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1 **Request IR-1:**

2
3 **Reference: Application, p.29, lines 5-7, lines 20-21 and Appendix A, page 197/205, line 21**
4 **to page 198/205, line 5.**

5
6 **Please provide copies of the relevant agreements which will govern the relationship**
7 **between Nalcor, NSPML and NSPI during this interim period and identify the specific**
8 **terms and clauses which will apply to any transactions during the period (including energy**
9 **sales and claimed reliability benefits).**

10
11 **Response IR-1:**

12
13 The relevant agreements are as follows:

- 14
15 (a) Energy and Capacity Agreement. See section 4.1(b) – “MFP Preliminary Energy”.
- 16
17 (b) Maritime Link (Nalcor) Transmission Service Agreement – This agreement provides
18 Nalcor with uni-directional firm and conditional firm point-to-point transmission service
19 over the Maritime Link, commencing on the Commercial Operation Date of the Maritime
20 Link. See in particular Articles 2 and 3.
- 21
22 (c) Interconnection Operators Agreement – This agreement, between NS Power and
23 Newfoundland and Labrador Hydro, addresses at a system operations level, the Maritime
24 Link and the interconnection of the Nova Scotia and Newfoundland and Labrador
25 transmission systems following the Commercial Operation Date of the Maritime Link. As
26 addressed in the agreement, the interconnection provides for mutual benefits such as
27 transient and steady-state support, the sharing of energy and reserves to improve
28 reliability, and the ability to receive emergency and security energy.

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1 (d) Supplemental Agreement. Please refer to Section 2.1 – “Possible Sales of Energy or
2 Capacity”

3

4 Copies of the relevant agreements are available on Emera Newfoundland and Labrador’s
5 website at the following link:

6

7 [http://www.emeranl.com/en/home/themaritimelink/commercial-agreements/project-
agreements.aspx](http://www.emeranl.com/en/home/themaritimelink/commercial-agreements/project-
8 agreements.aspx)

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1 **Request IR-2:**

2
3 **(a) If not already provided, please provide a copy of the Newfoundland and**
4 **Labrador Hydro-NS Power Interconnection Operators Agreement (NLH-**
5 **NSPI IOA).**

6
7 **(b) With reference to specific clauses of that agreement, please explain how it**
8 **provides the described reliability benefits.**

9
10 **Response IR-2:**

11
12 (a) The Newfoundland and Labrador Hydro-NS Power Interconnection Operators Agreement
13 (IOA) is available on the Emera Newfoundland and Labrador public website at the
14 following link:

15
16 [http://www.emeranl.com/site/media/emeranl/Documents/Amended%20and%20Restated](http://www.emeranl.com/site/media/emeranl/Documents/Amended%20and%20Restated%20Interconnections%20Operators%20Agreement.pdf)
17 [%20Interconnections%20Operators%20Agreement.pdf](http://www.emeranl.com/site/media/emeranl/Documents/Amended%20and%20Restated%20Interconnections%20Operators%20Agreement.pdf)

18
19 (b) The NLH-NSPI IOA described the following reliability benefits:

20
21 i) Voltage support. The Maritime Link reactive power capability provides voltage
22 support to the Nova Scotia system in the Eastern end of the province, much like a
23 Statcom or Static Var Compensator can be used to support system voltage.
24 Section 4.7 and Schedule C7.0 Voltage Management of Interconnection Facilities
25 of the IOA covers this topic.

26
27 ii) Reserve Sharing. The agreement allows for up to 100 MW of reserve sharing.
28 Access to additional reserve can help the NS Power System Operator recover
29 more quickly from system contingencies and avoid potential violations of the

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1 NERC Disturbance Control Standard. Section 4.10, Schedule A2, and Schedule
2 C10.0 of the IOA cover this topic.

3
4 iii) Emergency Energy. The IOA provides for access to Emergency Energy which can
5 assist the NSPSO in maintaining reliability of supply in Nova Scotia during
6 system emergencies. Section 5.2, Schedule A3, and Schedule C9.0 of the IOA
7 cover this topic.

8
9 iv) Security Energy. The IOA provides for access to Security Energy, which can
10 assist the NSPSO in maintaining system security in Nova Scotia during system
11 emergencies. Schedule A3 of the IOA covers this topic.

12
13 v) Automatic Generation Control (AGC)/Regulation Service is a potential additional
14 reliability benefit that the Maritime Link can provide. The Maritime Link can be
15 placed on AGC to help regulate load and generation fluctuations in Nova Scotia.
16 Details of AGC/Regulation Service are not covered in the IOA, but are covered
17 under a separate agreement.

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1 **Request IR-3:**

2

3 **Reference: Application, page 30, lines 12-14 "... additional tools available to enable NS**
4 **Power to meeting [sic] its environmental compliance obligations.**

5

6 **(a) Does energy imported over the Maritime Link in 2018-2019 (before the NS Block is**
7 **available) qualify as RES-compliant power?**

8

9 **(b) If not, what would be required?**

10

11 **(c) How does the Maritime Link enable NSPI to meet its environmental compliance**
12 **obligations prior to in-service of Muskrat Falls?**

13

14 **What, if any, steps has NSPML and/or NSPI taken toward securing that qualification?**
15 **Please provide copies of communications to and from government on this issue.**

16

17 **Response IR-3:**

18

19 (a-b) Energy imported over the Maritime Link in 2018-2019 (before the NS Block is available)
20 may or may not qualify as Renewable Energy Standards (RES) compliant power. NS
21 Power is on track to meet its 2018 and 2019 RES targets and does not require energy
22 imported over the Maritime Link in 2018 and 2019 to be RES compliant and therefore
23 has not applied for consideration.

24

25 (b) A change to the qualifying energy sources in the existing RES recognizing this energy as
26 coming from a renewable source would be required.

27

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- 1 (c) Energy imported over the Maritime Link will be emission free and provides additional
2 flexibility for NS Power to comply with its air emissions hard caps on CO₂, Hg, NO_x and
3 SO₂. Please refer to Synapse IR-11(b).

Industrial Group IR-4 to Industrial Group IR-5 have been removed due to confidentiality.

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1 **Request IR-6:**

2

3 **Reference: Supplementary Evidence, page 4, lines 27-28**

4

5 **(a) Please provide the estimated sales (volumes and revenue) with each counterparty by**
6 **month for 2018 and 2019. Show on-peak and off-peak separately.**

7

8 **(b) Please provide NSPI's estimated cost of the generation for sales (per MWh**
9 **and in total) by month and separately for on-peak and off-peak.**

10

11 **(c) Please provide a breakdown by NSPI generation unit of the generation for**
12 **sales for each month.**

13

14 **Response IR-6:**

15

16 (a-c) Please refer to Industrial Group IR-12 Confidential Attachments 2-4 for the optimized
17 hourly system dispatch results. Please refer to NSUARB IR-3 for the optimized monthly
18 summary of Maritime Link imports.

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1 **Request IR-7:**

2
3 **Reference: Supplementary Evidence, page 5, lines 19-22**

4
5 **Preamble: In support of NSPML's request for approval for recovery from NS Power of**
6 **the Interim Assessment as of the January 1, 2018 in-service date of the ML, the evidence**
7 **identifies the many benefits that Nova Scotia electricity customers will realize from use and**
8 **availability of the ML as of its in-service date. These benefits are in addition to the NS**
9 **Block**

10
11 **(a) Is it the position of NSPML that the benefits to NSPI customers justify**
12 **NSPML's charges to NSPI in 2018 and 2019?**

13
14 **(b) Is the magnitude of these benefits a relevant factor? That is, if the benefits to**
15 **NSPI were only \$1 million in each year, would NSPML still propose that the**
16 **interim assessments should remain as currently proposed?**

17
18 **(c) If the answer to (b) is in the negative, what amount of benefits to NSPI would**
19 **be the threshold at which the interim assessments are justified? \$2 million?**
20 **\$5 million? Some other level?**

21
22 **Response IR-7:**

23
24 **(a) As of January 1, 2018 the Maritime Link will be fully energized, is expected to transmit**
25 **significant amounts of power, and will provide benefits to NS Power and its customers.**
26 **The costs of the Maritime Link will not necessarily match the quantitative near term**
27 **benefits from the Maritime Link in each year of the project including the early years.**
28 **That is the result that has always been expected, and is typical of major new power**
29 **supply projects. [Please refer to Supplementary Direct Evidence of John Reed, page 4.]**

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1 Many, if not all, major projects start out with a lower capacity usage or benefit per month
2 or per year in the early years since they almost always are built in anticipation of greater
3 usage over time. [See John Reed Direct Evidence, pages 18 and 21.] When the Project
4 was approved, it was on the long-term benefit as against long-term costs. This fact,
5 coupled with the normal expectation of cost-of-service model cost recovery, supports
6 NSPML's assessment application.

7
8 The proposed charges are cost-based charges, and thus are justified by the costs incurred
9 in the construction and operation of the Maritime Link in order to provide service, and its
10 attendant significant benefits. NSPML should have a reasonable opportunity to recover
11 its costs including a compensatory return on its prudently invested capital as of the
12 in-service date of the Project.

13
14 Please refer to NSPML's response to NSUARB-42 for a discussion of legislative
15 framework and further discussion of the regulatory practice which, in addition to the
16 significant benefits that will accrue to customers as of the January 1, 2018 in-service date
17 of the Maritime Link, supports the applied for Interim Assessment.

18
19 (b) NSPML notes that customer benefits is one of the items on which the Board desired
20 evidence. The magnitude of the benefits in a particular year is not directly relevant to the
21 determination of the Interim Assessment in any such year, given that the Interim
22 Assessment is a cost-based rate. The Board need not consider the hypothetical under
23 which the Project produces \$1 million of annual benefits, since the annual benefits to be
24 provided to Nova Scotia electricity customers as of the January 1, 2018 in-service date of
25 the Maritime Link far exceed this level.

26
27 The Project was approved with the knowledge that the costs in the early years would be
28 greater than the benefits and that the total benefits of the Maritime Link Project would
29 exceed the costs on a net present value basis. The Board's order approving the Project

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1 was based upon standard cost-based ratemaking principles and did not indicate that a
2 year-by-year net benefit test, which has not previously been applied in Nova Scotia,
3 would apply instead. NSPML respectfully suggests that the delay in the availability of the
4 NS Block does not warrant the use of any alternative to cost-based rates, even if the
5 relative magnitude of the benefits in any particular year is considered.

6

7 (c) Please refer to response to part (b).

Industrial Group IR-8 has been removed due to confidentiality.

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1 **Request IR-9:**

2

3 **How will coordination with Newfoundland affect the savings from the joint dispatch**
4 **arrangement with NB Power? Please explain qualitatively and quantitatively.**

5

6 Response IR-9:

7

8 Although the direct impact of coordination with Newfoundland on the savings from the joint
9 dispatch arrangement with NB Power was not directly modeled for the purposes of this
10 Application, increasing the level of regional interconnectedness will create new opportunities for
11 all parties in the region and NS Power believes coordination with Newfoundland complements
12 its existing arrangement with NB Power. For example, in cases when there is no economic
13 rationale for a transaction between NS Power and NB Power, NS Power customers would still
14 benefit from transmission revenues generated by wheel-through transactions between NB Power
15 and Nalcor.

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1 **Request IR-10:**

2

3 **Reference: Supplementary Evidence, page 27, lines 12-14**

4

5 **Preamble: NSPML does not believe that adjustment should be made to NS Power's**
6 **FAM, as doing so would negatively impact stability by reducing NS Power rates now only**
7 **to increase them more dramatically later.**

8

9 **(a) Why is NSPML concerned about the effect on NSPI rates?**

10

11 **(b) What is the expected increase in NSPI rates in 2020 with the current FSP?**

12

13 **(c) What is the effect on NSPI rates of the additional cost of energy if Muskrat Falls is**
14 **delayed until 2021?**

15

16 **Response IR-10:**

17

18 **(a) NSPML is a regulated utility operating in the same jurisdiction as NS Power and serving**
19 **Nova Scotians. NSPML understands that stable, predictable power rates is a customer**
20 **and legislative objective that was achieved following a full and transparent regulatory**
21 **process and settlement agreement.**

22

23 **(b) The forecast change to fuel rates in NS Power's Fuel Stability Plan Compliance Filing for**
24 **2020 was 5.3 percent for the Fuel Adjustment Mechanism (FAM) Classes; however,**
25 **reductions in actual versus forecast Community Feed-in Tariff (COMFIT) purchases and**
26 **a post-2020 rate stability period could serve to reduce the 2020 forecast. The value of the**
27 **benefits listed in Appendix B of the filing was also not included in the Fuel Stability Plan**
28 **analysis.**

29

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- 1 (c) NS Power has not performed the requested analysis; however, as with pre-2020, the cost
2 of a delay in the NS Block in 2020 would be equal to the replacement energy costs of that
3 year, causing rates to be higher.

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1 **Request IR-11:**

2
3 **Reference: Supplementary Evidence, Appendix B, page 1**

4
5 **Preamble: NS Power believes that [REDACTED] per year is a reasonably conservative**
6 **estimate of the value that can be achieved for Nova Scotia customers.**

7
8 **(a) Please confirm that none of the interim assessments of \$162 million (2018)**
9 **and \$164 million (2019) will be allocated to Below-the-Line customers of**
10 **NSPI. If not, please explain.**

11
12 **(b) How will the estimated savings and benefits be allocated between and among**
13 **Above-the-Line and Below-the-Line customers?**

14
15 **(c) Please show how the [REDACTED] figure was derived.**

16
17 **Response IR-11:**

18
19 **(a) Confirmed. The interim assessment applies only to Fuel Adjustment Mechanism (FAM)**
20 **customers.**

21
22 **(b) The savings and benefits calculated in NSPML Interim Cost Assessment Application**
23 **Supplementary Evidence, Confidential Appendix B will be allocated only to FAM**
24 **customers.**

25
26 **(c) The [REDACTED] is an estimate, derived from the range of [REDACTED] referenced**
27 **in NSPML Interim Cost Assessment Application Supplementary Evidence, Confidential**
28 **Appendix B. These values are based on a fully-optimized dispatch model and may vary**
29 **depending on operating conditions.**

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1 **Request IR-12:**

2

3 **Reference: Supplementary Evidence, Appendix B, page 1**

4

5 **Preamble: The estimated potential value to be achieved is based on information**
6 **available as of January 20, 2017, with import and export opportunities modelled using the**
7 **Plexos dispatch optimization software.**

8

9 **(a) Who was in charge of the modeling and analyses - NSPML or NSPI? Please**
10 **identify the individuals involved for each entity.**

11

12 **(b) Please provide the input values used in the Plexos runs.**

13

14 **(c) Please provide copies of the Plexos output.**

15

16 **Response IR-12**

17

18 **(a) System dispatch optimization with respect to 2018 and 2019 Maritime Link utilization**
19 **scenarios were developed by NS Power.**

20

21 **(b) Input assumptions for the analysis are provided in Confidential Electronic Attachment 1.**

22

23 **(c) Plexos output source files can only be effectively read by the Plexos software. Detailed**
24 **simulation output results have been exported to MS Excel format.**

25

26 **Please find the output results for Base Case in Confidential Electronic Attachment 2.**

27 **Please find the output results for Winter Export Case in Confidential Electronic**

28 **Attachment 3. Please find the output results for Off-Peak Purchases and Storage Case in**

29 **Confidential Electronic Attachment 4.**

Industrial Group IR- 12 Attachments 1 to 4 have been removed due to confidentiality.

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1 **Request IR-13:**

2
3 **Reference: Supplementary Evidence, Appendix B, page 2**

4
5 **Preamble: NS Power will have the opportunity to export to the Province of**
6 **Newfoundland and Labrador** [REDACTED]

7 [REDACTED]
8
9 **(a) Will the profit on such sales to Nalcor be allocated to NSPI customers?**

10
11 **(b) If NSPI is generating incremental energy both for sale to Nalcor and for sale**
12 **under the Load Retention Tariff, how will any differences in cost of the**
13 **incremental energy be assigned to the two sales? On what basis will this be**
14 **done?**

15
16 **(c) What assumptions were used in arriving at the estimated benefit of**
17 [REDACTED]

18
19 **Response IR-13:**

20
21 **(a) NS Power's realized benefits would flow to NS Power customers through the Fuel**
22 **Adjustment Mechanism (FAM), and happens presently with NS Power exports to outside**
23 **parties via the transmission intertie with New Brunswick.**

24
25 **(b) NS Power will continue to calculate the cost to serve PHP's load under the Load**
26 **Retention Tariff using the NSUARB audited system differential calculation methodology.**
27 **Imports and exports for the benefit of FAM customers, including transactions with**
28 **Nalcor, are calculated first and then PHP's load is added incrementally to the system to**
29 **calculate its cost to the total system.**

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- 1 (c) Please refer to Industrial Group IR-12 and CA IR-11.

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1 **Request IR-14:**

2

3 **Reference: Supplementary Evidence, Appendix B, Evidence of John Reed, page 15 of 24,**
4 **lines 4-5.**

5

6 **Is it Mr. Reed’s opinion that the “opportunity” to deliver economic market-priced energy**
7 **is sufficient to declare the Maritime Link “used and useful”, or does it, in fact, have to be**
8 **used to deliver energy?**

9

10 Response IR-14:

11

12 To be considered used and useful, the Maritime Link Project will have achieved functional
13 operation, and be useful in the provision of service to customers, that is, beneficial. As of
14 January 1, 2018, those factors are expected to be in place and therefore the Maritime Link
15 Project will be considered used and useful.

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1 **Request IR-15:**

2

3 **NL Hydro has recently announced additional capital investment plans for Holyrood**
4 **generating station extending the planned retirement date. What assumptions were included**
5 **by NSPML/NSPI regarding Holyrood generation in quantifying the potential benefits from**
6 **energy sales transactions between the provinces?**

7

8 **Response IR-15:**

9

10 NS Power assumed that Holyrood would be operating at all times when available during winter
11 months (November through March), regardless of additional capital investments or not. Please
12 refer to Industrial Group IR-12 Confidential Attachment 3 and CA IR-11 Confidential
13 Attachment 1 for further detail on the assumptions included in the modeling of potential benefits.

Industrial Group IR-16 has been removed due to confidentiality.