June 30, 2009

Ms Kirsten Walli
Secretary
Ontario Energy Board
2300 Yonge Street, 26th Floor
Toronto, Ontario M4P 1E4

Re: Notice of Proposed Amendments to the Distribution System Code
Board File No. EB-2009-0077

Dear Ms. Walli:

In response to the Board's notice in this matter, AMPCO provides the following comments.

General Comments

AMPCO has serious reservations about this proposal. Because the Board has not conducted the Distribution Cost Connection Responsibility Review (DCCRR), AMPCO has not had the opportunity to learn the interests and perspectives of other stakeholders. Therefore, these comments are not as well informed as would be the case following a typical public consultation or working group process by the Board.

Nonetheless, AMPCO's general concerns can be categorized in five areas:

1. The proposed amendments are premature both with respect to the policies they intend to implement and the lack of prior stakeholder consultation needed to ensure thoroughness and quality. The Act provides clearly that some costs may be recovered from all customers in Ontario, yet the proposed amendments appear to sidestep the lack of a cost recovery process by assigning (temporarily?) cost responsibility for all non-generator costs to distributors.

2. Assignment of Cost Responsibility and development of Cost Recovery mechanisms cannot and should not be easily separated.

3. The amendments as written would significantly impair the transparency of costs that consumers will pay for both renewable generation and distribution services, and conflict with the Board's objective to protect the interests of consumers.

4. The proposed amendments will create disincentives to conservation and energy efficiency, and conflict with the Board's objectives as modified by the Act.

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5. The proposed amendments will encourage over-investment in distributor assets, and conflict with the Board's objectives to protect the interests of consumers and encourage conservation and promote efficient demand management.

6. The new definitions and process may produce unintended and inefficient outcomes.

7. The technical and cost assumptions underlying the proposed amendments may be incorrect.

Following, a more detailed discussion of the numbered points made above:

1. **The proposed amendments are premature.**

The rationale for this Board initiative is in the direction provided to the Board and distributors in the *Green Energy and Green Economy Act, 2009*. The Act received assent on March 14, but regulations have not yet been published.

Government policy statements to date have not provided unambiguous guidance with respect to cost responsibility or cost recovery, nor have the essential regulations of the Act been published. Indeed, the background specifically notes that the Board may need to revisit the policies being proposed here. This level of uncertainty does not support the development of detailed amendments at this time.

The Board has not conducted the stakeholder process it committed to when it announced that a DCCRR process would follow the TCCRR.

By not involving all stakeholders in the development of this initiative, the Board is sacrificing quality and depriving itself of the opportunity to inform itself of all concerns and risks. The Board should conduct an appropriate stakeholder process, rather than shortcut stakeholder involvement in the name of expediency.

An example of the problem is revealed in the new definitions that have been introduced, as well as the revisions to existing definitions.

The revision of the definition of "connection assets" in Section 1.2 is typical. The rewording of this definition modifies it to state that the assets are "not expected" to be shared by other customers. Aside from the issue of how one is to agree that other customers are "not expected" (no time horizon, or identification of who owns the expectation is given), there is no discussion of how the "unexpected" would be accommodated. Would a generator have a legitimate claim for compensation if a load customer were connected in the future? If so, how would such compensation be calculated? If the new connection were a load customer, should the distributor charge a portion of all costs (including the $90,000), or just a portion of those charged to the generator? Would distributors still need to keep track of the depreciated value of these connection assets, or is that process no longer needed because additional connections are "not expected"? What if the generator is also a load customer? What would the process be if a generator did not want a future load or competing generator connection added?

There are also other potential issues that may arise from this definition change, including the potential for both new loads and new generators to receive subsidised connection costs where additional customer in the future may be "expected".

The foregoing discussion is not meant to exhaustively cover all the issue with the new or changed definitions, or even this one. Rather, it is meant to highlight that the Board needs to hear all views possible on these changes and the absence of a proper stakeholder process removes that opportunity.

2. Cost Responsibility and Cost Recovery are not easily separated

From the customer perspective, how costs are recovered is of vital importance. It is well understood that some distributors will need to accept more renewable generation than others if for no other reason than because renewable resources are unevenly distributed across the province.

If costs are recovered from customers primarily via their bill for local distribution services, an unfair burden may fall on those customers in areas where more renewable resources are available; this would seem an unfair outcome. Logically, at least some of the cost of renewable generation will be distributed among all customers in the province, either in the energy portion of the bill or through an unbundled charge of some sort.

In sum, it seems likely that cost recovery will be complex, with some costs recovered through some sort of provincial pooling arrangement and others via local distribution charges. The concept of local distributor responsibility for costs that may be recovered provincially raises a number of issues. For example, customers of one distributor would then have an interest in how well another distributor was controlling the costs of renewable enabling improvements. Also, if a distributor knows it will receive recovery of some cost from customers other than its own, it may not be well incented to control such costs.

Today, Ontario's distributors have the assets in place that are needed to provide acceptably reliable service to their customers. AMPCO is not aware of any studies quantifying the costs and benefits of improved or new services for load customers. This suggests that the benefits of the additional costs with which these proposed amendments are concerned will largely accrue to the renewable generation they facilitate and thence on to all customers, in the form of the societal benefits of renewable energy. To assign responsibility for the majority of these costs to the distributor seems incorrect.

It may be that the most equitable way to assign costs that are to benefit all Ontarians and be recovered from all Ontarians is to assign cost responsibility to the generator and not the distributor. The rates received through the supply contract (e.g., FIT) for the generation could then be structured to ensure this outcome.

3. The amendments as written inhibit transparency.

Costs which remain the responsibility of the distributor, such as perhaps the recommended $90,000/MW credit for "expansion", will get buried in the distributor's rate base and recovered from the distributor's customers.

These are not trivial costs. The total asset base of all Ontario distributors in 2007 was $10.1B[1]. Assuming that these assets have total capacity of approximately twice peak provincial demand (generally, distributor assets have relatively low utilization due to lack of diversity at the customer level and the need for redundancy at the system level), distributors on average likely

[1] 2007 Handbook of Electricity Distributors, Page 4

have a capacity investment in the range of $10,000 - $30,000 per MW. Clearly, the "free" expansion being offered to generators in these amendments represents a significant transfer of cost away from cause. This does not include the unknown and so far un-estimated cost of Renewable Enabling Improvements or distribution plans intended to support distributed generation.

One result will be that distributors with significant levels of new renewable generation will appear to be less efficient than their peers without such obligations.

By separating the responsibility for costs associated with renewable generation as described in this proposal, the ability of customers and policy makers to make informed judgements about the efficacy and advisability of renewable generation initiatives will be impaired.

Transparency would be improved significantly if the DCCRR were undertaken with an objective of discovering at a useful level of detail, which costs associated with renewable generation will also provide ancillary benefits to other customers and then limiting distributor responsibility to such costs. This would enable useful discovery of the true cost of renewable generation and retain the ability of customers to assess the productivity of the distributors that serve them.

4. The proposed amendments will disincent conservation and energy efficiency.

While it is not noted in this document, the Act also amends the Board's objectives to include the promotion of energy conservation and energy efficiency. The logical corollary is that the Board should not implement measures that act to disincent energy conservation and energy efficiency.

As written, the amendments move costs associated with the generation of electricity onto the distributor, which can charge only for the distribution of electricity. An essential foundation for the promotion of conservation is that customers need to receive a clear price signal that relates their energy consumption to the cost of providing that energy.

Once built, distribution or transmission asset costs must be recovered from customers, regardless of whether they conserve energy or not. AMPCO is acutely aware of the reality that once built, customers must pay for the distribution assets that serve them.

On the other hand, a price signal related to the cost of energy can be effective at encouraging conservation, in line with the Board's mandated objective. Smart meters are one example of an initiative intended to bring a clear energy price signal to all customers.

To the extent that costs associated with the supply of energy are transferred into distribution costs, the price signal that supports energy conservation is muted. In AMPCO's view, these amendments will incorrectly shift costs from energy production to distribution and the result will conflict with the Board's objectives to promote conservation and protect the interests of consumers.

5. **The proposed amendments will encourage over-investment by distributors**

Through the FIT or similar processes, generators are paid for the energy they produce from the asset investments they make. The generator has an incentive to minimize cost per unit of production. In contrast, distributor income increases as the assets in its rate base increase. To the extent costs are shifted from generators to distributors, generators cease to have an interest in

the cost of the assets that serve them, while the distributors has an incentive to maximize the investment in these same assets.

The proposed amendments thus create incentives for both generators and distributors that are counter to the interests of consumers.

Also, there are at least two ways under the proposed amendments that generators might inappropriately minimize their cost at the expense of consumers.

The simplest approach would be to convince the distributor that significant amounts of renewable generation are coming to its service territory and that the distributor needs to make investment plans and undertake renewable enabling improvements in order to meet these future needs. This process is analogous to what a transmitter would do to increase supply to a distributor who believes it will need increased supply in the future. However, transmitters can protect their investment by securing a commitment from the distributor that the assets being built will be used. If not, the TSC provides the transmitter with recourse. The proposed DSC amendments provide no recourse to the distributor (and the customers who must ultimately pay for the assets) if the anticipated generation projects do not materialize.

Because distributors increase income as they increase assets in their rate base, they have little incentive to question the need for such enhancements. The only parties with an interest in controlling these costs are consumer intervenors and the Board, neither of which may have the experience or available information to be fully effective.

Another, minor way in which generators can minimize their cost with the proposed amendments is to overstate the capacity of their projects. According to the proposed amendment to section 3.2.2, the "renewable energy expansion cost cap" is calculated by multiplying the name-plate rated capacity of the renewable generation facility by $90,000 per MW. Name-plate rate capacity is undefined.

Any generation facility will contain within it a variety of equipment, with various capacity ratings. Capacity ratings are not always simple and may be contingent on specific conditions, such as power factor, supply system impedance, operating temperature or average angle to the sun (for solar power). Under the proposed amendments, a generator could logically argue that the system component with the largest capacity rating represents the true capacity of the generation facility, when in fact the generator may never deliver this capacity.

Aside from minimizing the amount of money the generator may have to contribute above the cost cap, there are two other problem with using "name plate capacity".

First, it could lead to the distributor installing greater distribution system capacity than is efficient from an economical or energy perspective (e.g., excessive upgrading of a substation can increase energy losses).

Second, it could incent the generator to actually purchase and install more capacity than can be delivered from the fuel or energy source, if the cost of incremental "name- plate" capacity is less than $90,000/MW.

Finally, the benefits of renewable generation in general accrue from the energy they deliver, which replaces non-renewable fuel sources such as natural gas. Capacity is a lesser consideration, since most renewable generation cannot be scheduled. While it may be administratively simpler to measure capacity, this determinant is not reflective of the value the generator presents and should not be used. It may be more complex to develop a credit estimate based on prospective delivery of energy, but such a mechanism would better align with the benefit to consumers. AMPCO recommends that, if any expansion credit mechanism is used, it should be based on energy, not capacity.

6. **The new definitions and process may produce unintended and inefficient outcomes.**

The proposed amendments attempt to discriminate between "expansion", "enhancements" "renewable enabling improvements" and "distribution planning" in the context of renewables.

One problem is that the definitional difference between an expansion and a renewable enabling enhancement appears rooted in equipment differences. For example, the language referring to expansion refers to increasing the length of the system (presumably building more line) and presumably would include conversion of a single phase line to a three phase one, if it were not otherwise needed for general load growth.

From an engineering perspective, many technical challenges can be met by a variety of technical options. For example, larger wire, voltage conversions, tie lines, SCADA, switched capacitors and under load tap changers (ULTC) in distributing stations can each provide similar benefits to voltage regulators, depending on the circumstance. To attempt to slot specific hardware types into policy definitions is risky.

One example of the issue would arise if, to connect a new generator, a portion of a feeder needs to be converted from single phase to three phase. In doing so, the existing single phase customers close to the generator could be exposed to over-voltage, which could be addressed by adding voltage regulators near the generator on the new line. Is the voltage regulator a "renewable enabling improvement" or part of the system expansion? It could be argued either that it is a piece of equipment necessary to enable renewable generation or that it is actually a specific part of the distribution system necessitated by the particular generator.

7. **The assumptions underlying the proposed amendments may not be correct.**

The background notes that the cost estimate used to determine the level of the renewable energy expansion cost cap was developed from a review of some 300 projects, with an average capacity size of 10MW.

Ten MW is a large amount of capacity in comparison to the average feeder or distributing station capacity of most Ontario distributors. Most distributing stations in Ontario are 10MW or smaller and most feeders supply less than 5 MW. This means that, when a 10MW supply is added to a relatively small station and even smaller capacity feeder, significant modifications to the system will be required, at a relatively high cost.

On the other hand, generators that are small relative to the local feeder or distributing station capacity may be accommodated with relatively few modifications. A small generator of, say, 1 MW could be readily accepted on a feeder with a minimum load of greater than 1MW, with little cost.

It should be expected that, as time goes on, renewable generation connected to the distribution system, will on average decline in capacity. There are two reasons for this expectation. First, it can reasonably be assumed that the best initial, large opportunities for renewable generation get proposed built before more marginal projects. In short, there is only so much low hanging fruit that is economic. Second, as technology advances, the unit cost of generation declines for small units, facilitating a shift to more and smaller generators.

In sum, basing assumptions on a sample that is loaded with relatively large projects may not produce reliable cost estimates.

AMPCO suggests that the Board review experience in other jurisdiction where small distributed generation has been encouraged in a manner similar to Ontario's FIT process, to determine what the likely technical and cost requirements may be.

In closing, AMPCO respectfully submits that the proposed amendments should not be implemented until a more thorough stakeholder process is completed and the government provides specific direction on how costs should be recovered when the benefits accrue to all customers. As always, AMPCO is prepared to assist this process to the best of its ability.

Please contact Wayne Clark (705-728-3284) if you have further questions regarding these comments.

Yours truly,

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for Adam White
Association of Major Power Consumers in Ontario