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1 **Request IR-16:**

2
3 **With respect to Response IR1-1 in Exhibit M-4, which states that?**

4
5 **High-speed clearing is not required and will not be employed. Studies concerning speed**
6 **requirements are therefore not relevant.**
7

8 **Request Clarification:**

9
10 **(a) Since AC breakers in ac system have auto reclosing, are the reliability criteria being**
11 **lowered for the DC Link by not requiring similar auto-reclosing and restart of the**
12 **DC Link? Please explain why rapid restart of the DC Link is not required.**

13
14 **(b) Is it likely that field experience will show that high speed clearing is desirable or**
15 **necessary either now or at a later date?**

16
17 **(c) Will the procurement require that provision be made for installation of high speed**
18 **clearing or ac breaker reclose and dc link restart, at a later date? If not why not?**

19
20 **(d) Will the Request for Proposal ask for option of high speed restart of DC Link? If**
21 **not why not?**

22
23 **Response IR-16:**

24
25 **(a-d) A time delay is required to de-ionize the VSC converter prior to reclosing the AC**
26 **breaker. Based on supplier information this delay can vary from 1 to 2 seconds. NSPML**
27 **is specifying that the converter controls be capable of auto-reclosing after a**
28 **programmable time delay to be verified by the supplier. Nova Scotia system studies**
29 **demonstrate that response time faster than several seconds is not required and hence**
30 **reliability criteria are not being lowered. Faster restart can be achieved utilizing Hybrid**

Maritime Link Project (NSUARB ML-2013-01)
NSPML Responses to UARB – Hingorani Information Requests

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1 dc breakers, but NSPML has not approved this technology for use on the project at this
2 time.

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1 **Request IR-17:**

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3 **With respect to Exhibit M-4, Att 1 and Exhibit M-4, Att 2:**

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5 **Regarding converter station costs, Table 2-1 does not state if the in-house cost estimates are**
6 **for one or both converters; Table 3-1 gives budgetary costs based on manufacturers input**
7 **but does not state if these estimates are for one or both converter stations; Table 4-1:**
8 **Preliminary In-House and Mini-Specification Budgetary Cost Summary states these costs**
9 **to be \$/kW/station:**

10

11 **(a) Please verify if the \$ numbers in Table 2-1 are for one or two converters.**

12

13 **(b) Please verify if the \$ numbers in Table 3-1 are for one or two converters.**

14

15 **Response IR-17:**

16

17 **(a) Two converters.**

18

19 **(b) Two converters.**

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1 **Request IR-18:**

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3 **Prices of VSC converters have come down over the last two years. Please explain whether**
4 **the manufacturers could be asked to verify and/or revise their estimated costs.**

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6 Response IR-18:

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8 The budgetary costs are recent, having been secured from vendors in March/April 2012. These
9 prices will be updated as part of the planned market solicitation. NSPML is planning to go out to
10 the market in Q2 2013 for proposals to design, supply and build the converter stations, and is
11 expecting to receive firm prices by Fall 2013.