

**RP-2002-0120**  
**RP-2004-0220**

**RP-1999-0057**  
**EB-2002-0242**  
**RP-2002-0110**

**IN THE MATTER OF** the *Ontario Energy Board Act, 1998*, S.O. 1998, c.15 (Schedule B).

**AND IN THE MATTER OF** a proceeding pursuant to subsection 19(4) and section 74 of the *Ontario Energy Board Act, 1998* to review the Transmission System Code and Related Matters.

**COMMENTS OF THE INDEPENDENT ELECTRICITY SYSTEM OPERATOR  
ON THE PROPOSED REVISED TRANSMISSION SYSTEM CODE**

1. The Independent Electricity System Operator (the "IESO") appreciates the opportunity to provide comments to the Ontario Energy Board (the "Board") in respect of its proposed amendments to the Transmission System Code (the "Revised Code"). At the onset of this undertaking we offered a number of general guiding principles to assist the Board in addressing the five issues and a number of ensuing questions to be examined in these proceedings. In particular, we noted that the five issues are linked, accordingly, the potential impacts of these issues must be considered together. We submitted that the Revised Code should facilitate efficient utilization and the timely and cost effective expansion and maintenance of the transmission system in Ontario, as well as promote fairness in balancing the interest of transmitters, load and generation customers and the marketplace. Additionally, we noted that the Revised Code should recognize the impact of transmitter performance and service quality on market efficiency and costs. We appreciate the Board's consideration of the proposed solutions put

forward by the IESO to address a number of the issues raised in these proceedings; the Board has adopted these solutions for the most part.

2. We commend the Board for its efforts to strike a reasonable balance in addressing these difficult and crosscutting issues and encourage the Board to bear in mind the above-noted guiding principles as it fine-tunes the proposed Revised Code and carries out other planned amendments, including a review of the technical provisions which will commence upon the completion of Phase II of these proceedings.

3. In this submission, we offer the following additional comments and recommended amendments **(these are redlined)** to help further refine the Revised Code:

- (a) rules are needed to direct what constitutes an exceptional circumstance and the reasonable allocation of costs pertaining to new or modified connections;
- (b) it may be necessary to have a transmission expansion plan that is compatible with the Ontario Power Authority's (OPA) integrated system plan to, among other things, establish a baseline and suitable evidence of facilities that are planned for by the transmitter, and thereby enable effective determination and allocation of costs;
- (c) the Revised Code should include provisions to ensure that the aggregate of the delivery points performance level, within a designated local area, is not less stringent than the corresponding local area performance level with respect to un-supplied energy;
- (d) the Revised Code should clarify that the dispute resolution provisions established by the Code also include any disputes that may arise in the course of negotiating a connection agreement;
- (e) the provision obligating the transmitter to carry out a Customer Impact Assessment (CIA) for any new or modified connection is unnecessarily onerous;
- (f) clarification is required regarding applicable action that may be taken by the transmitter during an emergency;

- (g) the interpretation of the term “transmission system” should be retained or otherwise incorporated in the Application and Interpretation section of the Revised Code; and
- (h) the Board should ensure that adequate provisions are in place to minimize potential adverse impacts of the bypass policy on the transmitter’s financial viability and cost shifting between transmission customers.

**Rules are needed to direct what constitutes an exceptional circumstance and the reasonable allocation of costs pertaining to new or modified connections.**

4. We observe that the proposed Revised Code is silent on which form of new or modified connection proposals would constitute an exceptional circumstance. We submit that greater clarity is desirable and will be beneficial over the long run. Exceptional circumstances are not limited to “unique situations” and should not be interpreted as such. It may be helpful to reiterate the conditions that we believe should inform the decision regarding what constitutes an exceptional circumstance wherein the network modification cost to incorporate a new or modified connection will be allocated to the connecting party or shared proportionally with the transmitter. We view a new or modified connection as being an exceptional circumstance where: (1) without the network modification the connection proposal would otherwise lead to inefficient expansion of the transmission system or lead to inefficient operation of the market (e.g., by resulting in material increase in transmission congestion and losses), or (2) where it can be established that the costs of the network modification should be reasonable allocated proportionately because the benefits of the network modification will accrue to parties outside of Ontario or to other licensed transmitters.

5. We believe that it is crucial that clear rules are enshrined in the Revised Code to limit the potential for confusion arising from different interpretation about what constitutes an exceptional circumstance. We recognize that it may not be possible to establish rules that are all encompassing, but we view it desirable to, at a minimum, provide direction to give parties a significant degree of guidance when making project

development decisions. The adoption of such rules will help to narrow the scope of projects that might otherwise be mistakenly considered an exceptional circumstance—this confusion increases uncertainty with respect to investment decisions and sets the stage for disputes between the transmitter and connecting persons over cost responsibility, or will cause unwarranted delays in the development of new or modified transmission connection proposals. Situations which may be in doubt could be submitted to the Board for its determination and direction. Unless the Board is prepared to institute a procedure whereby, at the conceptual stage of a new or modified connection proposal, the Board can determine and direct project developers about the cost responsibility or expected rate treatment as such, we believe this issue will continue to be a significant obstacle to the timely development of new or modified connection projects. In view of this, we propose the following amendments to section 6.3.5 of the Revised Code:

6.3.5 A transmitter shall not require any customer to make a capital contribution for modifications to the transmitter's network facilities that may be required to accommodate a new or modified connection. The following will constitute ~~if~~ exceptional circumstances that will exist so as to reasonably require a customer or transmitter to make a reasonable capital contribution for network modifications; ~~the transmitter or any other interested person may apply to the Board for direction~~

- (a) without the network modification, the new or modified connection would otherwise materially increase congestion or system losses;
- (b) modification of the transmitter's network facilities is required to accommodate a new or modified interconnection with a customer or transmission system outside of Ontario;
- (c) the connecting party is a transmitter licensed in Ontario; or
- (d) the Board has determined that the new or modified connection is an exceptional circumstance.

When an exceptional circumstance exists, the cost allocated to the connecting party, in respect of any associated network modification that is identified by the IESO's system impact assessment, shall be the least cost feasible option that will reduce the adverse impact of the new or modified connection to a level similar to that which existed prior to the connection proposal being made.

**It may be necessary to have a transmission expansion plan that is compatible with the Ontario Power Authority's (OPA) integrated system plan to, among other things, establish a baseline and suitable evidence of facilities that are planned for by the transmitter.**

6. We support the principle that customers should not be required to make a capital contribution for a transmission facility that was already planned by the transmitter to meet load growth and maintain the reliability the integrity of its transmission system. However, we suggest it is necessary to establish suitable evidence to confirm that the facility was in fact planned for by the transmitter. Also, it may be desirable to specify a reasonable planning horizon that is compatible with the OPA integrated system plan. We note that the Board too has acknowledged the need for such a plan to facilitate new or modified connections and fair allocation of associated costs. In particular, section 6.3.6 of the Revised Code states that "...[a] transmitter shall develop and maintain plans to meet load growth and maintain the reliability and integrity of its transmission system. The transmitter shall not require a customer to make a capital contribution for a connection facility that was otherwise planned by the transmitter, except for advancement costs." However, the nature of the plans contemplated by this provision requires further clarification. We recommend that a provision be added that requires that the transmitters' plan be consistent with the integrated plans developed by the OPA, and approved by the Board. The transmission expansion plan will serve as the baseline for new or modified connections to meet load growth and maintain the reliability and integrity of the transmitter's transmission system and facilitate the fair allocation of costs. Upon the Board's approval of each OPA integrated plan, the associated transmission expansion plan will provide greater clarity with respect to whether a proposed new or modified connection is already in the baseline plan and

projects that are incremental to the baseline plan and for the sole benefit of the connecting party. This approach will allow for more effective determination and allocation of new or modified connection costs.

In this regard, we proposed the following amendment to section 6.3.6:

6.3.6 A transmitter shall develop and maintain [a transmission expansion plans](#) to meet load growth and maintain the reliability and integrity of its transmission system. The transmitter shall not require a customer to make a capital contribution for a connection facility that was ~~otherwise planned by~~[included in the most recent OPA integrated plan approved by the Board](#) ~~the transmitter~~, except for advancement costs.

**The Revised Code should include provisions to ensure that the aggregate of the delivery points performance level, within a designated local area, is not less stringent than the corresponding local area performance level with respect to un-supplied energy.**

7. In the Board's concurrent proceeding (RP-1999-0057, EB-2002-0424) to examine customer and delivery point performance standards, we submitted that the criteria for initiating technical and financial evaluation and triggering remedial actions could impact on the local area performance. While we found the criteria developed by Hydro One for initiating technical and financial evaluation and for triggering remedial actions to be acceptable, our support was predicated on the aggregate moving historical delivery point performance not being allowed to deteriorate beyond the corresponding local area performance level—that is, the ten year historical average performance, plus “one half standard deviation” jointly established by the IESO and the transmitters. This provision should be enshrined in the Revised Code. As such, we propose the following amendment to sections 4.5.1 of the Revised Code:

4.5.1 A transmitter shall develop performance standards that apply at the customer delivery point level and that:

- a) reflect typical transmission system configurations that take into account the historical development of the transmitter's transmission system at the customer delivery point level;
- b) reflect historical performance at the customer delivery point level;
- c) are, where applicable, consistent with the comparable performance standards applicable to all delivery points throughout the transmitter's transmission system;
- d) establish acceptable bands of performance at the customer delivery point level for transmission system configurations, geographic area, load, and capacity levels;
- e) are such that the aggregate of the delivery points performance level, within a designated local area, is not less stringent than the corresponding local area un-supplied energy performance level jointly established by the IESO and the transmitter;
- e)f) establish appropriate triggering events to be used to initiate technical and economic evaluations by the transmitter and its customers regarding performance standards at the customer delivery point level, as well as the circumstances in which any such triggering event will not require the initiation of a technical or economic evaluation;
- f)g) establish the steps to be taken based on the results of any evaluation that has been so triggered, as well as the circumstances in which such steps need not be taken; and
- g)h) establish any circumstances in which the performance standards will not apply.

**The Revised Code should clarify that the dispute resolution provisions established by the Code also include any disputes that may arise in the course of negotiating a connection agreement.**

8. Disputes between the transmitter and customers often lead to undesirable delays in developing new or modified transmission connection proposals. The Revised Code

should clarify that the dispute resolution procedure referred to in section 12.1.1 also governs disputes that may arise in the course of negotiating a connection agreement. As such, we propose that section 12.1.2 be amended as follows:

12.1.2 The dispute resolution procedure referred to in section 12.1.1 shall include provisions that:

- (a) provide for the fair, timely and effective resolution of disputes [including any disputes that arise during the course of negotiating a connection agreement;](#)

**The provision obligating the transmitter to carry out a Customer Impact Assessment (CIA) for any new or modified connection is unnecessarily onerous.**

9. The provision requiring that the transmitter carry out a CIA for **any** proposed new or modified connection is unnecessarily onerous. There are many new or modified connections undertaken that have no adverse impact on customer reliability. In addition, the provisions obligating a transmitter to uphold delivery point and local area reliability standards will help to ensure that new or modified connections will not have adverse reliability impacts on customer facilities. While it is important to provide existing customers with assurance that their equipment will not be adversely impacted by new or modified connections, it is also desirable to minimize the need for unnecessary studies. Given the need for regulatory efficiency and cost control, we propose that the transmitter be allowed to develop and establish an “Expedited CIA” that can be deployed where it is judged highly unlikely that a new or modified connection proposal will have an adverse reliability impact on existing customers. The IESO employs a similar process for conducting system impact assessments, resulting in greater study efficiency and reduced cost for connecting parties.

**Clarification is required regarding applicable actions that may be taken by the transmitter during an emergency.**

10. Chapter 5, section 3.4 of the Market Rules sets forth the responsibilities, obligations and authorities of a transmitter with respect to actions to maintain the reliability of the IESO-controlled grid. In spite of the provisions established in section 5.4 of the Revised Code, it should be made clear that these provisions do not relieve the transmitter from its applicable responsibilities and obligations under Market Rules, including complying with the IESO's direction to maintain the stability, reliability and integrity of the IESO-controlled grid. In this regard, we propose that the Board make the following clarification in section 5.4.4 of the Revised Code:

5.4.4 During an emergency or in order to prevent or minimize the effects of an emergency, a transmitter may interrupt supply to a customer or a neighbouring Ontario transmitter to protect ~~the stability, reliability, or integrity of the transmitter's transmission facilities,~~ ~~or to maintain the availability of its transmission facilities.~~ The transmitter shall advise all affected customers and neighbouring Ontario transmitters as soon as possible of the transmitter's transmission system's emergency status and of when to expect the resumption of normal operations and the reconnection of their facilities to the transmission system.

**The interpretation of “transmission system” should be retained or otherwise incorporated in the Application and Interpretation section of the Revised Code.**

11. The interpretation provision that was previously attached to the definition of “transmission system” to clarify where the transmission ends should be reinstated or otherwise included in Application and Interpretation section of the Revised Code.<sup>1</sup> The

<sup>1</sup> For the purposes of this Code and the connection agreement, the transmission system : (1) for distributors and consumers, ends at, and includes, the load side of low-voltage feeder breakers; (2) for generators, typically ends at the first disconnection switch (not included) of the synchronizing breaker and/or step-up transformer combination;

interpretation is required in the Revised Code because it identifies the switching facilities that form the boundaries of the transmission system<sup>2</sup>. Without this it would be difficult to establish precisely where the transmission system ends.

**The Board should ensure that adequate provisions are in place to minimize potential adverse impacts of the bypass policy on the transmitter's financial viability and cost shifting between transmission customers.**

12. In our June 3, 2003 reply comments on the Preliminary Propositions to Phase I Issues, we noted that:

“Hydro One Networks Inc. (“HONI”) proposes, at pages 3 to 5 of its submissions, several “alternative principles” for inclusion in the Transmission System Code (the “Code”) including the principle that the “Code should not compromise the value of used and useful assets.” The [IESO] agrees with HONI that when assessing whether to replace fully depreciated transmission assets, the value of such assets should not be based solely on their depreciated value. While the [IESO] does not intend to make submissions on underlining issues pertaining to transmission bypass identified by other parties, as stated in its May 13, 2003 submissions, the [IESO] does support the general principle of the “orderly, timely and efficient expansion and reinforcement of the transmission system” which would include the efficient utilization of transmission assets. In this regard, the [IESO] submits that other criteria should be considered in assessing whether to replace connection facilities that have become fully depreciated. For instance, among other things, whether the asset is performing in accordance to current reliability and safety standards.”

We ask that the Board give due consideration to the potential adverse impacts of the bypass policy in its attempt to balance the interest of transmitters and consumers. In particular, we suggest that any bypass policy adopted by the Board should maximize utilization of workable transmission facilities, minimize or avoid financial impacts on transmitters, and minimize cost shifting from customers exiting the transmission pool to those remaining in the pool.

---

<sup>2</sup> The Market Design Committee affirmed switching facilities as the basis on which the demarcation between transmission and distribution system should be established.

**Other suggested refinements to the Revised Code.**

13. We offered the following additional proposed refinements for emphasis and to further clarify the Revised Code:

6.8.1 A transmitter shall enter into an agreement with each neighbouring Ontario transmitter. The agreement shall describe the facilities connecting the two transmission systems and shall set out the respective obligations of the parties in relation to:

(a) transmission system expansion [and cost responsibilities](#);

14. In reference to the Fault Levels specified in Appendix 2, Transmission System Connection Point Performance Standards, the highest standard short circuit ratings for 230 kV and 500 kV breakers is usually 63kA, although for special cases these could be higher. For typical cases we believe that the [80 kA] fault level capability that is specified in Appendix 2 is unnecessarily high. As such, we recommend that the short circuit ratings for both 230kV and 500 kV nominal voltage classes be [63 kA] for both three phase and single-line-to-ground faults.

ALL OF WHICH IS RESPECTFULLY SUBMITTED  
THIS 18<sup>TH</sup> DAY OF FEBRUARY, 2005

***Original signed by***

---

Carl Burrell  
Senior Analyst  
Independent Electricity System Operator