

1 Q. **Reference: Teshmont Report - Section 5 – HVDC Reliability Data (Part 5.2) Data**  
2 **Provided by Nalcor Energy (pg 21):**

3 Please refer to sections 5.2.1.1 (HVDC Converters), 5.2.1.2 (HVDC Overhead Lines),  
4 5.2.1.3 (HVDC Submarine Cables), and 5.2.1.4 (Electrode Lines) of the Teshmont  
5 Report. Are these outage criteria included in the performance guarantees in the  
6 contracts for these items? If not, please provide the outage criteria that were used  
7 in the contracts for each of these items.

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10 A. With respect to section 5.2.1.1 (HVdc Converters), and as per Hydro's response to  
11 PUB-NLH-124 for the Phase I Assessment of Island Interconnected System Supply  
12 Issues and Power Outage, the Labrador – Island HVdc Link converter specification  
13 includes a maximum permissible design value bipole forced outage rate of  $\leq 0.1$  per  
14 bipole per year. This equates to no more than one bipole outage in ten years for  
15 both converters.

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17 It should be noted that HVdc Overhead Lines, HVdc Submarine Cables, and  
18 Electrode Lines are mechanical components and do not have performance  
19 guarantees such as those applied to complex system such as the HVdc converters.  
20 Rather, mechanical components have design criteria to ensure reliability and  
21 effective operation for their design life. It was these design criteria that were  
22 provided to supply or construction contractors, as opposed to outage criteria in the  
23 form of failure rates and repair times as detailed in sections 5.2.1.2 (HVDC  
24 Overhead Lines), 5.2.1.3 (HVDC Submarine Cables), and 5.2.1.4 (Electrode Lines).

- 1 For the purposes of the Teshmont Study, outage statistics for mechanical
- 2 components were based on industry statistics presented in the LIL Reliability Study.<sup>1</sup>

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<sup>1</sup> Nalcor Energy and SNC Lavalin, "Reliability and Availability Assessment of the HVDC Island Link", SLI Document No: 505573-480A-47ER-0017-00, Nalcor Reference No: ILKSN-CD-8000-EL-SY-0004-01-B1, 10 April 2012