ONTARIO ENERGY BOARD

Board Staff Submission

Proceeding to Establish a Rate for Micro Embedded Generation Facilities having a Nameplate Capacity of 10kW or Less

EB-2009-0326

December 10, 2009

Background

The Ontario Energy Board (the Board) has commenced a proceeding on its own motion to "determine a just and reasonable rate to be charged by an electricity distributor for the recovery of costs associated with an embedded generator having a nameplate capacity of 10 kW or less (embedded micro generator) that meets the eligibility requirements of the Ontario Power Authority's (OPA) microFIT program".

The following submissions of Board staff are intended to assist the Board in setting a just and reasonable rate for embedded micro generators.

Discussion and Submission

Service Classification

Issue Number 1 in the final issues list stated:

- Is the description/definition for the embedded micro-generation service classification shown in Appendix D appropriate? If not, what should be the description/definition of this service classification?

Appendix D of the Board's Decision and Procedural Order No. 2 contained the following description of the service classification for embedded micro-generation accounts:

"This classification applies to an electricity generation facility meeting the eligibility requirements of the Ontario Power Authority's microFIT program and connected to the distributor's distribution system. To be eligible for the microFIT program, the nameplate capacity of the generation facility can not be greater than 10 kW."

The Canadian Solar Industries Association (CanSIA), and the Electricity Distributors Association (EDA) stated that the service classification description was appropriate. Hydro One Networks' Inc. (Hydro One) did not provide comment on this issue.

Enwin Utilities (EU) proposed[1] that another proceeding be commenced immediately to address1) other renewable generators and 2) other micro generators of 10 kW or less in order to mitigate the influence of regulatory classification from impacting business decisions. According to EU, implementing
a comprehensive set of generator rate classifications simultaneously would facilitate building understanding among generators and potential generators. A broad application of charges to all generators would likely, in EU's view, be perceived as a fairer application of charges, rather than charges that target certain generators.

[1] EU's submission, page 1

To the same effect, ALASI noted [2] that the service classification shown in appendix D is not appropriate. ALASI stated that "Our analysis of the Renewable Energy Industry leads us to conclude that in the near future a greater degree of distinction will be required of generator classes and connection types in order to appropriately regulate, value, and if applicable, compensate various stakeholders in the areas of; connections, metering, settlement, participation, and, related distribution and transmission service investment requirements".

Board Staff suggests that the Board may wish to consider whether the description of the service classification should be amended to address the following:

- Whether, from a practical standpoint, the service classification definition should refer to an electricity generation facility having a contract with the Ontario Power Authority (OPA) rather than referring to an electricity generation facility meeting the eligibility requirements of the microFIT program.

- Whether other energy facilities with a capacity of 10 kW or less should be included in the service classification.

Board Staff sees merit, as suggested by EU and ALASI, in expanding the service classification to include generation with a capacity of 10 kW or less for generators that have a separate generation account from any associated load (this is required for embedded retail generators[3] other than those connected indirectly "in series" and that do not have a microFIT contract). That would include generators under the Renewable Energy Standard Offer Program (RESOP) with a nameplate rated capacity of 10 KW or less, and all types of micro size embedded retail generation, not just renewable. Board staff suggests that this change may be appropriate since any micro size embedded generator who is required to have a separate account will require metering, billing and settlement services by the distributor. The costs to a distributor of administering such embedded micro generator accounts would therefore be similar to the costs associated with a generation facility that has a contract under the microFIT program.

As such, Board staff suggests that the Board may wish to consider the following service classification description:

"This classification applies to embedded retail generators as defined in the Distribution System Code that: i) have a nameplate rated capacity of 10 kW or less; and ii) that are required to be treated for billing and settlement purposes as a separate account from any associated load account at the same location.

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[2] ALASI's submission, page 5

[3] According to the DSC, "embedded retail generator" means a customer that: (a) is not a wholesale market participant or a net metered generator (as defined in section 6.7.1); (b) owns or operates an embedded generation facility, other than an emergency backup generation facility; and (c) sells output from the embedded generation facility to the Ontario Power Authority under contract or to a distributor.

Cost Elements to be Recovered

Issue Number 2 in the final issues list stated:

- Are the same cost elements applicable to all micro-generation customers?

- If so, what cost elements should be used to establish the rate? Based on the Uniform System of Accounts (USoA), which specific accounts or components ought to be included in the development of the rate?

- If not, what cost elements should be used to establish the rate? Based on the USoA, which specific accounts or components ought to be included in the development of the rate for microFIT projects that are:

    a. Directly connected
    b. Indirectly connected
    c. Owned by the load customer entity at that location vs. owned by different entity

The EDA stated that many of the costs associated with residential and small general service (<50 kW) load customers will be associated with microFIT generation customers. Based on a review of the cost items in the load customer fixed charge as defined by the Board's cost allocation model, the EDA recommended the inclusion of the following cost items in the microFIT generator charge.

- Operation Supervision and Engineering (Account 5005)
- Load Dispatching (Account 5010)
- Customer Premises - Operation Labour (Account 5070)
- Customer Premises - Materials and Expenses (Account 5075)
- Maintenance of Meters (Account 5175)
- Meter Reading Expense (Account 5310)
- Customer Billing (Account 5315)
- Amortization Expense - General Plant assigned to Meters
- Admin and General
- Allocated PILs
- Allocated Debt Return
- Allocated Equity Return

The EDA further stated[4] that the same cost elements should be applicable to all microFIT customers, regardless of whether they are directly or indirectly connected, owned by the load customer entity or a different entity. The EDA indicated that the

[4] EDA's submission, page 2

generator charge should be the same regardless of connection type or ownership for the sake of consistency, fairness, efficiency and to minimize confusion,

The EDA stated[5] that anticipated additional costs of Operation Supervision and Engineering (account 5005) are tied to the requirement of tracking the location, size, and operating status of each of the microFIT generation connections to the distribution system.

The EDA also mentioned[6] that additional costs related to Load Dispatching (Account 5010) are tied to the additional complexity arising from micro-generators requiring two-way electricity flow, compared to the traditional electricity distribution system which was designed for the electricity to flow in only one direction.

The EDA's list of cost items did not include the depreciation expenses associated with metering costs. On the one hand, the EDA stated[7] that Depreciation on Account 1860 - Meter Assets was excluded as the generator customer is required to pay upfront for the cost of the meter. On the other hand, the EDA mentioned that they understood[8] that the long-term replacement of the meter would be the responsibility of the distributor.

The EDA further indicated[9] that since the customer is required to pay for the meters, Account 5065 (Meter Expense) was excluded.

The EDA also mentioned that there may be different cost drivers in those cases where facilities are added when no existing load customer exists [10].

EU stated that not all distribution system cost elements will be common to all microFIT generators. They expressed a concern that administering indirect-series connected micro-generators will drive higher administrative costs to perform "deduct metering" for associated load accounts. EU further mentioned[11] that it will be especially difficult to segregate back-end customer issues related to indirect-series connections given the relationship between the load and generation accounts.

EU further indicated[12] that "who causes what costs" depends entirely on the way one perceives the current and evolving functions of networks and the benefits obtained by the connected singularities. Cost responsibility for those networks could just as easily be assigned to load or generation customers.

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[5] In response to Board Staff interrogatory #1, ALASI interrogatory #1A and Federation of Ontario Cottagers' Associations (FOCA) interrogatory #4
[6] In response to Board Staff interrogatory #2 and FOCA interrogatory #4
[7] In response to Board Staff interrogatory #3 and Vulnerable Energy Consumers Coalition (VECC) interrogatory #2a
[8] In response to ALASI interrogatory #3A
[9] In response to Board Staff interrogatory #3
[10] In response to interrogatory from London Property Management Association (LPMA) interrogatory #4d
[11] In response to Board Staff interrogatory #1
[12] In response to Board Staff interrogatory #2

EU however acknowledged[13] that they do not have experience in managing a distribution system designed to accommodate both its load customer population and an extensive number of micro-generators. Accordingly they did not take a position in their proposal in respect of the particular incremental costs arising out of the arrival of extensive grid-connected distributed renewable micro-generation.

Hydro One stated that microFIT generators use the same facilities as the main account for the load customer, and that the only incremental facility required is a meter. As a result, Hydro One submitted that a fixed charge equivalent to the fixed charge credit provided to the Unmetered Scattered Load (USL) customers in the EB-2009-0096 proceeding could apply to microFIT generators. The fixed charge credit to the USL customers included the following cost elements:

- Depreciation on Account 1860 Metering
- Depreciation on General Plant Assigned to Metering
- Account 5065 - Meter expense
- Account 5070 & 5075 - Customer Premises
- Account 5175 - Meter Maintenance
- Account 5310 - Meter Reading
- Admin and General Assigned to Metering
- PILs on Metering
- Debt Return on Metering
- Equity Return on Metering

Hydro One stated[14] that they agree with the EDA's submission on cost categories. However, Board staff notes that some differences exists between the cost elements suggested by the EDA and Hydro One. In particular, cost items associated with Operation Supervision and Engineering (Account 5005), Load Dispatching (Account 5010) and Customer Billing (Account 5315) were included in the EDA's evidence but were excluded in the Hydro One evidence. Hydro One indicated[15] that they agree that these accounts should be included but did not include them in order to maintain a simplified approach that could be applied in a timely manner and suggested that the inclusion of these costs be considered when more experience becomes available with the connection and operation of microFIT facilities.

Hydro One also noted [16] that if the owner of the generator is different from the owner of the load, there could be other incremental costs that need to be considered.

[13] In response to LPMA interrogatory #3, School Energy Coalition (SEC) interrogatory #3 and VECC interrogatory #2
[14] In response to SEC interrogatory #4
[15] In response to Board Staff interrogatory #3
[16] In response to SEC interrogatory #5

ALASI stated [17] that the same cost elements should be applicable to all microFIT embedded renewable energy generators but suggested that no cost elements should be recovered directly from these facilities. ALASI also stated[18] that most of the costs that may be incurred are recovered by the subsequent sale of energy back to the associated load customer or to a nearby load customer.

CanSIA submitted [19] that the costs associated with billing, metering, administration and settlement act as a barrier and deterrent to the deployment of micro-scale renewable energy projects across the province. CanSIA suggested that these should not be borne by microFIT generators but they should be socialized into the utility's electricity rate borne by the entire consumer base.

In response to parties that have proposed that embedded microFIT generators should not bear any of these costs, Board Staff suggests that based on the principle of cost causality, the costs of administration imposed on distributors by embedded micro generators should be borne by the generators.

Board Staff notes that as a guiding principle, the cost elements to be included in the rate should reflect the additional costs to distributors of administering embedded micro generators' accounts.

Board Staff observes that there are commonalities and differences between the EDA's and Hydro One's lists of proposed cost elements, as summarized in Appendix 1. The differences relate to the five cost elements identified below:

- Operation Supervision and Engineering (Account 5005), Load Dispatching (Account 5010) and Customer Billing (Account 5315) are included in the EDA list but excluded from the Hydro One's list.

- Depreciation on Account 1860 - Meter Assets and Meter Expense (Account 5065) are included in Hydro One's list but are excluded from the EDA's list.

Board staff notes that the Procedural Orders issued in this proceeding identified the rate at issue as being for the recovery of the costs of a distributor associated with the administration of embedded micro generator accounts. Board staff is of the view that the Operation Supervision and Engineering (Account 5005), and Load Dispatching (Account 5010) should be excluded from the cost elements since they relate to distribution system design issues and related costs and are therefore out of scope. Board staff supports the inclusion of the Customer Billing (Account 5315)

[17] ALASI's submission, page 8
[18] In response to SEC interrogatory #6
[19] CanSIA's submission, page 3

account since the presence of separate generation accounts for embedded micro generators would impose additional costs on the distributors.

Board staff believes that Depreciation on Account 1860 - Meter Assets should not be included in the cost element list since embedded micro generators are required to pay for the costs of the meter pursuant to section 6.2.7 of the Distribution System Code. In Board staff's view, despite the fact that the ownership of the meter is with the distributor, a capital contribution from a generator would offset the costs of the meter in the distributor's rate base. Since the return of the capital would be calculated on the basis of the net book value of the asset, Board staff concludes that Depreciation on Account 1860 - Meter Assets should be excluded. Similarly, the return on the capital is also calculated on the basis of the net book value of the asset. Board staff therefore submits that the Allocated Debt and Equity Return is not necessary and therefore should be excluded.

With respect to operating and maintenance costs associated with the meter, Board staff reiterates that while the generators are required to pay upfront for the cost of the meter, the ownership of the meter resides with the distributor. Board staff therefore suggests that both operating (Account 5065) and maintenance expenses (Account 5175) associated with the meter be included in the list of applicable cost elements.

Board staff notes that the EDA's inclusion of Amortization Expense-General Plant assigned to Meters, Admin and General, and Allocated PILS appears to be reasonable.

In conclusion, Board staff submits that the following cost elements should be considered in the determination of any new rate or rates that would be applicable to embedded micro generators:

- Customer Premises - Operation Labour (Account 5070)
- Customer Premises - Materials and Expenses (Account 5075)
- Meter Expenses (Account 5065)
- Maintenance of Meters (Account 5175)
- Meter Reading Expense (Account 5310)
- Customer Billing (Account 5315)
- Amortization Expense – General Plant assigned to Meters
- Administration and General expenses allocated to Operating and Maintenance expenses for meters
- Allocated PILS

Rate Design

Issue Numbers 3 and 4 in the final issues list stated:

- Should the approved rate be a uniform rate for all distributors, or should different distributors have different rates?

- Should the costs be recovered through a fixed charge, a volumetric rate or a combination of the two? If there is to be a volumetric rate, what should be the basis for establishing the charge determinant? If there is to be a combination of fixed and volumetric, what should be the basis for the cost recovery split?

ALASI stated that the approved rate should be a uniform rate for all distributors across Ontario. They recommended that costs for microFIT embedded renewable energy generation facilities should be recovered through the introduction of a province-wide rate called the "Renewable Energy Recovery Fee" (RERF). ALASI also stated[20] that RERF should recover only the incremental participation costs related to generation meter, meter reading, account management and settlement, and be a monthly charge charged to all customers.

CanSIA stated that there should be no payment required from microFIT generators regarding billing, metering, administration and settlement costs.

The EDA recommended that costs should be recovered through a fixed charge and that a volumetric based approach is not appropriate because the "continuing costs for the connection of the microFIT generator do not vary with output"[21]. In terms of a uniform rate for all distributors vs. distributor-specific rates, they recommended a two-phase approach. Phase 1 would involve a single provincial microFIT generator customer charge. For each of the identified cost components, the figures allocated to it by all the distributors in Ontario would be summed and an average calculated. Then, the average for each line item would be summed to establish the provincial generator customer fixed charge. In Phase 2, distributors would be able to apply for a distributor-specific rate.

EU stated that given the relatively small capacity band for this rate class (i.e. 10 kW or less) and the complexity associated with developing and maintaining a schedule of capacity rates, they propose that costs be recovered through distributor-specific fixed rates.

Hydro One proposed a fixed monthly charge of $6.15, the equivalent of the fixed charge credit provided to USL customers. This figure was based on data for the General Service Energy (GSe) class. Hydro One also stated[22] that a similar calculation for their four residential classes yielded charges ranging from $5.37 to $7.27. Hydro One further stated[23] that they would prefer that each distributor have specific rates that reflect their costs. They added that they have no concerns if the Board initially sets a single

[20] In response to Board Staff interrogatory #1 and #2
[21] EDA's submission, page 2
[22] In response to Board Staff interrogatory #2
[23] In response to LPMA interrogatory #1

provincial microFIT generator charge followed by distributor specific charges in the future.

Board Staff agrees with the EDA's recommendation that costs should be recovered through a fixed charge since the cost elements to be recovered are fixed costs. Board Staff submits that it would be appropriate to start with a single provincial customer fixed charge for all embedded micro generators as it could be implemented in a timely manner. Board staff further suggests that in a manner similar to the one proposed by the EDA, the single provincial customer charge would be derived by calculating an average of the allocated costs to the residential class for the cost elements approved by the Board in this proceeding. As experience is gained, distributors could elect to apply for a distributor-specific fixed charge as part of a cost-of-service application.

Implementation

Issue Number 5 in the final issues list stated:

- What should the effective date be for any new rate or rates created by this proceeding? Does the incentive regulation framework pose any difficulties for implementation?

ALASI stated that the effective date for the new rates should be retro-active to at least one year prior to the launch of the RESOP, or such other date as deemed to be the earliest point in time where a customer may have known or reasonably expected that the Government of Ontario would introduce Renewable Energy Feed-In Incentives. ALASI also stated[24] that implementation be made retroactive in order to credit those in-service facilities that have already paid fees to their distributor.

CanSIA stated that new rates should be implemented as soon as possible.

The EDA recommended May 1, 2010 as the effective date for the introduction of the new rates.

EU stated that sufficient advance notice should be provided in order to modify metering and billing systems and proposed May 1, 2010 as the implementation date.

Board staff notes that Procedural Order No.1 issued on September 21, 2009 with respect to this proceeding ordered an interim rate for embedded micro generators being a fixed monthly charge equal to the distributor's existing residential monthly service charge. The Board therefore allowed itself the flexibility to adjust the implementation of any rate determined through a final rate order at the conclusion of this proceeding. Board Staff submits that September 21, 2009 would be a suitable effective date for any

[24] In response to SEC interrogatory #10

new rate or rates established in this proceeding, particularly if the Board were to extend the service classification to cover generators beyond those that are eligible for the microFIT program.

APPENDIX 1

Comparison of cost elements proposed by the EDA and Hydro One	
Electricity Distributors Association	Hydro One
	Depreciation on Account 1860 Metering
	Account 5065 – Meter Expense
Operation Supervision and Engineering (Account 5005)	
Load Dispatching (Account 5010)	
Customer Premises – Operation Labour (Account 5070)	Account 5070 & 5075 – Customer Premises
Customer Premises – Materials and Expenses (Account 5075)	
Maintenance of Meters (Account 5175)	Account 5175 – Meter Maintenance
Meter Reading Expense (Account 5310)	Account 5310 – Meter Reading
Customer Billing (Account 5315)	
Amortization Expense – General Plant Assigned to Meters	Depreciation on General Plant Assigned to Metering
Admin and General	Admin and General Assigned to Metering
Allocated PILs	PILs on Metering
Allocated Debt Return	Debt Return on Metering
Allocated Equity Return	Equity Return on metering