Q. The benefit of being able to curtail the Maritime Link in the event of problems with the Labrador Island Link or during major events in the Island Interconnected System is demonstrated in the "Maritime Link, Preliminary Interconnection Study" dated August 1, 2014 filed in response to PUB-NLH-264. Have any studies been performed in which the power flow on the Maritime Link is reversed, rather than curtailed in the event of problems with the Labrador Island Link or during major events in the Island Interconnected System? If yes, provide copies. Would such action be acceptable to the Nova Scotia AC network and has the acceptability of such action been discussed with the Nova Scotia network operator?

A. Studies involving the instantaneous reversal of power flow on the Maritime Link during loss of the Labrador-Island HVdc Link have not been undertaken. The Maritimes Area (i.e., Nova Scotia, New Brunswick, Prince Edward Island and Northern Maine) carry sufficient spinning reserve to cover the loss of the largest unit in the area – Point Lepreau at approximately 700 MW. The reversal of Maritime Link flow from 500 MW from the Island of Newfoundland to Nova Scotia to 500 MW from Nova Scotia to the Island of Newfoundland would exceed the capabilities of the ac system in the Maritimes. In addition, the ability to instantaneously reverse power flow on the Maritime Link is further constrained due to the transfer capacity on the 345 kV transmission tie between New Brunswick and Nova Scotia, and the limited spinning reserve carried in the Nova Scotia system. Of the approximately 700 MW of spinning reserve, Nova Scotia carries reserve to cover the loss of its largest unit or approximately 160 MW of the total. When looking at the curtailment of the Maritime Link, Nova Scotia will experience the loss of the Nova Scotia block, or 150 MW delivered in Cape Breton. This fits well with the existing system response in Nova Scotia. Reversing the Maritime Link from say 150

MW into Nova Scotia to 150 MW out of Nova Scotia instantaneously would mean a 150 MW deficit in Nova Scotia that may not be able to be made up by reserves in New Brunswick if the 345 kV tie between New Brunswick and Nova Scotia is near its Nova Scotia import limit at the time of the event. As a result, discussions with Nova Scotia have resulted in the concept of instantaneous power reversal on the Maritime Link as unacceptable.