

**NOVA SCOTIA UTILITY AND REVIEW BOARD**

**IN THE MATTER OF THE *PUBLIC UTILITIES ACT***

**- and -**

**IN THE MATTER OF AN APPLICATION** by **NOVA SCOTIA POWER INC.** for approval to amend Regulation 3.6 - Net Metering by enhancing its net metering service, in compliance with recent legislative changes to the *Electricity Act*, to provide for expanded customer capacity, aggregated metering and payment for annual excess generation

**BEFORE:** Peter W. Gurnham, Q.C., Chair

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**APPLICATION DATE:** November 1, 2010

**FINAL SUBMISSION  
DATE:** February 23, 2011

**DECISION DATE:** **March 21, 2011**

**DECISION:** **The Board approves NSPI's amended net metering Regulation 3.6 with modifications.**

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## I INTRODUCTION

[1] On November 1, 2010 Nova Scotia Power Incorporated ("NSPI") applied to the Nova Scotia Utility and Review Board (the "Board") for approval to amend its Regulation 3.6 - Net Metering Service (the "Application"), in compliance with recent changes to the *Electricity Act*, S.N.S., 2004, c. 25 (the "Act"). The amendment proposed enhancements to the net metering service to provide for expanded customer capacity, aggregated metering, and payment for annual excess generation.

[2] By Notice dated November 3, 2010, interested parties were asked to file a Notice of Intention to Participate by December 9, 2010. Seven parties filed a Notice with the Board.

[3] In an Order dated December 14, 2010, NSUARBP-188, the Board advised that this matter would be heard by way of a written process and a schedule for the proceeding was established. Information Requests were submitted to NSPI on January 12, 2011, by Board Counsel consultant Multeese Consulting Inc. ("Multeese") and Halifax Regional Water Commission ("HRWC"). NSPI's responses were filed on January 26, 2011. Written submissions by Multeese and HRWC were received on February 9, 2011 and NSPI's Reply Submission was filed on February 23, 2011.

[4] The provisions of the *Electricity Act* relevant to net metering are:

3 Chapter 25 is further amended by adding immediately after Section 3 the following Section:

3A (1) A public utility may develop and maintain a program that will permit any customer to generate electricity for the customer's own use and to sell any excess electricity to the public utility at a rate equivalent to the rate paid by the customer for electricity supplied to the customer by the public utility.

(2) The program must provide that

(a) only electricity generated by a customer that is renewable low-impact electricity qualifies for the program;

(b) as a condition of participation, the customer transfer or assign all emission credits or allowances arising from the use of renewable energy sources to the public utility to enable the public utility to comply with the requirements of any enactment regulating emissions, but for no other purpose;

(c) the capacity of the customer's generator be sized to meet the expected annual consumption of the customer; and

(d) customers may have multiple meters under one account within a defined distribution zone.

(3) Any program developed and maintained pursuant to subsection (1) must receive the approval of the Board before its implementation by the public utility.

(4) On or before November 1, 2010, Nova Scotia Power Incorporated shall submit to the Board for approval a program as described in subsection (1) that permits customers to generate up to one megawatt of electricity.

(Exhibit N-1, pp. 4-5)

## **II BACKGROUND**

[5] NSPI has offered net metering to its customers since 1989. The current form of Regulation 3.6 was approved by the Board in 2005.

[6] The existing Regulation 3.6 defines net metering service as "...a metering and billing practice that efficiently enables electricity consumers with small, privately-owned generators to offset part or all of their own electrical requirements by utilizing their own generation. Excess self-generation, over own-consumption needs, is credited against purchased energy for billing purposes over a limited period of time."

[7] Under the existing Regulation 3.6, net metering service is available to all NSPI customers who:

- a) are served from NSPI's distribution system of 24,940 volts or less,
- b) are billed under one of NSPI's metered service rates,
- c) install a qualifying generator of less than 100 kW.

[8] Other restrictions include:

- a) the service is applicable to any accounts which are located on the same parcel of land as the generator, and which are owned by the same single customer,
- b) the service is available on a first-come, first served basis and the total rated generation of all subscribed customers is limited to 0.5% of NSPI's historical annual peak demand (approximately 12 MW),
- c) excess self-generation will be "banked" as energy credits to be applied against future bills over a period not exceeding 12 calendar months, and
  - i) banked energy credits will carry over until the customer's anniversary date at which time the credit will be set to zero without compensation to the customer,
  - ii) if service is discontinued, banked energy credits will be forfeited,
  - iii) any energy credit balance on a customer-generator's account will have no cash value or be convertible to cash.

[9] In April 2010, the Nova Scotia Department of Energy ("NSDOE") released its Renewable Electricity Plan (the "Plan") which set out a detailed program to move Nova Scotia away from carbon-based electricity towards greener, more local sources. That Plan includes conservation and efficiency programs as well as a transition to renewable energy sources. One of the initiatives is to provide individuals and small businesses with an opportunity to participate in green energy projects through an expanded and enhanced net metering program. Specific changes were identified which would ease some of the restrictions contained in the existing Regulation 3.6.

[10] On May 11, 2010, amendments to the *Electricity Act* received Royal Assent. This was followed by draft regulations and public consultations leading to a proclamation of the amended *Electricity Act* and enactment of the Renewable Electricity

Regulations in October 2010. The Regulations establish a provincial target of supplying at least 25% of electricity sales with renewable electricity by the year 2015. The Plan also identifies a goal of increasing the supply of renewable electricity to 40% by 2020.

[11] Under the amended *Electricity Act*, NSPI was required to submit an expanded net metering regulation by November 1, 2010 for approval by the Board.

### III NSPI PROPOSED AMENDMENTS

[12] In its Application, NSPI proposed the following amendments to Regulation 3.6:

- a) Increase the existing limit for customer generating capacity from 100 kW to 1 MW.
- b) Increase the existing net metering program's peak demand capacity limit from approximately 12 MW (i.e. 0.5% of NSPI's historical annual capacity) to 20 MW.
- c) Establish two classes of service for net metering customers as follows:
  - Class 1: up to and including 100 kW
  - Class 2: greater than 100 kW up to 1 MW

NSPI further proposed to limit all Class 1 participants to a total of 5 MW and all Class 2 participants to a total of 15 MW, with the stipulation that:

...The system-wide 20 MW allocation for net-metering is subject to any distribution level capacity constraints within a distribution zone and does not provide an absolute guarantee that capacity will be available wherever and whenever requested by a customer.

(Exhibit N-1, page 7 of 14)

The two-class proposal is intended to reflect the current break point for generation interconnection standards. Generators with a capacity greater than 100 kW are subjected to more complex assessment and interconnection procedures than those that are 100 kW or less.

- d) Expand allowable meter aggregation to include all metered accounts owned by the same customer and located within the same distribution zone (i.e. substation feeder) as the customer generator.
- e) Provide customer-generators with cash payment, priced at an appropriate retail rate, for any banked excess self-generation remaining at the end of a twelve-month period:
  - i) where the customer rate structure includes only one energy charge, the surplus credit will be priced at that energy charge;
  - ii) where the customer rate structure includes declining block energy charges, the surplus energy will be priced only at the energy charge applicable to the additional kilowatt hours;
  - iii) where accounts are billed under domestic time-of-day service, surplus generation will be compensated in accordance with the distinct time-of-use period when it was generated at the associated time-of-use energy charges
  - iv) compensation for surplus generation will include the AA and BA FAM charges but will not include the DSM Cost Recovery Rider ("DCRR") since NSPI collects those charges on behalf of a third party and the excess generation does not affect determination of the DCRR.

[13] NSPI also requested that the effective date for the new Regulation be set at 90 days after Board approval is granted so that all necessary administrative processes related to the application process and billing are in place.

[14] In addition, NSPI noted that prior to filing its amended Regulation 3.6 with the Board, NSPI discussed its proposal with NSDOE who confirmed to NSPI that the revised Regulation was consistent with the provisions of the amended *Electricity Act*. NSPI also engaged stakeholders in the revision process through a technical session, circulated the draft revision, and solicited and received comments from interested parties.

#### **IV SUBMISSIONS BY INTERESTED PARTIES and NSPI's RESPONSE**

[15] Although seven parties registered as participants in this proceeding, only one party, HRWC, in addition to Board Counsel consultant, Multeese, submitted Information Requests or Written Submissions.

[16] The HRWC submission focused on the following three issues:

1. definition of a "distribution zone"
2. maximum generation capacity limits, i.e.
  - a. 20 MW for all net metering installations
  - b. 5 MW allocation to Class 1 applicants
  - c. 15 MW allocation to Class 2 applicants
3. assignment of environmental credits to NSPI.

##### **1. Distribution Zone**

[17] HRWC argued that:

...NSPI has chosen to take a very restrictive approach to defining "distribution zone"...so narrow as to significantly limit the number of customers who could otherwise benefit from aggregated net metering.

(Exhibit N-5, p. 2)

[18] During the IR process, NSPI was questioned regarding its definition of distribution zone. NSPI responded as follows:

In defining a "distribution zone", NSPI chose the broadest definition possible to provide access to the local distribution system, maximizing opportunities for customers who may be interested in subscribing to enhanced net metering while respecting the revenue and eligibility requirements of the Open Access Transmission Tariff (OATT). Since the OATT governs access to and rates paid for use of transmission system assets, the distribution zone definition provides for the full use of the distribution system in an area without including any transmission elements, thus preventing any use of transmission that is prohibited under the OATT.

(Exhibit N-3, IR-2 Response)

[19] Based on that response, HRWC asserted that:

...NSPI's only justification for its proposed requirement that all eligible facilities of a net metered customer be served by a single distribution supply transformer is based on the assertion that the NSPI Open Access Transmission Tariff ("OATT") necessitates this...HRWC respectfully submits that this is simply not the case.

...HRWC submits that the issues presently before the Board concerning net metering aggregation in Nova Scotia are entirely unrelated to the OATT or to the use of transmission services.

...The model of aggregated net metering presently under discussion requires only the financial netting of a customer's electricity consumption in one location against the customer's injection of electricity in another location...It does not require that a customer actually transmit electricity from the location where it is a net producer of energy to the location where it is a net consumer.

Instead, the customer's net generating facility effectively operates as distributed generation on the NSPI system, serving load on the local distribution system...it seems more like an accounting matter than a electricity transmission matter.

(Exhibit N-5, p. 3)

[20] On this issue, HRWC requested that:

...the Board direct NSPI to permit aggregated net metering by customers with respect to multiple meters under multiple accounts within multiple defined distribution zones so long as appropriate system studies are conducted by the NSPSO that conclude that the portion of the distribution system where the customer intends to connect its net metering generation is technically able to accommodate the generator...

(Exhibit N-5, p. 4)

[21] In its reply submission, NSPI argued that HRWC has misstated the effect and intention of the amended *Electricity Act*. NSPI's position is that the *Act* clearly provides that customers with multiple accounts within a single distribution zone can offset their own consumption through net metering but, accounts which do not reside within the same distribution zone do not qualify for net metering. To support this, NSPI quoted sections of the *Act* as follows:

3A (1) A public utility may develop and maintain a program that will permit any customer to generate electricity for the customer's own use and to sell any excess electricity to the public utility at a rate equivalent to the rate paid by the customer for electricity supplied to the customer by the public utility. 3 [emphasis added]

Section 3A(2)(d) provides

(2) The program must provide that

[...]

(d) customers may have multiple meters under one account within a defined distribution zone. [emphasis added]

(Exhibit N-6, p. 6)

[22] NSPI further stated:

...net metering is, by definition, designed to offset a customer's own consumption through their own generation. It is not intended to serve load on the local distribution system, as submitted by HRWC.

...in order for a customer to use their generation to offset the consumption for a consumption facility that is not located on the same distribution feeder emanating from a single distribution supply transformer within a substation, they must necessarily use the transmission system to move the generation to another distribution zone. This is [sic] would trigger OATT implications. This was recognized by Mr. Whalen in his written submission on behalf of Board Counsel:

The legislation and NSPI's proposal recognize that allowing customer generation to be moved from one distribution zone to another would involve the transmission system and raise Open Access Transmission Tariff (OATT) issues, and neither permits this. NSPI's proposal is in compliance with the legislative requirements and allows customers significant flexibility in the use of generation to meet supply their own consumption. I support NSPI's proposal.

(Exhibit N-6, pp. 8-9)

## 2. Capacity Limits

[23] HRWC's position regarding the net metering capacity limit is as follows:

...a cap of 20MW (about 1% of maximum NSPI system demand) appears overly restrictive, and there has been no evidence provided by NSPI to suggest that a higher cap would not be technically feasible from the perspective of the NSPSO.

...HRWC is of the view that it would be a better approach for NSPI to propose a cap that is developed based on detailed information and evidence rather than to simply impose the overly restrictive cap of 20 MW. HRWC's view is that the limits of 5MW for Class 1 (up to and including 100kW) generators and 15 MW for Class 2 (greater than 100 kW to 1MW) were also chosen without sufficient information and analysis.

(Exhibit N-5, p. 4)

[24] HRWC requested the Board remove the 20 MW cap until NSPI provides suitable evidence that the cap is reasonable and not overly restrictive.

[25] NSPI's response noted that the 20 MW cap represents "an almost 100 percent increase from the enrolment limit attached to NSPI's current net metering service." The current limit is 12 MW.

[26] NSPI also noted that it intends to revisit the 20 MW limit in the future once experience is gained with the program and argued that:

The uptake of the net metering service will lead to a reduction in NSPI's kWh sales without a parallel reduction in the total amount of non-fuel related costs (that is, fixed costs) to be recovered by the utility. Its short-term effect will be an under-recovery of fixed costs by the utility while its long-term effect, after rates are re-calculated through a general rate case application, may be an increase in the amount of unit fixed costs charged to all customers. Allocating 20 MW to this enhanced program will allow NSPI to monitor and evaluate the program's cost recovery implications for the utility and its customers.

(Exhibit N-6, pp. 9-10)

[27] In a February 9, 2011 submission by Multeese, Mr. Whalen supported NSPI's total capacity limit of 20 MW as well as the Class 1 allocation of 5 MW and Class 2 allocation of 15 MW with the understanding that a review will be undertaken if and when that limit is reached. Multeese also recommended that the lower limit for Class 2 should be set at 101 kW to avoid any confusion as to where the breakpoint occurs. NSPI, in its reply submission, agreed with that recommendation.

### **3. Environmental Credits**

[28] On the issue of environmental credits, HRWC requested that the proposed Regulation 3.6 be further amended so that:

...the transfer of emission credits or allowances to NSPI will only occur if and when NSPI provides evidence to the Board that it requires such emission credits or allowances to comply with the requirements of any enactment regulating its emissions.

(Exhibit N-5, p. 6)

[29] HRWC stated that a customer's net metering will reduce the demand that would otherwise need to be supplied by NSPI's coal, oil or gas based generating facilities so there will be an indirect contribution to NSPI's compliance with the existing Greenhouse Gas Regulations ("GHG"). HRWC went on to say:

...transfer or assignment of any emission credits or allowances by a net metering customer to NSPI does not count to offset the hard cap on direct emissions from NSPI's facilities under the existing Greenhouse Gas Regulations. Therefore there is no need to transfer or assign such emission credits or allowances to NSPI.

...once NSPI is in compliance therewith no future emission credits or allowances from subsequent net metering customers should need to be transferred or assigned to NSPI. To do so would provide a windfall to NSPI not contemplated or permitted by the Amendments.

(Exhibit N-5, p. 5)

[30] In its response, NSPI stated:

...HRWC's submission suggests that if there is no enactment currently which enables NSPI to use credits or allowances to comply with emissions regulation, that a customer is entitled to keep such credits or allowances. This misconstrues the provisions of the Act. It is a condition of a customer's participation that they transfer emissions or credits to NSPI -- that is, a customer can not participate unless they transfer any emissions credits or allowances to NSPI. There is no exception. NSPI then has an obligation to use them only to comply with emissions regulation. If there are currently no mechanisms in Nova Scotia to define or value emissions credits, it does not follow that section 3A(2)(c) of the Act simply does not apply.

(Exhibit N-6, pp. 10-11)

[31] NSPI also noted that this issue has been previously determined by the Board in a DSM proceeding and quoted the following from the Board's Decision 2009 NSUARB 116

[125] The Board orders that all environmental credits created by projects funded by DSM investments are to stay with the DSM Administrator for the benefit of all customers.

[32] NSPI further stated that its generation and GHG emissions are reduced by a customer's participation in net metering, therefore, a carbon credit exists due to the amount of electricity that NSPI did not produce.

## **V ANALYSIS AND FINDING**

### **1. Distribution Zone**

[33] Section 3A(2)(d) of the amended *Electricity Act* states that customers may have multiple meters under one account within a defined distribution zone, however, the *Act* does not define "distribution zone". NSPI interpreted "distribution zone" to mean "distribution feeders emanating from a single distribution supply transformer within a substation". NSPI also stated that this definition allows meter aggregation that is as broad as possible while protecting the economic integrity of alternate market arrangements under Open Access Transmission Tariff ("OATT").

[34] In its response to HRWC IR-1, NSPI listed each distribution zone feeder designation along with a general description of the geographic area served by each feeder. A footnote included in the response stated that "Distribution Zone boundaries are subject to change over time, due to changes in NSPI's network of feeders and transformers."

[35] HRWC suggested that net metering is a financial netting and not necessarily an actual transmission of electricity. However, as pointed out by NSPI, that does not appear to be what the *Act* provides. NSPI stated as follows:

NSPI respectfully submits that HRWC has misstated the effect and intention of the *Amended Electricity Act* in this regard. It is clear from the wording of the *Act* that a customer with multiple accounts within a singular distribution zone, can offset its own consumption through net metering. Customer accounts that do not reside within the same distribution zone as the net metered generator, are not offset and do not qualify for net metering. Section 3A (1) of the *Act* reads:

3A (1) A public utility may develop and maintain a program that will permit any customer to generate electricity for the customer's own use and to sell any excess electricity to the public utility at a rate equivalent to the rate paid by the customer for electricity supplied to the customer by the public utility. [emphasis added]

Section 3A(2)(d) provides

(2) The program must provide that

[...]

(d) customers may have multiple meters under one account within a defined distribution zone. [emphasis added]

There is no support to suggest that this wording can be construed so as to mean that a customer is permitted net meters in other distribution zones "so long as they have multiple meters under one account within a defined distribution zone". One would have to ask why a customer would be required to have multiple meters under one account within a defined distribution zone at all if there is no requirement that the netted meter itself be within the same defined distribution zone.

(Exhibit N-6, pp. 5-6)

[36] The Board agrees that NSPI's definition of a distribution zone is consistent with the intent of the amended *Act*, which is to limit interconnection of customer's net metered generation to the distribution system, in sufficient quantity to supply the customer's own requirements, without involving the transmission assets. To do otherwise would involve the OATT.

[37] However, the Board understands that effective operation of the distribution system may make it necessary to change the normally open points on distribution

circuits, thereby transferring customer load from one distribution zone to another, either on a temporary or permanent basis. Typical reasons for this may be directly related to service restoration following an outage, reliability or other service improvement, or perhaps improved economic operation of the network. Under this scenario and through no fault of the customer, a customer's aggregated load may no longer be consistent with NSPI's definition of a distribution zone. This situation will need to be addressed but that action can be deferred until such time as an actual occurrence is experienced. It will be NSPI's responsibility to identify this situation and to propose a resolution.

## **2. Capacity Limits**

[38] The amended *Electricity Act* states that the net metering program will permit any customer to generate electricity for the customer's own use and to sell any excess electricity to the utility. It also states that the capacity of the customer's generator is to be sized to meet the expected annual consumption of the customer and that the program will permit the customer to generate up to one megawatt of electricity. There is no other reference to an overall system limit for the net metering program nor any limit based on a range of generator sizes.

[39] In its Application, NSPI established a total system limit of 20 MW and separated that total capacity into two distinct classes with specific capacity limits. Class 1 is proposed to include generators up to 100 kW in size with a total limit of 5 MW while Class 2 is proposed to include generators between 101 kW up to 1 MW with a total limit of 15 MW.

[40] NSPI's reason for establishing those limits is that it will allow the utility to monitor and evaluate the program's cost recovery implications. However, NSPI also stated that the 20 MW limit is subject to distribution level capacity constraints within a distribution zone and doesn't guarantee that all connection requests can be accommodated. Mr. Whalen agrees with NSPI.

[41] Having considered the matter, the Board is not persuaded of a need to firmly impose either of those capacity limits at this time. The *Act* appears to be directed at encouraging increased levels of renewable energy from various participants. Imposing a capacity limit without providing compelling evidence to justify that limit seems inconsistent with the intended objective. The only capacity limitation that needs to be noted is the capability of each individual distribution zone.

[42] However, establishing two distinct classifications (up to 100 kW – Class 1 and 101 kW up to 1MW – Class 2) does appear to be appropriate in order to facilitate the interconnection process.

[43] NSPI provided no supporting evidence that it needs to impose a 20 MW capacity limit as a trigger to undertake a cost recovery analysis. In the Board's view that analysis can be undertaken at any point in time. If any action by the Board is required NSPI can request it. The Board anticipates that NSPI will be monitoring the level of uptake of the net metering program on an ongoing basis. The Board directs NSPI to provide the Board with an annual report regarding the level of uptake and the overall status of the net metering program.

### **3. Environmental Credits**

[44] Section 3A(2)(b) of the amended *Act* states that "...as a condition of participation, the customer transfer or assign all emission credits or allowances arising from the use of renewable energy sources to the public utility to enable the public utility to comply with the requirements of any enactment regulating emissions, but for no other purpose."

[45] HRWC made several references to NSPI's compliance with GHG caps and also that only sufficient emission credits or allowances need to be transferred or assigned to NSPI to comply with any enactment regulating its emissions. However, the amended *Electricity Act* does not refer to a specific enactment concerning emissions, nor does it suggest that only partial transfer or assignment of emission credits or allowances is permitted.

[46] The *Act* is clear that all emission credits or allowances associated with a net metered customer's generation must be transferred or assigned to NSPI as a condition of the customer's participation in the net metering program.

## **VI SUMMARY OF FINDINGS**

[47] The Board approves NSPI's amended net metering Regulation 3.6 with the following modifications:

- a) revise the lower limit of its Class 2 grouping to be 101 kW instead of greater than 100 kW

- b) remove the system-wide subscription limit of 20 MW as well as the Class 1 limit of 5 MW and the Class 2 limit of 15 MW.

[48] In addition, the Board accepts NSPI's requested 90-day implementation delay in order to provide sufficient time to ensure that all necessary administrative processes related to the application process and billing are in place.

[49] NSPI is directed to file an annual report with the Board by January 31<sup>st</sup> each year which provides a listing and details regarding each net metered customer generator connected to each distribution feeder. This annual report should also include details regarding any aggregated customer net metered load which was temporarily or permanently transferred to another distribution zone and the proposed reconciliation relative to the OATT.

[50] NSPI is to provide a form of Regulation 3.6 revised in accordance with this Decision by March 31, 2011, following which an Order will issue.

**DATED** at Halifax, Nova Scotia, this 21<sup>st</sup> day of March, 2011.

  
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Peter W. Gurnham