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Request IR-1:

Please explain in detail NSPI's understanding of the following, making note of the consistency with the enabling legislation for Renewables to Retail:

(a) What is the definition of Renewable for the purposes of Renewable to Retail transactions? What technologies are classified as renewable for the purposes of Renewable to Retail transactions?

(b) What process will be utilized to certify that each specific generator, that is supplying energy under the Renewables to Retail tariffs, meet the definition in a), both initially and overtime?

(c) Does NSPI administer the certification of a generator as Renewable in b)? If not what organization will be responsible?

(d) How will it be assured that Renewable Generators supplying energy to retail customers under Renewable to Retail transactions will not be selling Renewable Energy Credits created by their generation to other markets?

Response IR-1:

(a) For the purposes of "renewable to retail" transactions, "renewable" refers to renewable low-impact electricity generated within the Province. Section 3C(1) of the *Electricity Act* states:

> 3C (1) Effective on the date prescribed in the regulations,
> (a) a retail supplier who meets the requirements in Section 3D may sell to a retail customer; and
> (b) a retail customer, other than a customer of a municipal utility, may purchase from such a retail supplier, renewable low-impact electricity generated within the Province.

As with the draft Board Electricity Retailer Regulations, NS Power attributes the same meaning to "renewable low-impact electricity" as in the Renewable Electricity Regulations. Section 3.1 of the Renewable Electricity Regulations defines "renewable low-impact electricity" as electricity produced from any of the following:

(i) solar energy,
(ii) wind energy,
(iii) run-of-the-river hydroelectric energy,
(iv) ocean-powered energy,
(v) tidal energy,
(vi) wave energy,
(vii) biomass that has been harvested in a sustainable manner,
(viii) landfill gas,
(ix) any resource that, in the opinion of the Minister and consistent with Canadian standards, is able to be replenished through natural processes or through sustainable management practices so that the resource is not depleted at current levels of consumption;

(b-c) Certification of generation facilities is provided for under the draft Board Electricity Retailers Regulations, which defines it as follows:

> "Certification" means the electricity standard approval issued by the Minister to a Renewable Low-Impact Electricity Generation Facility under the Renewable Electricity Regulations.

(d) In a letter to the UARB dated June 2, 2015, the Department of Energy clarified that renewable low-impact electricity sold in the Renewable to Retail market must not be separated from any associated Renewable Energy Credits. Please refer to **Attachment 1**.

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June 2nd, 2015
Via EMAIL: Jocelyn.Fraser@novascotia.ca

Jocelyn Fraser, Senior Advisor
Nova Scotia Utility and Review Board
1601 Lower Water Street
Halifax, Nova Scotia
Canada B3J 3P6

Dear Ms. Fraser,

RE: Renewable to Retail Licensing of Retail Suppliers and Draft Board Regulations presentation to stakeholders, May 26th

The Department of Energy would like to thank the Utility and Review Board for hosting the presentation of the draft regulations and to thank Mr. Ryall for providing the necessary perspective of lessons learned from other jurisdictions. The department offers the following clarifications to questions posed during the session:

1. Section 3C of the Electricity Act only authorizes the sale of "renewable low impact electricity generated within the Province" from a retail supplier to a retail customer. It does not authorize the sale of electricity that is not renewable low-impact electricity generated in the Province.
    a. For clarity; it is the Department's position that renewable electricity stripped of its renewable attributes is no longer renewable low-impact electricity and is therefore not eligible for sale under section 3C of the Act. This is consistent with the policy intent of the amendments made in 2013 in respect of the development of a renewable to retail market in the province.
2. The Act is silent regarding the use imported sources for energy balancing services, however, this issue will be addressed further in sessions relating to the relevant tariffs.

The Department may follow up with further correspondence on the content of the regulations at a later date.

Respectfully,

Peter Craig, P.Eng.

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Request IR-2:

Will an LRS be required to produce or obtain an amount of renewable energy on a monthly or annual basis that at least meets the consumption of that LRS's Renewable to Retail customers?

Response IR-2:

According to the Draft Board Electricity Retailers Regulations, the Compliance Period is 24 months, as set out in the Definitions:

> "Compliance Period" means the twenty-four month period commencing each January 1. The initial Compliance Period shall commence on the date that a Licence is approved and shall end December 31 of the following year.

Section 10 further states:

> 10 (1) In each Compliance Period, a Licence Holder's total purchases or, in the case of a Licence Holder that is also a generator, total generation of Renewable Low-Impact Electricity, or combination of purchases and generation, shall equal or exceed the Licence Holder's total sales of Renewable Low-Impact Electricity plus transmission and distribution losses.
>
> 10 (2) This requirement does not apply to Behind-the-Meter sales.

Request IR-3:

If an LRS fails to at least meet the consumption of that LRS's Renewable to Retail customers will:

(a) This invalidate the Renewable to Retail transaction?

(b) Renewable to Retail customers be notified of the amount of shortfall by their LRS or NSPI?

Response IR-3:

(a-b) Sections 10 to 16 of the Draft Board Electricity Retailers Regulations (Application Appendix 10 pages 9-10) set out the compliance obligations and procedure to be followed by an LRS in case of non-compliance.

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Request IR-4:

Regarding customer sited generation and net metering:

(a) Please explain whether customers with on-site generation, such as solar or CHP, behind the meter will be allow to participate in Renewables to Retail service.

(b) Are these customers eligible for net metering? If not why not?

Response IR-4:

(a-b) Individuals who generate electricity on their own premise for their own use would be able to subscribe to Renewable to Retail service for the balance of their supply if a Licensed Retail Supplier (LRS) were to offer them service.

Customers who are not bundled service customers of NS Power are not eligible for Net Metering Service. Under the Net Metering regulation, excess self-generation, over a customer's own consumption, is credited against purchased energy. If the customer is not purchasing energy from NS Power, there is nothing to credit against.

For discussion of the use of behind-the-meter generation as a source of supply to others and with respect to Net Metering, please refer to **ECI IR-1**.

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Request IR-5:

Please provide NSPI's definition of customer in the context of Renewable to Retail service?

Response IR-5:

NS Power refers to the definition of "RtR Customer" in the Licenced Retail Supplier Terms and Conditions (**Appendix 18**), which provides as follows:

> RtR Customer: A Retail Customer who is acquiring renewable low-impact electricity from an LRS at an individual RtR Customer Premises and is not receiving Bundled Service from NS Power at that RtR Customer Premises.

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Request IR-6:

Please describe in detail whether and how Port Hawkesbury Paper will be able to take service under Renewables to Retail? Will the Renewable to Retail Service be under the general Renewable to Retail tariffs in this application or will any provisions of the special contract for Port Hawkesbury Paper remain in effect?

Response IR-6:

The eligibility requirements for any customer to take service from a licenced retail supplier are set out in the in *Electricity Act*, which defines a "retail customer" as a "person who uses, for the person's own consumption in the Province, electricity that the person did not generate." Port Hawkesbury Paper is currently taking service from NS Power under the Load Retention Tariff (LRT) until December 31, 2019. The availability conditions of the LRT provide that it cannot be taken by PHP in conjunction with any other tariffs unless approved by the UARB.

Request IR-7:

Please describe in detail whether and how customers currently receiving service under Interruptible service will be able to take service under Renewables to Retail? Will the Renewable to Retail Service be under the general Renewable to Retail tariffs in this application or will any provisions of the interruptible load tariffs remain in effect?

Response IR-7:

Section 6.5 of the **Application** sets out NS Power's recommendations with respect to the issue of interruptible service. Given the limited number of interruptible service customers and the uncertainty as to the extent and timing of migration of these customers to Renewable to Retail service, NS Power has not provided systems or tariffs for interruptible service. The Company has recommended that any requests for transition of an existing interruptible service customer to a renewable to interruptible retail service be assessed and resolved on a case-by-case basis.

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Request IR-8:

The following questions are regarding the proposed Energy Balance Service tariff.

(a) Regarding the Energy Charge for Top-up service proposed to be set at 9.959 cents per kWh, please explain the detailed derivation, including providing all workpapers and models in working excel form, for the 6.65 cents per kWh adjusted fuel cost.

(b) Is this 6.65 cents per kWh derived using a single year analysis or multiple years? Please explain NSPI's rationale for choosing this methodology? Please provide all workpapers and models in working excel form.

(c) Why has NSPI chosen to propose to have a Top-up service energy rate that is a single value for the entire year rather than;

- **(i) A rate that varies hourly?**
- **(ii) A rate that is differentiated into on peak and off peak periods?**
- **(iii) A rate that varies monthly?**
- **(iv) A rate that varies seasonally?**

(d) How will NSPI assure that actual costs for Top-up Service are recovered from the proposed single value annual charges to the LRS?

(e) If there is a difference between actual Top-up service costs and the charges to the LRS, how will NSPI recover these cost recovery shortfall? From which NSPI customers or the LRS will NSPI recover these costs?

(f) Does the methodology proposed by NSPI to develop its Energy Charge for Top-up Service assure that it will not result in increased costs to other customers?

Response IR-8:

(a) The Company's response to Multeese DR-25 included in **Appendix 13B** provides calculations of the 6.65 cents/kWh adjusted fuel costs. **Attachment 1,** also provided electronically, contains overall avoided cost results of the Plexos runs which gave rise to avoided unit costs of 5.960 cents/kWh and 5.270 cents/kWh which were then applied as an input to calculation of the 6.65 cents/kWh charge. Please note that these runs were made for 50 MW blocks and not the 25 MW blocks as indicated in Appendix 13B. Going forward, for the Annually Adjusted Rate setting process, the Company intends to apply calculations based on the 25 MW block.

(b) The 6.65 cent/kWh rate was derived using multiple runs over a ten year period from 2018 to 2027 based on the 2014 Integrated Resource Plan (IRP) preferred resource plan assumptions. The approach was chosen to take advantage of the IRP information already on the regulatory record and also to provide an indication of a longer-term pricing level under the top-up rate. Going forward, however, commencing with the 2017 EBS rate submission, the Company proposes to use a single year analysis consistent with the treatment of other Annually Adjusted Rates. Please refer to **SWEB IR-07 part (b)** for simulation results of single year analysis for year 2016. Also, please refer to **CA IR-15** for the comparison of avoided fuel cost calculations under various approaches discussed above.

(c-d) Please refer to **CA IR-08**.

(e-f) The Company submits that a reasonable level of accuracy in the recovery of fuel costs is achieved through the annual adjustment process which will reset the top-up charge based on the next year's forecast incremental fuel cost forecast. This approach is consistent with that used for other Annually Adjusted Rates and is proposed as a cost effective balance of cost accuracy and administrative efficiency. As the RtR market evolves more detailed calculations may be determined to be necessary.

Avoided Costs

	Flat Uncurtailable	Wind Uncurtailable
2018	52.63	45.98
2019	54.85	48.25
2020	57.70	52.26
2021	59.17	51.55
2022	60.43	54.72
2023	65.09	59.74
2024	65.79	57.12
2025	60.84	54.66
2026	63.48	54.16
2027	61.51	52.97

Avoided Costs
Flat 50MW RTR - No Curtailment

	Mean F&PP Costs Delta k$	Upper Level F&PP Costs Delta k$	Lower Level F&PP Costs Delta k$	Energy 50MW Flat GWh	Mean Avoided Cost $/MWh	Upper Level Avoided Cost $/MWh	Lower Level Avoided Cost $/MWh
2018	23052	22312	23792	438.0	52.63	50.94	54.32
2019	24025	23137	24912	438.0	54.85	52.83	56.88
2020	25341	24785	25896	439.2	57.70	56.43	58.96
2021	25915	25339	26492	438.0	59.17	57.85	60.48
2022	26468	25957	26980	438.0	60.43	59.26	61.60
2023	28510	27860	29161	438.0	65.09	63.61	66.58
2024	28896	28501	29291	439.2	65.79	64.89	66.69
2025	26646	26300	26993	438.0	60.84	60.05	61.63
2026	27803	27151	28454	438.0	63.48	61.99	64.96
2027	26942	26149	27734	438.0	61.51	59.70	63.32
NPV	$187,720.22	$183,258.20	$192,182.24	3151.95			
Levelized AC	$59.56	$58.14	$60.97				

Avoided Costs
Wind 50MW RTR - No Curtailment

	Mean F&PP Costs Delta k$	Upper Level F&PP Costs Delta k$	Lower Level F&PP Costs Delta k$	Energy 50MW Wind GWh	Mean Avoided Cost $/MWh	Upper Level Avoided Cost $/MWh	Lower Level Avoided Cost $/MWh
2018	6563	5966	7160	142.7	45.98	41.80	50.16
2019	6886	6176	7596	142.7	48.25	43.27	53.22
2020	7459	7067	7851	142.7	52.26	49.52	55.01
2021	7358	6838	7878	142.7	51.55	47.91	55.20
2022	7810	7382	8238	142.7	54.72	51.72	57.72
2023	8526	7949	9103	142.7	59.74	55.69	63.78
2024	8144	7361	8926	142.6	57.12	51.64	62.61
2025	7802	7355	8248	142.7	54.66	51.53	57.79
2026	7730	6783	8677	142.7	54.16	47.52	60.80
2027	7535	6434	8635	142.2	52.97	45.24	60.71
NPV	$54,052.10	$49,529.80	$58,574.41	1026.16			
Levelized AC	$52.67	$48.27	$57.08				

F&PP: Fuel & Purchased Power

Avoided Costs
Flat 50MW RTR - No Curtailment

	Mean Delta F&PP Cost Flat 50MW vs No RTR k$	Energy 50MW Flat GWh	Avoided Cost of 50MW Flat $/MWh
2018	23,052	438	52.63
2019	24,025	438	54.85
2020	25,341	439.2	57.70
2021	25,915	438	59.17
2022	26,468	438	60.43
2023	28,510	438	65.09
2024	28,896	439.2	65.79
2025	26,646	438	60.84
2026	27,803	438	63.48
2027	26,942	438	61.51
NPV	$187,720.2	3151.9	$428.34
Levelized Value $/MWh		**59.6**	

Avoided Costs
50 MW Wind RTR - No Curtailment

	Mean Delta F&PP Cost Wind 50MW vs No RTR k$	Energy 50MW Wind GWh	Avoided Cost of 50MW Wind $/MWh
2018	6,563	142.73	$45.98
2019	6,886	142.73	$48.25
2020	7,459	142.73	$52.26
2021	7,358	142.73	$51.55
2022	7,810	142.73	$54.72
2023	8,526	142.73	$59.74
2024	8,144	142.56	$57.12
2025	7,802	142.73	$54.66
2026	7,730	142.73	$54.16
2027	7,535	142.24	$52.97
NPV	$54,052.1	1026.2	$378.85
Levelized Value $/MWh		**52.7**	

F&PP: Fuel & Purchased Power

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Request IR-9:

The following questions are regarding the proposed Energy Balance Service tariff.

(a) Regarding the Energy Charge for Spill Service energy credit proposed to be set at 5.27 cents per kWh, please explain the detailed derivation, including providing all workpapers and models in working excel form, for the 5.27 cents per kWh energy credit.

(b) Is this 5.27 cents per kWh derived using a single year analysis or multiple years? Please explain NSPI's rationale for choosing this methodology? Please provide all workpapers and models in working excel form.

(c) Why has NSPI chosen to propose to have a Spill service energy credit that is a single value for the entire year rather than;

- **(i) A rate that varies hourly?**
- **(ii) A rate that is differentiated into on peak and off peak periods?**
- **(iii) A rate that varies monthly?**
- **(iv) A rate that varies seasonally?**

(d) How will NSPI assure that actual cost savings for Spill Service are recovered from the proposed single value annual charges to the LRS?

(e) If there is a difference between actual Spill service costs and the charges to the LRS, how will NSPI recover these cost recovery shortfall? From which NSPI customers or the LRS will NSPI recover these costs?

(f) Does the methodology proposed by NSPI to develop its Energy Credit for Spill Service assure that the will not result in increased costs to other customers?

Response IR-9:

(a) Please refer to **SBA IR-8 part (a)**.

(b) Please refer to **SBA IR-8 part (b)**.

(c-d) Please refer to **CA IR-8**.

(e-f) Please refer to **SBA IR-8 parts (e-f)**.