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| 1 | Reau | est IR-14: |
|----|--------------|--|
| 2 | 1 | |
| 3 | With | respect to Section 6, it would be useful to understand the impact of the ML on the |
| 4 | | y adequacy of NSPI. |
| 5 | опрр. | |
| 6 | (a) | Please provide details of the methodology used by NSPI to assess supply adequacy. |
| 7 | , , | |
| 8 | (b) | Please provide all critical assumptions used in the assessment. |
| 9 | | |
| 10 | (c) | Please provide details of how the ML is modeled in the adequacy calculation. |
| 11 | | |
| 12 | (d) | Please provide in tabular form a capacity and energy balance by year with and |
| 13 | | without the Maritime Link for the 35 year Initial Term utilizing the information |
| 14 | | provided in response to McMaster IR-4 and IR-5. |
| 15 | | |
| 16 | | Please include in the above table the supply adequacy assessment i.e. the calculated |
| 17 | | adequacy of supply relative to the NSPI adequacy criteria. |
| 18 | | |
| 19 | Respo | onse IR-14: |
| 20 | | |
| 21 | (a) | NS Power load forecasters develop a long term forecast of firm system peak load. This |
| 22 | | forecast considers the anticipated impacts of Demand Side Management. NS Power |
| 23 | | accounts for existing capacity and then considers the planning reserve margin of 20 |
| 24 | | percent for each year based on the forecasted firm peak. NS Power considers firm |
| 25 | | capacity additions in the planning period and makes retirement forecasts based on |
| 26 | | maintaining the planning reserve margin. Variable generation resources are included, but |
| 27 | | in the case of wind generation, a 20 percent capacity value has been applied to the |
| 28 | | installed nameplate capacity. NS Power also considers the transmission service |
| 29 | | subscription for each wind project as reflected by the project's particular generator |
| 30 | | interconnection agreements under the OATT. Network Resource Integration Service |

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| 1 | | (NRIS) generators are considered in firm capacity planning because the necessary |
|----|-----|---|
| 2 | | transmission capacity is available to ensure their full operation in all hours of the year. |
| 3 | | Energy Resource Integration Service (ERIS) generators are subject to transmission |
| 4 | | constraints or congestion and are not available in all hours of the year. The capacity |
| 5 | | associated with ERIS generators is not considered in firm peak resource adequacy |
| 6 | | calculations. |
| 7 | | |
| 8 | (b) | For unit capacity data please refer to CanWEA IR-1 Attachment 1. |
| 9 | | |
| 10 | | ERIS generation projects include Dalhousie Mountain Wind, Glen Dhu Wind, Nuttby |
| 11 | | Wind, and Port Hawkesbury Biomass (becomes NRIS in 2016). |
| 12 | | |
| 13 | | Firm peak forecast is included in the Attachment referenced in Part (d). |
| 14 | | |
| 15 | | Other notes: |
| 16 | | |
| 17 | | • Burnside 4 assumed returned to service in 2016. |
| 18 | | |
| 19 | | • Various CT and CC units are added as new capacity to reflect Strategist modeling |
| 20 | | outcomes to meet environmental limitations. |
| 21 | | |
| 22 | (c) | The Maritime Link is represented as a firm capacity addition of 153MW for the firm peak |
| 23 | | in 2018. |
| 24 | | |
| 25 | (d) | Please refer to SBA IR-243 Attachment 2 for the load and resource adequacy assessments |
| 26 | | for each alternative under high and low load. |
| | | |

| 1 | Request IR-15: |
|----|--|
| 2 | |
| 3 | In response to McMaster IR-6, NSPML indicated that reliability is increased because of an |
| 4 | additional intertie. Interconnected systems are inherently more reliable. It follows that a |
| 5 | strengthened intertie to NB and HQ would also increase reliability if there is adequate |
| 6 | supply sources in those jurisdictions to provide capacity and energy to NS. Please confirm |
| 7 | whether NSPML has taken this into account in its assessment of reliability of the |
| 8 | Alternatives and if yes, how this was evaluated and the results. |
| 9 | |
| 10 | Response IR-15: |
| 11 | |
| 12 | The assumption is correct. The reliability improvement is dependent upon supply sources being |
| 13 | available to provide capacity and energy. The benefit of the second interconnection is limited if it |
| 14 | is dependent on the same network that the existing interconnection interfaces with, namely the |
| 15 | same grid and same resources. The Maritime Link is an interconnection to new resources and |
| 16 | includes development of additional energy and capacity at Muskrat falls. The benefit of the |
| 17 | second interconnection to New Brunswick was attributed through the allowance to purchase the |
| 18 | full capacity of the intertie, up to 500 MW. |

| Request IR-16: |
|--|
| |
| In response to McMaster IR-6, NSPML stated that the NS-NB intertie would be enhanced |
| (without capital investment) by the Maritime Link. Presumably this assertion is based on |
| the concept of counter-scheduling on the NS-NB intertie against the Nalcor energy |
| scheduled to flow on the NS-NB intertie. Please confirm or explain the rationale for the |
| NSPML's assertion. |
| |
| Response IR-16: |
| |
| The assessment is correct. The southeast corner of the NB Power system has seen significant |
| increase in load demand from Moncton area growth, exports to Prince Edward Island and |
| occasional exports to Nova Scotia. NB Power serves this region with two 345 kV lines, one |
| $230\ kV$ line and some underlying $138\ kV$ transmission. The $345\ kV$ and $138\ kV$ tie lines to Nova |
| Scotia have traditionally operated north to south. If Nalcor exports energy through Nova Scotia |
| into New Brunswick, the NB-NS tie is reversed from its traditional flow pattern. This effectively |
| reinforces the Moncton area providing the basis for the comments. Counter-scheduling |
| opportunities should emerge from this operation. In essence, for each MW flowing out of NS |
| into NB, it is equivalent to reducing the import restriction from NB which exists today. |
| |

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| 1 | Requ | est IR-17: |
|----|------------|--|
| 2 | | |
| 3 | In tl | ne NSPML response to NSUARB IR-23 it is stated that without the proposed |
| 4 | modi | fications at Woodbine, a single transmission contingency at Woodbine would result in |
| 5 | the lo | oss of the Maritime Link and Point Aconi generation. |
| 6 | | |
| 7 | (a) | Please clarify what single transmission contingency would result in the loss of both |
| 8 | | the Maritime Link and Point Aconi generation. |
| 9 | | |
| 10 | (b) | Please clarify what the proposed 230 kV modifications at Woodbine are. Do they |
| 11 | | include the routing in and out of the Woodbine substation of one (or more) of the |
| 12 | | existing 230 kV transmission lines from Lingan to Port Hastings? If not, please |
| 13 | | provide a detailed explanation. |
| 14 | | |
| 15 | Resp | onse IR-17: |
| 16 | | |
| 17 | (a) | There is a single 345 kV circuit from Woodbine to Hopewell (L-8004) which is near the |
| 18 | | Trenton Generating Station on the mainland. There is a radial 230 kV circuit from |
| 19 | | Woodbine to the Point Aconi Plant (L-7015). There is a single 230 kV circuit from |
| 20 | | Woodbine to Lingan (L-7014). Maritime Link (ML) will inject up to 478 MW (500 MW |
| 21 | | minus ML losses) into Woodbine. If L-8004 is lost then the only system interconnection |
| 22 | | for the net output of Point Aconi (172 MW) plus ML (478 MW) would be L-7014 back |
| 23 | | to Lingan. The load on that line would be 650 MW. The summer rating of L-7014 is 404 |
| 24 | | MVA, which would trip on overload, with a net loss of both the ML and Point Aconi. In |
| 25 | | addition to a fault on L-8004, the same result would occur for single contingencies at |
| 26 | | Hopewell which trip L-8004 including: |
| 27 | | |
| 28 | | • Loss of L-8004 without a fault |
| 29 | | • Loss of Hopewell transformer 79N-T81 |
| 30 | | • Fault on Hopewell bus 79N-B81 |

| 1 | • | Fault on Hopewell bus 79N-B61 |
|----|---------------|---|
| 2 | • | Fault on L-8003 with breaker failure 79N-803 |
| 3 | • | Fault on breaker 79N-803 |
| 4 | • | Fault on breaker 79N-810 |
| 5 | • | Fault on breaker 79N-601 |
| 6 | • | Fault on breaker 79N-606 |
| 7 | • | Fault on L-6508 with failure of 79N-601 |
| 8 | • | Fault on L-6507 with failure of 79N-606 |
| 9 | | |
| 10 | Note that the | e NPCC Glossary of Terms defines a "Single Contingency" as "A single event |
| 11 | which may re | esult in the loss of one or more elements." |
| 12 | | |
| 13 | (b) Yes. | The existing 230 kV straight bus at Woodbine will be developed into a breaker and |
| 14 | a half | configuration and the two 230 kV circuits between Lingan and Port Hastings (L- |
| 15 | 7011 | and L-7012) which currently pass within 300 m of the Woodbine substation will be |
| 16 | route | d in and out of Woodbine as shown in Figure 3-13 of Appendix 3.01 of the |
| 17 | Appli | cation. |

| 1 | Request IR-18: |
|---|--|
| 2 | |
| 3 | In the NSPML response to NSUARB IR-43 it is stated that an intertie from New England |
| 4 | to South West Nova Scotia was not considered; however, no explanation was provided for |
| 5 | why it wasn't. Please provide an explanation. |
| 5 | |
| 7 | Response IR-18: |
| 3 | |
|) | Please refer to NSUARB IR-148. |

CONFIDENTIAL (Attachment Only)

| 1 | Request IR-19: |
|----|--|
| 2 | |
| 3 | Please provide a single line diagram (or system map) for the NSPI system showing all |
| 4 | transmission lines, voltages and the line names (e.g. L8004, L6511, etc.). Further, please |
| 5 | indicate on the single line diagram the Network Upgrades shown in Section 8.2.1 page 144 |
| 6 | line 17 of the Application and any other points of congestion. |
| 7 | |
| 8 | Response IR-19: |
| 9 | |
| 10 | Please refer to Confidential Attachment 1. |

Maritime Link UARB-McMaster IR-19 Attachment 1 REDACTED

UARB-McMaster IR-19

Attachment 1

has been removed due to confidentiality

| 1 | Request IR-20: |
|---|---|
| 2 | |
| 3 | Please provide estimates for the Initial Term of the amount of NS Block and/or |
| 4 | supplemental energy that is projected to be exported on the NS-NB intertie by NSPI. |
| 5 | |
| 5 | Response IR-20: |
| 7 | |
| 3 | There are no planned exports of the NS Block/Supplemental Energy during the Initial Term of |
|) | 35 years. |

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| 1 | Reque | est IR-21: |
|----------|--------------|--|
| 2 | | |
| 3 | With | respect to Appendix 6.05 WKM Report, the Transmission Reserve Margin on the NS- |
| 4 | NB in | tertie is exceptionally high relative to the potential capability of the intertie. |
| 5 | | |
| 6 | (a) | Please provide an explanation of why the TRM is set at this level. |
| 7 | | |
| 8 | (b) | Please provide details of the NSPI and NB Power reserve sharing agreement. |
| 9 | | |
| 10 | (c) | Will the amount of TRM on the NS-NB intertie be impacted by the ML project? If |
| 11 | | yes, please provide details. |
| 12 | | |
| 13 | (d) | Will the amount of TRM on the NS-NB intertie be impacted by anticipated reserve |
| 14 | | sharing agreement between NSPI and NLH? If yes, please provide details. |
| 15 | | |
| 16 | Respon | nse IR-21: |
| 17 | | |
| 18 | (a) | The TRM for the NB-NS interface (300MW in Summer and 325MW in Winter) is |
| 19 | | comprised of two components. A portion (105 MW) of the total TRM for this interface |
| 20 | | for exports from NB to NS must be set aside to allow NS access to its share of the |
| 21 | | Maritime reserve requirement. The remaining portion accounts for variances in |
| 22 | | generation dispatch and the potential overloading of underlying 138 kV transmission in |
| 23 | | NB for loss of the 345 kV line between Coleson Cove and Salisbury. |
| 24 25 | (b) | In the Interconnection Agreement between Nova Scotia Power Incorporated and New |
| 26 | ` / | Brunswick System Operator (NBSO), NS Power and the NBSO have agreed to share the |
| 27 | | reserve requirement for the Maritimes Area on the following basis: |
| | | |

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| 1 2 | | "The Ten-Minute Reserve Responsibility, for contingencies within the Maritimes Area, will be shared between the two Parties based on a 12CP [coincident peak] |
|-----|-----|---|
| 3 | | Load-Ratio Share Notwithstanding the Load-Ratio Share the maximum that |
| 4 | | either Party will be responsible for is 100 percent of its greatest, on-line, net |
| 5 | | single contingency, and, |
| 6 | | NOD 1 111 '11 C COMMY CENT AND IN |
| 7 | | NS Power shall be responsible for 50 MW of Thirty-Minute Reserve." |
| 8 | | |
| 9 | | NS Power maintains ten minute operating reserve of 171 MW (equivalent to Point Aconi |
| 10 | | net output when on-line), of which approximately 33 MW is held as spinning reserve on |
| 11 | | the system. The full 171 MW is provided to NBSO for contingencies in the NBSO |
| 12 | | balancing area. In return NBSO provides its Load-Ratio Share of the 171 MW (about |
| 13 | | 105 MW) to NS Power for contingencies in Nova Scotia. |
| 14 | | |
| 15 | (c) | The impact of the ML Project on the TRM of the NB-NS interface is under study by |
| 16 | | NBSO. No specific impacts have as yet been identified. |
| 17 | | |
| 18 | (d) | The anticipated NS-NL reserve sharing agreement is intended to have no impact on the |
| 19 | | TRM of the NB-NS interface. |

| 1 | Reque | est IR-22: |
|----|------------|---|
| 2 | | |
| 3 | With | respect to Section 8.2.1 page 145 line 6, it is stated that Nalcor will be billed on an "as |
| 4 | used" | basis. |
| 5 | | |
| 6 | (a) | Please confirm if this should be interpreted to mean that Nalcor will not make |
| 7 | | "reservation" payments but only pay "delivery" charges. |
| 8 | | |
| 9 | (b) | Has any other market participant purchased Point-to-Point service in NS. If yes, |
| 10 | | please provide details of the reservation(s). |
| 11 | | |
| 12 | Respo | nse IR-22: |
| 13 | | |
| 14 | (a) | As there is ambiguity in the meaning of "reservation payments" and "delivery charges", |
| 15 | | NSPML refers to Step 5 of Section 3.1 of the Scheduling Protocol (attached as |
| 16 | | Schedule 2 to the NSTUA) to provide clarity regarding the reference to "as used" basis. |
| 17 | | |
| 18 | (b) | There are no other market participants currently purchasing Firm Point to Point |
| 19 | | Transmission Service under the NS OATT. Between 2009 and 2010, a number of small |
| 20 | | short term firm and non-firm reservations were made. These reservations were typically |
| 21 | | in the amount of 1 MW with durations of less than 10 hours. No reservations have been |
| 22 | | taken under the NS OATT since May of 2010. |

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Request IR-23:

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- 3 With respect to Appendix 6.05 WKM Report and the NSPML response to CanWEA IR-54,
- 4 the "Other Import" alternative was based on system reinforcements to provide for
- 5 500 MW of firm import capability on the NS-NB intertie. The explanation given was that a
- 6 345 kV reinforcement had been identified as the preferred option in previous planning
- 7 studies. It is acknowledged that it is difficult to develop "apples to apples" comparisons for
- 8 such divergent alternatives; however, please comment on whether it would be possible to
- 9 reinforce the transmission system to provide approximately 153 MW of firm import
- 10 capability on the NS-NB intertie. If yes, please provide details of how this could be
- 11 accomplished, including the expected cost.

12

Response IR-23:

14

- 15 The existing TTC of the NB-NS interconnection is 405 MW but with no winter firm capability as
- provided in Figure 2 of Appendix 6.05 of the Application.

17

- 18 It is the opinion of WKM that one way to increase the firm capability would be to add
- 19 transmission reinforcements that reduce the TRM from its current winter value of 325 MW yet
- 20 retain the reserve sharing requirement of 105 MW. Theoretically, this would provide for a
- 21 potential increase of 220 MW of firm if the contingency related TRM could be eliminated. As
- 22 explained in response to UARB IR-21(a) the primary contingency behind the TRM is loss of the
- 23 345 kV line between Coleson Cove and Salisbury. Construction of a parallel 345 kV line at a
- total cost of about \$250 million (\$200 million initial capital plus \$50 million as NPV of future
- 25 OM&A and tariff costs over a 45 year life) would eliminate that specific contingency. It would
- also reduce the TRM but only to a level determined by the next limiting contingency. Operation
- 27 this past winter indicates that the next contingency could be loss of the 345 kV line between St
- Andre and Keswick under dispatch conditions with high import from Hydro Quebec and low
- 29 generation in the Saint John area. There is also an indication that it has been the limiting
- 30 condition on the NB-NS interconnection at times. Non-firm transactions to Nova Scotia have

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| 1 | been curtailed several times throughout January and February under lower load conditions when |
|----|--|
| 2 | the flows on the Coleson to Salisbury line were low but the north to south flows were high. This |
| 3 | indicates that to reduce the NB-NS TRM any sufficient amount would also likely require |
| 4 | addition of a 345 kV line from St Andre to Keswick at a total cost of about \$225 million. This |
| 5 | results in a total 2016 npv cost estimate of about \$475 million to achieve a firm transfer increase |
| 6 | across the existing interconnection of 150 to 200 MW. |
| 7 | |
| 8 | This issue of north-south flow limitations in NB was not considered in the WKM Energy Report |
| 9 | (Appendix 6.05 of the Application) which only focused on the NB-NS and NB-HQ |
| 10 | interconnections. Given the experience this winter, it is the opinion of WKM Energy that the |
| 11 | costs in the WKM Energy report are low because they should also include an additional cost for |
| 12 | the St. Andre to Keswick transmission line of \$225 million. |

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| 1 | Reque | st IR-24: |
|----|------------|--|
| 2 | | |
| 3 | In res | ponse to McMaster IR-7 NSPML states " the Maritime Link provides a second route |
| 4 | to acco | ess a new market. Even with a reinforced or second interconnection between NS-NB, |
| 5 | there i | s negligible benefit from a strengthening perspective when compared to a connection to |
| 6 | a new | market. Through the Maritime Link, a second connection completes the electrical loop |
| 7 | throug | h Newfoundland and Labrador, Quebec and New Brunswick. For Nova Scotia |
| 8 | custon | ners, this means NS Power will be able to purchase energy from a variety of markets |
| 9 | either | through the ML or the NS-NB intertie." |
| 10 | | |
| 11 | (a) | Please clarify the reference to a <u>second</u> route to a new market. Presumably the "new |
| 12 | | market" is Newfoundland and Labrador and the first route would be via the HQ |
| 13 | | transmission system. Please confirm or clarify. |
| 14 | | |
| 15 | (b) | Please clarify/expand on the assertion that there are negligible benefits to |
| 16 | | strengthening the NS-NB intertie. |
| 17 | | |
| 18 | (c) | Does NSPML anticipate market and/or reliability benefits from "closing the loop". |
| 19 | | If yes, please elaborate on the how the anticipated benefits would materialize. |
| 20 | | |
| 21 | Respon | nse IR-24: |
| 22 | | |
| 23 | (a) | Confirmed, the "second route" is the Maritime Link and "to a new market" references the |
| 24 | | Newfoundland and Labrador market. The first route is the existing NS/NB intertie |
| 25 | 4 | |
| 26 | (b) | The NS/NB intertie enhances the electricity connection, but does not provide access to |
| 27 | | any new resources of energy, therefore the negligible nature of the benefit. Please also |
| 28 | | refer to CA/SBA IR-2 (b). |

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| (| (c) The new energy loop provides increased reliability by providing two access points for |
|---|--|
| | energy to enter the NS Power electricity system and access to new sources of energy. The |
| | creation of the loop also creates a new access to purchase energy from energy suppliers in |
| | that market. Once energy begins to flow through the Maritime Link, it is then possible to |
| | negotiate power purchase agreements (PPAs) with interested energy suppliers that would |
| | be of benefit to Nova Scotia customers. |

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| 1 | Request IR-25: |
|----|--|
| 2 | |
| 3 | With respect to Section 6.5, page 135, lines 8-13 NSPML indicates that transmission system |
| 4 | upgrades may be necessary to increase the capability to import and retain 500 MW. As per |
| 5 | NSDOE IR-8, NSPML has not as yet completed reinforcement studies. |
| 6 | |
| 7 | (a) It would be useful if NSPML could present some discussion on why, where and what |
| 8 | type of transmission system reinforcements are expected to be needed given that |
| 9 | the system as proposed can import 500 MW albeit with associated export to NB. |
| 10 | |
| 11 | Response IR-25: |
| 12 | |
| 13 | System studies completed to date confirm that the Nova Scotia system can survive Nova Scotia's |
| 14 | largest single contingency of 300 MW supply (simultaneous loss of two units at Lingan). If Nova |
| 15 | Scotia were to import and retain 500 MW then studies would need to be completed to understand |
| 16 | what transmission reinforcements would be required to maintain system stability for the |
| 17 | instantaneous loss of 500 MW. |
| 18 | |
| 19 | If 500 MW is being imported and retained in Nova Scotia from the Maritime Link, contingency |
| 20 | loss of the Maritime Link instantaneously causes the interconnected system to try to supply the |
| 21 | 500 MW across the NB-NS tie. This will cause a voltage drop in the Moncton area and the |
| 22 | system will separate to maintain stability in New Brunswick. Nova Scotia would then be |
| 23 | deficient by the 500 MW and even with Nova Scotia reserves and underfrequency load shedding |
| 24 | the system could possibly go unstable. |
| 25 | |
| 26 | When 500 MW is being imported with an associated export to New Brunswick then a |
| 27 | requirement of the export is that it is backed up by reserve on the receiving end, outside of Nova |
| 28 | Scotia. On contingency loss of the Maritime Link, the export is terminated and backed up |
| 29 | external to Nova Scotia with the resultant flow from New Brunswick to Nova Scotia limited to |
| 30 | the level that was being retained in Nova Scotia. Through activation of Nova Scotia reserve and |

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1 reserve sharing agreements with New Brunswick, the Nova Scotia system will remain stable up 2 to 300 MW. 3 4 The type of transmission upgrades required to allow all 500 MW to be retained in Nova Scotia 5 could include installing reactive voltage support in the Moncton area in the form of a Static Var 6 Compensator (SVC), potential line upgrades both in New Brunswick and Nova Scotia, potential 7 requirement for the second 345 kV tie to New Brunswick, or possibly additional fast acting 8 generation in Nova Scotia. As mentioned, the studies to determine the most cost effective 9 solution have not yet been completed. The response to NSDOE IR-8 estimates the range of 10 required transmission upgrades to be from \$70 million to \$450 million.

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| 1 | Reque | est IR-26: |
|----|------------|---|
| 2 | • | |
| 3 | With | respect to the Nova Scotia Transmission Utilization Agreement Section 2.1 |
| 4 | | • |
| 5 | (a) | Please provide the available amount of Firm Point to Point Transmission Service |
| 6 | | from the Delivery Point to the NS-NB Border at the outset of the Initial Term. |
| 7 | | |
| 8 | (b) | Please provide the maximum value of the "Nalcor Maximum Transmission Capacity |
| 9 | | Level" at the outset of the Initial Term. |
| 10 | | |
| 11 | (c) | Do these values change in the Initial Term? If yes, please provide details of why and |
| 12 | | how they change. |
| 13 | | |
| 14 | (d) | Please comment on the likelihood of the need to reinforce the NSPI transmission |
| 15 | | system in the Initial Term in order to ensure Emera's/NSPI's ability to meet its |
| 16 | | obligations to Nalcor to provide the Nalcor Maximum Transmission Capacity. |
| 17 | | |
| 18 | (e) | Based on NSPI's current transmission development plan, in what year (or range of |
| 19 | | years) are NSPI transmission system reinforcements expected to be needed to meet |
| 20 | | NSPI's Native Load Customer needs and/or Emera's/NSPI's obligations to Nalcor |
| 21 | | to meet the Nalcor Maximum Transmission Capacity Level; what facilities are |
| 22 | | planned/proposed to meet the needed reinforcement; and, what are the associated |
| 23 | | costs to implement the planned reinforcement. |
| 24 | | |
| 25 | Respo | nse IR-26: |
| 26 | | |
| 27 | (a) | 330 MW is the expected amount of Firm Point to Point Transmission Service from the |
| 28 | | Delivery Point to the NS-NB Border to be available at the outset of the Initial Term. |
| 29 | | |

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| 1 | (b) | The maximum capacity value at the outset of the Initial Term remains as per the terms of |
|----|-----|--|
| 2 | | the NSTUA, with 330 MW of Transmission Facilitation Service available from March |
| 3 | | through November and 150 MW from December through February. |
| 4 | | |
| 5 | (c) | No, these values are not expected to change during the Initial Term. |
| 6 | | |
| 7 | (d) | Network upgrades will be required to reinforce the NS Power transmission system. |
| 8 | | Please refer to Section 8.2.1 of the Application. |
| 9 | | |
| 10 | (e) | Please refer to part (d) for transmission reinforcements to meet Nalcor Transmission |
| 11 | | Capacity. These reinforcements are required to meet the same schedule as the Maritime |
| 12 | | Link. Please refer to NS Power's 10 Year Outlook provided in SBA IR- 220 for identified |
| 13 | | transmission reinforcements to meet NS Power's Native Load requirements. |
| | | |

| 1 | Request IR-27: |
|----|--|
| 2 | |
| 3 | With respect to the Nova Scotia Transmission Utilization Agreement Section 2.2 (e), Emera |
| 4 | is obliged to "Redispatch" its generation to relieve system constraints/congestion in order |
| 5 | to provide the Transmission Facilitation Service. Please provide the results of any analysis |
| 6 | NSPML has undertaken to forecast the amount of "Redispatch" on an annual basis that |
| 7 | will be required and the expected cost. |
| 8 | |
| 9 | Response IR-27: |
| 10 | |
| 11 | Please refer to CA/SBA IR-94 Attachment 1 for the details of this study. |

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| 1 | Requ | est IR-28: |
|----------|------------|--|
| 2 | | |
| 3 | With | respect to the Nova Scotia Transmission Utilization Agreement Section and the New |
| 4 | Brun | swick Transmission Utilization Agreement |
| 5 | | |
| 6 | (a) | It would be useful to have historical information (say for the past 10 years) |
| 7 | | regarding the amount of energy exported from NS to NB by NSPI. |
| 8 | | |
| 9 | (b) | What impact does the commitment made to Nalcor have on NSPI's ability to export |
| 10 | | power from NS to NB? |
| 11 | | |
| 12 | Resp | onse IR-28: |
| 13 | • | |
| 14 | (a) | The requested historical information is as follows: |
| 15 | , , | • |
| 16 | | 2003 301 GWh |
| 17 | | 2004 167 GWh |
| 18 | | 2005 136 GWh |
| 19 20 | | 2006 384 GWh 2007 57 GWh |
| 20 | | 2007 57 GWh 2008 24 GWh |
| 22 | | 2009 18 GWh |
| 23 | | 2010 6 GWh |
| 24 | | 2011 9 GWh |
| 25 | | 2012 35 GWh |
| 26 | | |
| 27 | (b) | The experience in the past six years has shown that there are no significant opportunities |
| 28 | | for commercial energy export from Nova Scotia to New Brunswick. The commitment |
| 29 | | made to Nalcor is not expected to have a material impact on Nova Scotia's export energy |
| 30 | | volume to New Brunswick as Nova Scotia shifts away from carbon based generation. |
| 31 | | Furthermore, the Maritime Link opens another interconnection path which may make it |
| 32 | | easier to secure energy exports during coincident low load and high wind generation |
| 33 | | periods. |

NON-CONFIDENTIAL

| 1 | Requ | est IR-29: |
|----|------------|--|
| 2 | | |
| 3 | With | respect to the New Brunswick Transmission Utilization Agreement |
| 4 | | |
| 5 | (a) | Do Bayside Transmission rights have value to the NSPI rate payer - do the rate |
| 6 | | payers have any direct rights associated with the Bayside rights i.e. ownership? |
| 7 | | |
| 8 | (b) | If the Bayside Transmission rights are not made available to Nalcor, Emera must |
| 9 | | buy the energy from Nalcor either at the Delivery Point or at the NS-NB border and |
| 10 | | resell to Nalcor at the NB - Maine border. This will have costs associated with it. |
| 11 | | Are these costs solely on to Emera's account or do they somehow come back to the |
| 12 | | NS rate payer? |
| 13 | | |
| 14 | (c) | The Bayside transmission rights are subject to the NB Tariff. Are the costs |
| 15 | | associated with these transmission rights solely to the account of Emera or do they |
| 16 | | somehow flow to the NS rate payer? |
| 17 | | |
| 18 | Respo | onse IR-29: |
| 19 | | |
| 20 | (a) | No. |
| 21 | | |
| 22 | (b) | The costs associated with purchasing the energy from Nalcor under the terms of the |
| 23 | | NBTUA are for Emera's account. Emera will recover from NS Power only the NS Power |
| 24 | | avoided costs. |
| 25 | | |
| 26 | (c) | The costs associated with the Bayside transmission rights are for the account of Bayside |
| 27 | | LP. |

NON-CONFIDENTIAL

| 1 | Rec | uest IR-30: |
|-------|------------|---|
| 2 | | |
| 3 | Aft | er 35 years, ownership of the ML transfers from NSPML to Nalcor. Once the transfer |
| 4 | of o | wnership takes place it would be useful to understand what the anticipated status of the |
| 5 | trai | nsmission line will be in terms of regulation, tariffs and control area operation. Please |
| 6 | adv | ise as to what the status of the ML is anticipated to be, including but not limited to: |
| 7 | | |
| 8 | (a) | Will the transmission line be subject to regulation by the regulatory authorities in |
| 9 | | Newfoundland and Labrador, Nova Scotia, both or neither? |
| 10 | | |
| 11 | (b) | Will the Newfoundland and Labrador transmission system have an OATT? |
| 12 | | |
| 13 | (c) | Will the ML be subject to an OATT? |
| 14 | | |
| 15 | (d) | Will the ML be part of the Newfoundland and Labrador control area or where will |
| 16 | | the control area boundary be set? |
| 17 | | |
| 18 | Res | ponse IR-30: |
| 19 | | |
| 20 (a | ı) | NSPML expects that when the Maritime Link becomes a Nalcor asset it will be regulated in |
| 21 | | the same manner as other Nalcor assets. The interconnection will continue to remain |
| 22 | | compliant with interconnection standards applicable to each Nova Scotia and Newfoundland |
| 23 | | Labrador system operation requirements. |
| 24 | | |
| 25 (t |) | NSPML is not aware of any decision by Nalcor, the Government of Newfoundland and |
| 26 | | Labrador or the Board of Commissioners of Public Utilities in Newfoundland and Labrador |
| 27 | | with respect to the application of an OATT. |
| 28 | | |
| 29 (0 | :) | See (b) above. |
| 30 | | |

- 1 (d) After NSPML no longer owns the Maritime Link, it is anticipated that the link will become
- 2 part of the Newfoundland and Labrador Control area with the boundary set at the 345 kV
- 3 side of the Maritime Link HVdc converter transformers at Woodbine, Nova Scotia.