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October 17, 2001

Paul Pudge
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Ontario Energy Board
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RE: **Proposed Amendments to the Transmission System Code**

The Transmission System Code (“Code”) was issued by the Board on July 14, 2000. Since that time, Hydro One Networks (“Networks”) has been in the process of modifying its business and technical processes to align with the requirements of the Code. Although Networks recognizes that the Code is not in force until subsection 26(1) of the *Electricity Act* is proclaimed, Networks believes that this alignment will assist in facilitating a smooth transition to a competitive electricity market.

Networks has discussed with Board staff its experiences with the Code on several occasions since the Code was issued. As requested by Board staff, Networks is submitting this proposal for the following amendments to the Code, pursuant to section 16.3 of Networks’ Transitional Transmission Licence. These amendments are intended to improve the clarity of the Code for all market participants.

Proposed Amendments:

(deletions shown as strike-outs; additions shown in italics)

Code sec. 1.2.73

Make the following amendment to the definition of Transmission System Code:

1.2.73 “Transmission System Code” or the “Code” means this code, including all appendices, approved by the Board, ~~as in effect at the relevant time~~ *as amended from time to time*, setting the standards.....

This amendment clarifies that the current version of the Code is the relevant version.

Code sec. 2.4.2

Make the following amendment to section 2.4.2:

2.4.2 Each transmitter shall specify the fault levels at all connection points, as required by the Market Rules, and shall record such fault levels in the appropriate schedule to all connection agreements. *The fault levels specified herein shall not be used in the future by the customer or accepted as current and accurate unless and until the customer confirms in writing with the transmitter the accuracy of the stated fault levels.*

This amendment is required because fault levels are dependent on the current system configuration, and can change over time. If the customer intends on using the fault levels for any reason, the customer must ensure that the current, accurate fault levels are being used, which may differ from those stated in the connection agreement at the time the agreement was signed.

Code sec. 3

Add the following subsection:

3.2.2 *In the event of a forced outage to a transmitters' transmission facilities that does not comprise a connection to, or directly impact on, its customers' facilities, the transmitter's controlling authority shall then follow the procedures embodied in good utility practice to promptly return the affected transmission facility to service.*

This amendment addresses the need for transmitters to return to service, consistent with good utility practice, any of its network facilities that are out of service due to a forced outage. This issue was discussed at a meeting of the IMO Technical Panel, and Networks undertook to propose an amendment to the Code to address it.

Code sec. 8.4.3

Make the following amendment to section 8.4.3:

8.4.3 A transmitter at its tapped transformer stations shall make "On-Load" checks following the application of appropriate load. *These checks may include voltage, current, phase angle or crossed wattmeter readings.....*

This amendment is to clarify the meaning of the section.

Code Appendix 1 sec. 1 Definitions

The term, “shutdown” should be defined in the Definitions section of the Code Appendix 1. This term is used in section 10.12 of Appendix 1. Networks proposes the following definition:

“Shutdown” means the isolation from the transmission system through some form of automatic or remotely controlled breaker, or other physical devices.

In the context of section 10.12, Networks understands that “shutdown” does not mean a stoppage of a customer’s production process resulting from actions other than the isolation from the transmission system.

Code Appendix 1 sec. 1.2

Make the following amendment to the definition of “Cure Period”:

1.2 “Cure Period” has the meaning defined in section ~~8-2~~ 12.2 and in Schedule C of this Connection Agreement

Code Appendix 1 sec. 6.2

Make the following amendment to Appendix 1, section 6.2:

6.2 The Transmitter shall specify the fault levels at all connection points, including the Customer’s connection points, as required by the Market Rules, which shall be recorded in Schedule D, *section 2* to this Agreement. *The fault levels specified herein shall not be used in the future by the customer or accepted as current and accurate unless and until the customer confirms in writing with the transmitter the accuracy of the stated fault levels.*

This rationale for this amendment is the same as that for the section 2.4.2 of the main body of the Code (above). This amendment also specifies the specific section within the connection agreement where the fault levels should be recorded.

Code Appendix 1 sec. 6.4

Make the following amendment to section 6.4:

6.4 The Customer shall promptly report to the Transmitter any changes in its equipment ~~that could materially affect the performance of the transmission system~~ *that is directly or indirectly connected to the transmitter’s transmission facilities.*

The rationale for this amendment is that it may be difficult for a customer to determine if a change to its equipment will have a material impact on the performance of the transmission system.

Code Appendix 1 sec. 13.13.1.2

Make the following amendment to section 13.13.1.2:

13.13.1.2 case law applicable in Ontario *and Canada*.

Code Appendix 1, sec. 30

Add the following sentence to the end of the existing text in section 30:

Each of the Parties hereto irrevocably attorns to the exclusive jurisdiction of the Courts of the Province of Ontario.

Code Appendix 1 Sch. B sec. 3

The following sentence should be added to the existing text in section 3 – Arranging for Transmission Services:

Transmission Customers shall ensure conformance of Registered Wholesale Meters in accordance with Chapter 6 of the Market Rules, including metering registry obligations with respect to metering installations for new embedded generation with a unit rating of 1 MW or higher connected through a transmission delivery point which attracts line or transformation connection charges.

This amendment makes the Code consistent with the requirements found in the Market Rules and in Appendix A section G of the Transmission Rate Order (issued January 15, 2001).

Code Appendix 1 Sch. B sec. 8

Make the following amendment to Appendix 1, Schedule B, section 8:

The IMO will submit invoices for Export Transmission Service, *as indicated in the transmission Rate Order*, at the same time as it submits invoices for energy related charges to the Market Participants that utilize *electric Energy service, as indicated in the transmission Rate Order*.

This amendment clarifies that it is the Export Transmission Service that is addressed in the transmission Rate Order, and not energy charges.

Code Appendix 1 Sch. D

Add the following section to Schedule D:

11. Other Items as Required

This amendment will allow for the addition of other operations-related items, depending on the nature of the customer's equipment and current operating arrangement (e.g. existence of embedded generation, customer breaker control, etc.)

Code Appendix 1 Sch. K

Add the following notes to Schedule K:

- (1) *Customers are only entitled to Information that is available and specific to their own existing or proposed connection, as per the Market Rules.*
- (2) *Where Information requested by a customer involves other customers' Confidential Information, consent from the other customers must be obtained by the first customer before the information can be provided.*
- (3) *Some of the following items may not be provided to customers if the Information is deemed to be irrelevant by the transmitter, who must act reasonably and in accordance with good utility practice in making this determination, for the proposed connection.*

This amendment will make the information provision requirements in Schedule K consistent with those found in Appendix 3 of the Code (with a proposed modification to note (3) in Appendix 3, discussed below).

Code Appendix 3

Make the following amendment to Appendix 3, note (3):

- (3) *Some of the following items may not be provided to customers if the Information is deemed to be irrelevant by the transmitter, who must act reasonably and in accordance with good utility practice in making this determination, for the proposed connection.*

This amendment clarifies that a transmitter must act reasonably when it decides to not provide certain information to customers.

Networks recognizes that the Code is a document that will evolve over time. The amendments proposed in this letter are intended to provide additional clarifications to all market participants as we approach the opening of the Ontario electricity market. If you would like to discuss Networks' proposed amendments to the Code, please call me or Gary Schneider at 416-345-5918.

Sincerely,



Brian Gabel

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September 27, 2001

Paul Pudge
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RE: **Proposed Transmission System Code Amendments to address Transmission Charge and Cost Allocation Issues**

The Transmission System Code ("Code") was issued by the Board on July 14, 2000. Since that time, Hydro One Networks ("Networks") has been in the process of modifying its business and technical processes to align with the requirements of the Code. Although Networks recognizes that the Code is not in force until subsection 26(1) of the *Electricity Act* is proclaimed, Networks believes that this alignment will assist in facilitating a smooth transition to a competitive electricity market.

Based on its experience with the Code to date, Networks notes that issues related to transmission charges and cost allocation require clarification in the Code. Networks has discussed these issues with Board staff on several occasions since the Code was issued. To provide clarity to these issues, Networks is submitting this proposal for the following amendments to the Code, pursuant to section 16.3 of its Transitional Transmission Licence.

Proposed Amendments:

(deletions shown as strike-outs; additions shown in italics)

Code sec. 9.1.3

Make the following amendment to section 9.1.3:

9.1.3 The cost of modifications and upgrades on specific network facilities *or the cost of installations and maintenance of new network facilities* that are triggered by and are for the sole benefit of ~~the generator shall be borne by the generator:~~

- (a) *a generator shall be borne by that generator; and*
- (b) *a group of generators shall be shared among that group of generators.*

Modifications and upgrades to specific network facilities or installations and maintenance of new network facilities are for the sole benefit of a generator or a group of generators if the transmitter would not have had to modify or upgrade the specific network facilities in question or build the new network facilities within five years from the date that the generator or the first generator in a group of generators requested a new or modified connection from the transmitter.

This amendment clarifies that the treatment of network investments (in both existing and new network facilities) where specific triggers and beneficiaries are identified is consistent with the treatment of connection investments for generator connections (as described in section 9.1.1 of the Code). This treatment is also consistent with the treatment proposed for network investments with respect to load customers (as described in section 9.2.5, as proposed to be amended below).

Code sec. 9.1.5

Make the following amendment to section 9.1.5:

- 9.1.5 A generator shall not pay the transmitter's ongoing operation and maintenance costs associated with the transmitter's *existing connection* facilities which connect the generator to the transmitter's transmission system.

This amendment clarifies that operating and maintenance costs associated with a transmitter's existing facilities are paid for by load customers through transmission tariffs. However, any new operating and maintenance costs associated with new transmitter facilities required to connect a generator to the transmitter's transmission system are incremental costs. These costs, if attributable to the generator, should be paid by the generator as are the incremental capital costs (consistent with the treatment described in section 9.2.2 for load customers).

Code sec. 9.2.5

Make the following amendment to section 9.2.5:

- 9.2.5 ~~The cost of~~ *Modifications and upgrades to specific network facilities or the cost of installations and maintenance of new network facilities that are triggered by a load customer and are for its the sole benefit shall be borne by that customer of:*
- (a) a load customer shall be borne by that load customer; and*
 - (b) a group of load customers shall be shared among that group of load customers in proportion to their usage.*

Modifications and upgrades to specific network facilities or installations and maintenance of new network facilities are for the sole benefit of a load customer or a group of load customers if the transmitter would not have had to modify or upgrade the specific network facilities in question or build the new network

facilities within five years from the date that the load customer or the first load customer in a group of load customers requested a new or modified connection from the transmitter.

This amendment clarifies that it is costs (i.e. investments) that are being addressed in this section. Also, in cases where network investments are triggered by and for the sole benefit of an identifiable number of load customers, the amendment makes this section consistent with the treatment of investments in connection facilities under similar circumstances (as described in section 9.2.4).

Code sec. 9.6

Make the following amendments to section 9.6:

- 9.6.1 If a transmitter, (the first transmitter), constructs or acquires a new transmission facility *not covered under sections 9.6.2 and 9.6.3 below*, that when connected to a second transmitter's transmission facilities results in a material increase of the fault levels at any existing customer's connection facilities connected to the second transmitter's transmission system, it is the financial and technical responsibility of the first transmitter to rectify this condition.
- 9.6.2 *If a generator constructs a new generation facility and/or transmission facilities or causes the transmitter to construct new transmission facilities that when connected to the IMO-controlled grid results in a material increase of the fault level at any existing customer's connection facilities, it is the financial and technical responsibility of the generator to rectify this condition.*
- 9.6.3 *If a load customer constructs new generation facilities and/or new transmission facilities or causes the transmitter to construct new transmission facilities that when connected to the IMO-controlled grid results in a material increase of the fault level at any other existing customer's connection facilities, it is the financial and technical responsibility of the load customer to rectify this condition.*

These amendments, based on the principle of cost causality, place cost responsibility on the party that creates the material impact on fault levels. It is consistent with the cost treatment in the Code for costs of transmission system upgrades triggered by customers for their sole benefit.

Code – New sec. 10; Code Appendix 1 Sch. B, new section 10

Add the following section to the Code:

10. Protection of Transmission Customers

- 10.1 The transmitter shall include the requirement set out in Schedule B of Appendix 1 in all Connection Agreements with customers.*

10.2 Customers requiring a new or modified connection to the transmission system shall pay the transmitter for any transmission system upgrades identified by the IMO as being triggered by the new or modified connection. This payment is required prior to the transmitter commencing construction of the new or modified connection. The transmitter shall refund to the customer any amounts paid by the customer that the Board subsequently determines that the transmitter should not have collected from the customer.

Section 10.1:

The proposed section 10.1 of the Code places a requirement on the transmitter to include in all connection agreements with customers a section that protects transmission customers against bypass of the transmission system. The proposed amendment to the connection agreement is to add an additional section (section 10) to Schedule B of Appendix 1 of the Code. This proposed amendment is provided in Attachment 1. An additional definition, “third party’s facilities”, is also proposed as an amendment to the Definitions section of Appendix 1, to support the proposed amendment to Appendix 1, Schedule B. This additional definition is also provided in Attachment 1.

These amendments (section 10.1 in the Code; section 10, Sch. B, Appendix 1 of the Code) will ensure that transmission customers who pay transmission rates reflecting the cost of transmission facilities owned by the transmitter do not use their own facilities in a manner that effectively shifts cost responsibility for the use of those transmitter’s transmission facilities to other customers who pay transmission rates.

The proposed amendments are consistent with Networks’ obligation under its transitional transmission licence (section 13.7) that states, “Prior to the proclamation of section 26(1) of the *Electricity Act*, the Licensee shall continue to connect customers on an economically efficient basis consistent with good utility practice and protection of the power pool”.

The proposed amendments are also consistent with the Board’s Decision with Reasons in RP-1999-0044 (section 3.2), where customer impacts related to new embedded generation installed by customers were addressed. Networks contends that transmission bypass may come in many forms, in addition to that created by embedded generation.

In summary, the proposed amendments extend the principle established by the Board in its RP-1999-0044 decision to other forms of transmission bypass. This principle, if embedded in the Code, will provide a clear and consistent signal to both transmitters and transmission customers.

Section 10.2:

This amendment will ensure that all transmission customers do not bear the financial risk associated with specific customer requirements for new or modified connections. The risk will be borne by the customer requesting the new or modified connection, until the time that the Board makes a determination regarding cost allocation.

This amendment will assist in facilitating the evolution to a competitive energy market place, as it ensures that any transmission system upgrades identified by the IMO associated with the new or modified connection will be implemented by the transmitter during the time prior to the Board making its determination regarding cost allocation.

Code Appendix 1 sec. 10.7.3

Make the following amendment to Appendix 1, section 10.7.3, second sentence:

10.7.3The Customer shall pay *to the Transmitter the incremental cost over and above the Transmitter's reasonable costs incurred during normal business hours* for isolating and reconnecting the Customer's equipment if the requested isolation and reconnection is for a time outside of normal business hours.

This amendment clarifies that if a customer requests (maximum of once per year) the isolation and reconnection of its equipment outside of normal business hours, then the customer (for that single request) will pay the transmitter only the incremental cost associated with doing the work outside of normal business hours.

Code Appendix 1 Sch. B sec. 8

Networks proposes amending Appendix 1, Schedule B, section 8 to accommodate the option available to a transmission customer to designate to another entity the responsibility for paying transmission service charges payable by the transmission customer. The person designated by the transmission customer to pay the transmission service charges to the IMO must be a market participant.

The proposed amendment is provided in Attachment 2. It is proposed to be added to the end of the existing text in Appendix 1, Schedule B, section 8.

Networks recognizes that the Code is a document that will evolve over time. The amendments proposed in this letter are intended to provide additional clarifications to all market participants as we approach the opening of the Ontario electricity market. If you would like to discuss Networks' proposed amendments to the Code, please call me or Gary Schneider at 416-345-5918.

Sincerely,

2. *D. B. Gabel*

Brian Gabel

ATTACHMENT 1

Add the following new section to Appendix 1, Schedule B:

10. *Protection of Customers from Transmission By-Pass*

10.1 *The Customer:*

- (a) *shall not transmit or distribute electricity using the customer's facilities to any load now or hereafter supplied from the transmitter's transmission facilities or a third party's facilities and if the customer does so, the customer shall pay the transmitter an amount equal to the avoided applicable transmission rates as if the load remained on the transmitter's transmission facilities or the third party's facilities, as the case may be, until the date that:*
- (i) *the transmitter's transmission facilities or the third party's facilities are removed from service at end-of-useful-life and are not replaced by new transmitter's transmission facilities; or*
 - (ii) *the transmitter requires the transmitter's transmission facilities to provide transmission services to other customers or the affected third party requires the third party's facilities to supply its customers.*
- (b) *shall not permit any third party to transmit or distribute electricity using or by connecting to the customer's facilities or in any other manner, to any load now or hereafter supplied from the transmitter's transmission facilities or the third party's facilities and if the customer does so, the customer shall pay the transmitter an amount equal to the avoided applicable transmission rates as if the load remained on the transmitter's transmission facilities or the third party's facilities until the date that:*
- (i) *the transmitter's transmission facilities or the third party's facilities are removed from service at end-of-useful-life and are not replaced by new transmitter's transmission facilities; or*
 - (ii) *the transmitter requires the transmitter's transmission facilities to provide transmission services to other customers or the affected third party requires the third party's facilities to supply its customers.*
- (c) *shall not supply new load growth using the customer's facilities or third party's facilities when the transmitter has spare capacity available at the transmitter's transmission facilities to supply such load; and if it does so, the customer shall pay the transmitter an amount equal to the avoided applicable transmission rates by paying as if the new load were supplied from the transmitter's transmission facilities. Notwithstanding the foregoing, the customer will not owe any amounts to the transmitter, if the customer can demonstrate to the satisfaction of the transmitter, acting reasonably, that it would have been uneconomic or inefficient for the customer to supply the load growth in question using the transmitter's transmission facilities.*
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Add the following definition to section 1 – Definitions in Appendix 1 of the Code:

“third party’s facilities” means any and all equipment, elements, and facilities of any kind whatsoever owned by someone other than the parties to this connection agreement and that are connected to the transmitter’s transmission facilities;

ATTACHMENT 2

Add the following (beginning with a new paragraph) to the end of the existing text in Appendix 1, Schedule B, section 8.

The Market Rules and the OEB-Approved Transmission Rate Order require that the regulated Transmission Service charges payable by the Transmission Customers shall be collected by the IMO. The billing and settlement processes used by the IMO are designed to collect transmission service charges from entities that are registered as Market Participants with the IMO, using meter readings totalized and loss adjusted for Delivery Points defined for the purposes of determining transmission service charges. In accordance with the Transmission Rate Order, the Transmission Customer shall ensure that Registered Wholesale Meter(s) used for the purpose of determining transmission service charges, which may also be used for billing and settlement for energy and other components in the IMO-Administered markets, satisfy the Wholesale Metering requirements and associated obligations specified in Chapter 6 of the Market Rules, including the appendices therein.

A Transmission Customer may wish to designate to another entity that is a Market Participant the responsibility for paying some or all transmission service charges payable by the Transmission Customer.

A Transmission Customer may designate the responsibility for paying transmission service charges and the responsibility for satisfying the Wholesale Metering requirements and associated obligations specified in Chapter 6 of the Market Rules to another entity, called Transmission Customer Agent for the purpose of this designation.

The Transmission Customer shall formally submit such designation to the Transmitter by filling out the attached form duly signed by both the Transmission Customer and the Transmission Customer Agent. Such designation shall be made on the basis of the Transmission Delivery Points and associated connection points with respect to which the Transmission Customer has designated the obligations to the Transmission Customer Agent.

The designated Transmission Customer Agent, and the Transmission Customer if it retains any or all responsibility for payment of transmission service charges, shall register as a Market Participant with IMO and shall be subject to all the requirements of the Market Rules.

The transmission service charges payable by a Transmission Customer Agent, where applicable, will be calculated by the IMO as though the Transmission Customer Agent were the Transmission Customer with respect to the designated connection points at the Transmission Delivery Point(s). The demand designated to a Transmission Customer Agent by a Transmission Customer shall not be aggregated with any demand for which (a) the same Transmission Customer retains the obligation to pay transmission service charges, (b) the same Transmission Customer designates the obligations to another Transmission Customer Agent, or (c) another Transmission Customer designates the obligation to a Transmission Customer Agent.

The form on the following page may be used to designate a transmission customer agent.

<Transmitter Name> - Transmission Customer Agent Designation Form

The undersigned Transmission Customer hereby transfers to the undersigned Transmission Customer Agent, and the undersigned Transmission Customer Agent hereby assumes and agrees to honour, all obligations and responsibilities for the Registered Wholesale Meter(s) and for the payment of transmission service charges associated with the connection points listed below. This transfer of obligations and responsibilities is in accordance with Appendix 1, Schedule B, Section 8 of the Connection Agreement between the Transmission Customer and the Transmitter. The undersigned Transmission Customer Agent hereby agrees to register as a Market Participant with the IMO and to be subject to all the requirements of the Market Rules for the purposes of payment of transmission service charges associated with the Transmission Delivery Points and associated connection points listed below. The Transmission Customer and the Transmission Customer Agent, as applicable, undertake to notify and to oblige their respective Meter Service Provider(s) to ensure that the Meter Registry data maintained by the IMO in accordance with Chapter 6 of the Market Rules is updated consistent with this designation.

List of Transmission Delivery Points and Associated Connection Points for which Obligations and Responsibilities Are Transferred

Transmission Delivery Point	Description of Associated Connection Points

On Behalf of Transmission Customer

On Behalf of Transmission Customer Agent

Signed:

Signed:

Title:

Title:

Date:

Date:

Business Name and Address:

Business Name and Address:

Received By:

<Transmitter Name>

Signed:

Title:

Date:

The designation contained herein shall be effective once the Meter Service Provider(s) for the Transmission Customer Agent and Transmission Customer submits the information required in accordance with the change management process for the Meter Registry maintained by the IMO.