14 fault steady-state values 400 ms following the disturbance.

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16 As per Hydro's response to PUB-NLH-440, the Island Interconnected Transmission  
17 System can withstand an HVdc bipole outage of up to 400 ms before under  
18 frequency load shedding (or additional inertia) is required. The frequency  
19 excursions resulting from such a contingency would be more severe than those  
20 resulting from the HVdc system recovery demonstrated in the PSCAD™ simulations.

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22 It may therefore be inferred that the results of PSS®E simulations would fall within  
23 an acceptable level of accuracy and that no additional inertia would be required for  
24 the Newfoundland system.