PROPOSED AMENDMENTS TO THE DISTRIBUTION SYSTEM CODE REGARDING CONNECTION COST RESPONSIBILITY FOR RENEWABLE DISTRIBUTED GENERATION

EB-2009-0077

Comments of the Power Workers' Union ("PWU")

INTRODUCTION

1. On June 5, 2009, the Ontario Energy Board ("OEB" or the "Board") issued a Notice of Proposal to Amend the Distribution System Code (DSC) revising its current approach to assigning cost responsibility in relation to the connection of renewable generation facilities to distribution systems. The amendments are intended to facilitate implementation of the Government's policy objectives regarding renewable generation.

Background

a. The Current Cost Responsibility Policy

2. The Board notes that cost responsibility associated with investments in distribution infrastructure is governed principally by the DSC. The DSC contemplates two types of costs related to generation connections: costs associated with the connection assets and costs associated with any "expansion" to the distribution system that may be triggered by a connecting generator.

3. The current cost responsibility policy framework makes a generator that connects to a distribution system responsible for all of the costs of connecting its generation facility to the distribution network, including any costs associated with distribution and transmission system upgrades beyond the connection point that are required to accommodate the generation facility. The costs are payable up front, and the assets are not added to the distributor's rate base. The DSC also makes provision for the rebate of a portion of the distribution system expansion

costs where a subsequent generator connects to the distribution system and obtains the benefit of reinforcements paid for by an earlier generator.

4. The proposed amendments align the DSC with the *Green Energy and Green Economy Act (GEGEA), 2009*, which received Royal Assent on May 14, 2009. The Board notes that the *GEGEA* will, when proclaimed, make a number of amendments to *the Ontario Energy Board Act* (the "Act") including those relevant to the issue of cost responsibility associated with the connection of renewable generation facilities to a distribution system. The amendments that impact connection cost responsibility include, among others, the following:

a. A new objective for the Board of promoting the use and generation of electricity from renewable energy sources in a manner consistent with the policies of the Government of Ontario, including the timely expansion or reinforcement of transmission systems and distribution systems to accommodate the connection of renewable energy generation facilities (paragraph 5 of subsection 1(1) of the Act).
b. New deemed conditions of license that will require distributors and transmitters to:
    i. file for Board approval plans for the expansion or reinforcement of their respective systems to accommodate the connection of renewable energy generation facilities; and;
    ii. expand or reinforce their respective systems in accordance with those respective Board-approved plans or as otherwise mandated by the Board or prescribed by regulation.

5. The Board notes that the *GEGEA* will introduce regulations which will have implications for a number of its current initiatives including those on DSC and TSC amendments related to cost responsibility, cost recovery and regulatory

treatment of infrastructure investment.[1] For example, the *GEGEA* will introduce a mechanism whereby Board-approved costs incurred by a distributor to make an "eligible investment" for the purpose of connecting or enabling the connection of a "qualifying generation facility" to its distribution system may be recovered through contributions payable by all consumers throughout the Province. Also, the *GEGEA* will introduce a new regulation-making power that empowers the Lieutenant Governor in Council to make regulations prescribing circumstances under which a transmitter or distributor shall bear the costs of construction, expansion or reinforcement associated with the connection of a renewable energy generation facility to the transmitter's transmission system or the distributor's distribution system (subsection 88(1)(g.6.0.1) of the Act.

6. The Board states that to the extent that any such regulation is made, the Board may need to revisit the policies proposed in its Notice. The Board is of the view that cost recovery is an issue separate and apart from that of cost responsibility and that the rules applicable to cost recovery need not and should not dictate or drive the outcome on the issue of cost responsibility[2]. The Board adds that the *GEGEA* makes it clear that the connection of renewable energy generation facilities is a policy matter of priority for the Government. For all the reasons above, the Board states that it believes it is desirable to move forward with its review of the assignment of cost responsibility associated with the connection of renewable generation facilities to distribution systems.

PWU's COMMENTS ON THE PROPOSED AMENDMENTS TO THE DSC

A. Connection Cost Responsibility Options

7. The Board states that it considered three criteria in evaluating the different options:

a. The anticipated beneficiary of the investment:

[1] Ontario Energy Board: EB-2009-0077, Notice of Proposal to Amend a Code: Proposed Amendments to the Distribution System Code, June 5, 2009, page 2-3

[2] Ontario Energy Board: EB-2009-0077, Notice of Proposal to Amend a Code: Proposed Amendments to the Distribution System Code, June 5, 2009, page 3

The identification of distribution system investments that principally benefit the connecting renewable generator, versus those that have significant potential of benefiting multiple generators and/or other end-users on a particular distribution system.

b. Efficiency:
The provision of signals that will promote efficient connections and thereby reduce the need for additional distribution facilities to connect renewable generation

c. Harmonization:
The alignment of cost responsibility with the obligation of distributors to plan to expand their distribution systems as directed by the Board in order to accommodate renewable generation

8. The Board identifies three categories of distribution system investments for the purposes of assigning cost responsibility in relation to the connection of renewable generation facilities:

a. connection assets;
b. expansions; and
c. renewable enabling improvements.

a. Connection Assets

9. The term connection assets refers to assets that are provided to enable the connection of a specific generation facility. While the general understanding is that these assets are not shared, and are not expected to be shared, they are not explicitly defined as such in the DSC. Currently, the costs of connection assets are borne by the connecting generator.

10. The Board proposes that the current policy that assigns cost responsibility to the generator should continue as the connecting generator is expected to be

the sole beneficiary of the investment. The PWU supports the proposal and also agrees with the Board's view that generator cost responsibility for connection assets will encourage the efficient siting of generation facilities. The PWU also supports the Board's proposal to revise the definition of "connection assets" (section 1.2) to confirm that these assets are not expected, at the time of construction, to be shared by other customers.

b. Expansions

11. The Board describes expansion as work done by a distributor as part of the DSC connection process to provide for the connection of a specific generation facility to a technically appropriate point on a feeder and/or substation. "Expansions" generally consist of the following[3]:

- rebuilding a single-phase line to three-phase to the location of the generation facility
- rebuilding an existing line with a larger size conductor to the location of the generation facility
- rebuilding or overbuilding an existing line to provide an additional circuit to the location of the generation facility
- converting a lower voltage line to operate at higher voltage.

12. Under the current policy, expansion work is considered part of the connecting process of the connecting generator and therefore cost responsibility lies with the generator. The DSC provides for a rebate of a portion of the distribution system expansion costs when a subsequent generator connects to the distribution system and obtains the benefit of reinforcements paid for by an earlier generator.

[3] Ontario Energy Board: EB-2009-0077, Notice of Proposal to Amend a Code: Proposed Amendments to the Distribution System Code, June 5, 2009, page 5

13. The Board is proposing that cost of expansions be shared between the distributor and the generator because in the Board's view, most expansions will primarily benefit the connecting renewable generator at the time of connection, but over time may also benefit other load and generation customers. With respect to the current policy that provides for rebates to be paid by generators connecting later, the Board's view is that "a subsequent generator may not materialize within a reasonable time frame, if at all."[4]

14. The proposed cost sharing mechanism introduces a new concept/definition to the DSC- "renewable energy expansion cost cap", expressed as $/MW. Under this proposal, a distributor would be responsible for the costs of any system expansions up to the cap and the generator would be responsible for incremental expansion costs beyond the cap. The Board is proposing to set the cap at $90,000/MW (e.g., a generator with a 10 MW project would be required to pay for all expansion costs over $900,000). The Board explains that it derived the $90,000/MW cap from a review of electricity distributor rate applications and from discussions with certain distributors.

15. The Board states that imposing a cap would lower the costs that might otherwise be borne by renewable generators under the current approach, while preserving some locational signals for efficient siting. The Board also points out that the cap would limit the total exposure of the distributor's ratepayers to expansion costs.

16. On a related matter, the Board notes that some generation connections may trigger the need for upstream upgrades to the system of a host distributor or transmitter, in addition to triggering the need for the expansion of the distribution system to which the generation facility will be connected. The Board points that although the DSC is silent on the issue of cost responsibility for these upstream

[4] Ontario Energy Board: EB-2009-0077, Notice of Proposal to Amend a Code: Proposed Amendments to the Distribution System Code, June 5, 2009, page 5

upgrades, the practice is for distributors to pass these costs on to the connecting generator. The Board does not propose to revise this approach at this time, but confirms that these upstream costs are not to be included in the calculation of the expansion cap. The Board believes that inclusion of these costs for purposes of calculating the expansion cap will create gaming opportunities for generators in terms of whether to connect their facilities to a distribution system or a transmission system.

17. The PWU submits that, other than when a distributor undertakes expansion work that is in a Board-approved plan or otherwise approved or mandated by the Board, the current policy that assigns cost responsibility to the generator for expansion required in response to a request by the generator should continue. The PWU questions the appropriateness of the Board-proposed "*renewable energy expansion cost cap*" on the following grounds:

a. As the Board notes, most expansions will primarily benefit the connecting renewable generator at the time of connection and over time may also benefit other load and generation customers. However, such benefits will be known or realized only when these "other" load and generator customers connect. The current DSC provides for the payment of "rebates" by subsequent generators connecting to the system for benefiting from reinforcements paid for by generators who connected to the system earlier. The rebate system provides a good approximation of the value of the presumed benefits of expansion works that overtime might be enjoyed by late coming generators. It is not clear how the Board's proposed cap mechanism can reflect, quantify, or be a basis for rewarding a distributed generation facility for the economic value that it brings to the distribution system;

b. Both the proposed approach and the reasons provided are inconsistent with the board-proposed amendment to the Transmission System Code in EB-2008-0003. In EB-2008-0003,

the Board proposed the Hybrid approach, wherein the Transmitter plays a leading role but the renewable generators in renewable clusters, except for unsubscribed capacity, are ultimately responsible for the cost of the enabler lines. It should be noted that the enabler lines could be of benefit to load and generators beyond those in the renewable clusters. In fact, the enabler lines could bring benefit to non-renewable generators that wish to connect to them. Nevertheless, in EB-2008-0003, the Board did not consider this possibility, nor did it propose a cost sharing mechanism between the generator and the transmitter in this circumstance. The PWU understands that the Board's proposals in EB-2008-0003 are still under consideration and that issues related to transmission and specifically to enabler lines are, strictly speaking, not the same as issues relating to distributor expansion work under consideration in the proposed DSC amendments. Nevertheless, the PWU believes that the analogy is valid. Moreover, in justifying its proposal on the TSC amendment, the Board acknowledged that renewable generators in less remote areas were able and willing to connect while bearing full cost responsibility for their connection.

> **"Indeed significant generator connection activities, including for renewables, have taken place in the past under the Board's existing policy framework. Over 400 MW has already been connected to the transmission system and a further 900 MW is expected to connect over the next few years. In several cases (for example, the Erie Shores Wind Farm) a single developer was able to get approval and construct connection facilities for multiple wind farms. However these connections have typically been shorter and less remote than the enabler lines proposed in the IPSP."** [5]

The PWU submits that the Board's proposal on the DSC amendments lacks consistency with the proposed TSC amendments and raises concerns that it discriminates against some generators while favouring others.

[5] Ontario Energy Board, Staff Discussion Paper: Generation Connection: EB-2008-0003: Transmission Connection Cost Responsibility Review, page 3

c. In the PWU's view, the derivation of the proposed $90,000/MW cap i.e., the use of representative expansion costs, lacks transparency. The Board explains how it arrived at the proposed cap as follows:

> **The Board derived the $90,000/MW cap from a review of electricity distributor rate applications and from discussions with certain distributors. The costs of feeder extensions vary widely across distributors, ranging from $175,000/km to $300,000/km. The Board also reviewed the expansion requirements for almost 500 distributed generation projects, of which approximately 300 required feeder extensions. These projects were of an average size of 10 MW and required, on average, 5.3 km of feeder extensions. This suggests that the expansion costs associated with the connection of a distributed generation project that requires a feeder extension of average length is in the range of $90,000/MW to $150,000/MW.**[6]

The question that needs to be answered is whether a cap that is calculated on the basis of the average length and cost of feeder extensions of several distributors is a reasonable representative of costs for all types of expansions requirements. The method used to establish the cap is overly simplistic and renders the $90,000/MW cap an arbitrary subsidy to provide incentives to generators. The PWU submits the approach sends the wrong signal.

d. The Board's new objective of promoting the development and use of electricity from renewable generation should not unreasonably compromise economic efficiency that is realized by adhering to the principle of cost causality. The Board's new objective should not lead to a situation where generators are allowed to pass costs to parties, including ratepayers, that are not direct beneficiaries of their projects. The Board should also consider the number of different sources and forms of incentives available to renewable generators such as OPA's Standard Offer Program and Feed-in

[6] Ontario Energy Board: EB-2009-0077, Notice of Proposal to Amend a Code: Proposed Amendments to the Distribution System Code, June 5, 2009, page 6

Tariff and the Board's DSC amendments that provides for DG queue/ capacity allocation exemption. The proposed $90,000/MW cap will only contribute to imprudent and uneconomic investment decisions by the generators. On the other hand, the PWU supports the Board's proposal not to change the current practice relating to cost responsibility for upstream upgrades to the system of a host distributor or transmitter triggered by a connecting generator. The PWU believes that such costs should stay with the generator..

c. Renewable Enabling Improvements

18. The Board is proposing to include in the DSC a category of investment referred to as "renewable enabling improvements" to address system investments that are made to enhance the ability of a distribution system to accommodate increased levels of renewable generation. The Board indicates that this category of investment is similar to investment on "enhancements" that is currently included in the DSC. In the DSC, an "enhancement" is defined as "a modification to an existing distribution system that is made for purposes of improving system operating characteristics such as reliability or power quality, or for relieving system capacity constraints resulting, for example, from general load growth".

The Board notes that costs of enhancements are not included in determining the capital contribution payable by a connecting customer unless they are completed as part of an expansion. The Board also notes that the concept of "enhancement", as currently defined and used in section 3.3.1 of the DSC, lends itself more to system investments that are planned and effected to address matters related to loads than to those relating to renewable generation.

19. The Board-proposed "Renewable enabling improvements" will consist of the following[7]:

a. modifications or additions to manage and control 2-way electrical flows, as opposed to radial flow;
b. modifications to, or the addition of, electrical protection equipment;
c. modifications to, or the addition of, voltage regulating equipment; and
d. the provision of protection against islanding (transfer trip or equivalent)

20. The Board believes that these investments will likely be of broader benefit to the distributor and its existing and future customers (both generators and loads) and, therefore, proposes that the distributor should bear the cost of these investments, i.e., the distributor should not charge a renewable generator a capital contribution in relation to such investments. The Board is proposing to amend sections 3.3.2 and 3.3.3 of the DSC accordingly. The Board is also proposing to clarify that an "enhancement" does not include a "renewable enabling improvement", in order to avoid any overlap between the two concepts.

21. The PWU recognizes that "renewable enabling improvements" are different from the Connection Assets and Expansions categories, which the PWU understand to be investments carried out to accommodate a specific generator. In general "Renewable enabling improvements" are system investments made to improve the ability of a distribution system to accommodate increased levels of renewable generation. The PWU also agrees with the Board that the proposed amendment would introduce consistency to the DSC with respect to cost responsibility relating to "enhancements" for loads and "improvements or enhancements" for generators. The PWU, therefore, agrees in general with the proposed amendment. However, the PWU qualifies its support in two respects.

[7] Ontario Energy Board: EB-2009-0077, Notice of Proposal to Amend a Code: Proposed Amendments to the Distribution System Code, June 5, 2009, page 7

22. First, the Board should distinguish between “renewable enabling improvements” that arise due to the specific technical needs of specific generators and those needed for an overall enhancement of the system to accommodate growth in renewable generation. The PWU believes that there should be capital contribution in the former case.

23. Second, the distributor should be kept financially whole through full and timely cost recovery, including the recovery of any development and investment cost related to projects that are abandoned for reasons outside the control of the distributor.

B. Distribution System Planning Process

24. The *GEGEA* will introduce new deemed conditions of license that require distributors to:

a. file for Board approval plans for the expansion or reinforcement of their respective systems to accommodate the connection of renewable energy generation facilities; and

b. expand or reinforce their respective systems to accommodate the connection of renewable energy generation facilities in accordance with their respective Board-approved plans or as otherwise mandated by the Board.

25. The Board anticipates that distributor investment plans will identify investments (both “renewable enabling improvements” and “expansions”) that distributors will make in anticipation of the connection of renewable energy generation projects. The Board also believes that these investments will be planned prior to, or regardless of, a specific generator requesting connection, and will likely be of broader benefit to the distributor and its existing and future

customers (both generators and loads)[8]. Accordingly, the Board is proposing that the distributor should be responsible for the cost of investments that are identified in a Board-approved investment plan, and therefore should not charge a renewable generator a capital contribution in relation to such investments. Moreover, the Board is proposing to extend the same cost responsibility treatment to expansions and renewable enabling improvements that are otherwise approved or mandated by the Board. The Board's is proposing to amend the DSC accordingly (section 3.2.5A).

26. The PWU supports the proposed amendment because renewable enabling improvements and expansions identified in an approved plan or that are otherwise approved or mandated by the Board would generally not be intended to address the particular needs of a specific connecting generator. Rather, as the Board notes "they would be intended to accommodate renewable generation resources that are expected to emerge in a given part of the distributor's service area in the future[9]."

27. In supporting the proposed amendment, the PWU submits that:

a. The Board's regulatory mechanisms and processes relating to system planning should allow and ensure timely investments on the distribution infrastructure such that system safety, reliability, and service quality is not compromised;

b. The Board should consider the added regulatory risk distributors are assuming in relation to system enhancements and expansions needed to accommodate renewable generation and ensure that they are held harmless; and

c. Since costs are ultimately passed onto the ratepayer or all consumers of Ontario depending on the outcome of other consultations underway and the rules expected to emerge out of

[8] Ontario Energy Board: EB-2009-0077, Notice of Proposal to Amend a Code: Proposed Amendments to the Distribution System Code, June 5, 2009, page 8
[9] Ibid., page 9.

the GEGEA, the Board should make sure that the proposed rules are accompanied by safeguards such that renewable generators do not engage in imprudent and uneconomic decisions.

C. Other Proposed Amendments

28. The Board is proposing to include under section 1.2 of the DSC definitions for the terms “renewable energy generation facility” and “renewable energy source”, by reference to the manner in which those terms are defined in the Act. The PWU agrees that the proposed definitions are needed to support the proposed amendments.

D. Anticipated Costs and Benefits

29. The Board states that the proposed amendments will facilitate the achievement of the Government’s policy goals regarding the connection of renewable generation and that they would better align cost responsibility with the benefits that are expected to accrue from different types of investments, and protect the interests of consumers by preserving incentives for generators to connect in areas where the costs of connection are lower. The Board also notes that some or all of the investments that are proposed to be funded by a distributor may be eligible to be recovered from consumers across the Province and to the extent that this is the case, it will assist in mitigating the rate impact of the proposed amendments on a given distributor’s ratepayers. The Board also indicates that its oversight of a distributor’s capital plans for renewable enabling improvements and expansions, whether through the investment planning process, the rate-setting process or some other process, will ensure that these investments are made only where prudent, thereby also mitigating potential rate impacts.

30. The PWU submits that the benefits and costs of the proposed amendments cannot be fully assessed or ascertained just from the Board’s proposed amendments. The impact of the proposed amendments on the

ratepayer will depend on what portion, if any, of the costs will be passed on to consumers across the province (anticipated in *GEGEA* regulations) and on the outcomes of the consultations underway relating to cost recovery issues. The efficacy of the proposed amendments will also depend on whether the Board strikes the right balance between the objective of promoting renewable generation and the objective of ensuring cost effectiveness and sound economic decisions. The PWU also submits that the Board's cost and benefit assessment of the proposed amendments should take into consideration potential impacts on the distributors' revenue requirements and their ability to recover cost.

CONCLUSION

31. As indicated in these comments, the PWU is of the view that cost responsibility should remain with the generator, subject to two exceptions:

a. renewable enabling improvements and expansions that are identified in an approved plan or are otherwise approved or mandated by the Board, and

b. when infrastructural investments are made to improve the ability of a distribution system to accommodate increased levels of renewable generation.

32. The PWU believes that policy changes intended to remove barriers to or promote the development of renewable resource generation should not ignore the basic principle of cost causality as a means of achieving both economic efficiency and fairness. The PWU recognizes the newly added objective of the Board relating to renewable generation as contemplated in the *GEGEA*; however, the Board should exercise caution so that this newly added objective does not undermine the Board's existing objectives of protecting the interests of consumers and promoting economic efficiency and cost effectiveness in the generation, transmission, distribution, sale and demand management of electricity, as well as facilitating the maintenance of a financially viable electricity industry.

33. **All of which is respectfully submitted.**