Hydro One Networks Inc.
7th Floor, South Tower
483 Bay Street
Toronto, Ontario M5G 2P5
www.HydroOne.com

Tel: (416) 345-5240
Fax: (416) 345-5866
Oded.Hubert@HydroOne.com

Oded N. Hubert
Director, Regulatory Compliance
Regulatory Affairs

BY MAIL & E-MAIL

January 30, 2015

Secretary of the Board
National Energy Board of Canada
517 TenthAvenue SW
Calgary, Alberta
T2R 0A8

Hydro One Networks Inc. – Annual Filing for the National Energy Board General Order MO-036-2012, Amending Order AO-004-EPE-113 and Amending Order AO-005-EPE-59

Hydro One Networks Inc. ("**Hydro One**") is the holder of a number of National Energy Board ("**NEB**" or the "**Board**") International Power Line Certificates and Permits. As required by section 7 of the NEB General Order MO-036-2012, Amending Order AO-004-EPE-113 and Amending Order AO-005-EPE-59 (collectively the "**Reliability Standards Orders**"), issued by the Board on December 6, 2012, Hydro One is submitting a report describing any reliability standards that were adopted, approved, established or developed after the Reliability Standards Orders were made.

In addition, pursuant to section 4 of the Reliability Standards Orders, Hydro One is requesting the Board to exempt Hydro One from compliance with four reliability standards that became effective in 2014 and 2015.

As noted in Hydro One's August 14, 2013 Response to the National Energy Board's Information Request No. 2 - Sections 6 & 4 of the National Energy Board Order MO-036-2012 (page 6 to 7), Hydro One continues to work with the Independent Electricity System Operator to settle on shared compliance responsibilities for certain reliability standards. Once the two parties have settled their division of accountabilities, Hydro One will provide the Board an update on this matter and may re-apply for an exemption for certain reliability standards.

Hydro One notes that on March 8, 2004, the Board issued certain reporting requirements as Interim Expectations on the Reporting of Incidents on International Power Lines ("**Interim Expectations**"). Based on discussions with Board Staff, Hydro One is of the view that the requirements set out in those Interim Expectations were superseded by the reporting requirements prescribed in the Board's 2012 Reliability Standards Orders (specifically sections 7, 9 and 10). Hydro One's 2013 Annual Report – Interim Expectations on the Reporting of Incidents on International Power Lines is attached for the Board's information. Going forward, Hydro One will continue to comply with the reporting

requirements set in the Reliability Standards Orders, in lieu of the now-discontinued reporting stipulated in the Board's Interim Expectations.

Sincerely,

ORIGINAL SIGNED BY ODED HUBERT

Oded Hubert

C: Nancy Marconi, Manager, Regulatory Affairs, Independent Electricity System Operator

Hydro One Networks Inc.

Reliability Standards Report and Exemption Request

January 30, 2015

1. Background

Hydro One Networks Inc. ("**Hydro One**") is the holder of a number of National Energy Board ("**NEB**" or the "**Board**") International Power Line ("**IPL**") Certificates and Permits. Table 1 below contains a list of NEB Certificates and Permits included in General Order MO-036-2012, Amending Order AO-004-EPE-113 and Amending Order AO-005-EPE-59 issued by the NEB on December 6, 2012 (collectively, the "**Reliability Standards Orders**").

Table 1 - NEB Certificates and Permits listed in the Reliability Standards Orders

Province	Owner/Operator	Certificate/Permit No.
Ontario	Hydro One Networks Inc.	EC-III-6
Ontario	Hydro One Networks Inc.	EC-III-13
Ontario	Hydro One Networks Inc.	EC-III-20
Ontario	Hydro One Networks Inc.	EC-18
Ontario	Hydro One Networks Inc.	EC-11
Ontario	Hydro One Networks Inc.	EC-13
Ontario	Hydro One Networks Inc.	EC-12
Ontario	Hydro One Networks Inc.	EC-16
Ontario	Hydro One Networks Inc.	EC-14
Ontario	Hydro One Networks Inc.	EC-15
Ontario	Hydro One Networks Inc.	EC-17
Ontario	Hydro One Networks Inc.	EC-17
Ontario	Hydro One Networks Inc.	EPE-59
Ontario	Hydro One Networks Inc.	EPE-113

Hydro One is obligated under its Ontario Energy Board ("**OEB**") transmission licence to comply with the IESO Market Rules. Pursuant to Chapter 5 (Power System Reliability) of the Market Rules, Hydro One is required to carry out its obligations under this chapter in accordance with all applicable reliability standards[1]. As such, Hydro One is required to comply with the reliability standards established by the North American Reliability Corporation ("**NERC**") and the Northeast Power Coordinating Council ("**NPCC**"). Unless the OEB initiates a review, NERC standards are in force in Ontario when the reliability standards are declared in force in the United States (as opposed to when they are established, developed or adopted by NERC) or, for NPCC

[1] See Section 3.4.2 of Chapter 5 of the Market Rules and definitions of "reliability standards" and "standards authority" in Chapter 11 of the Market Rules.

reliability criteria, when declared in force by NPCC. Hydro One therefore complies with all standards and obligations on the date that they become enforceable in the US, subject to the necessary approvals[2] and any implementation plans issued by standards authorities with respect to those standards and obligations.

Hydro One has registered with the NERC as Transmission Owner ("**TO**"), Transmission Operator ("**TOP**"), Transmission Planner ("**TP**"), Load Serving Entity ("**LSE**") and Distribution Provider ("**DP**"). Note that, as both of the Independent Electricity System Operator ("**IESO**") and Hydro One are registered as TOP and TP, they share compliance responsibilities for certain standards within the reliability standards and compliance framework in the Province of Ontario.

2. Reliability Standards Adopted, Approved, Established Or Developed After Reliability Standards Orders Were Made

In accordance with Section 7 of the Reliability Standards Orders, the following reliability standards were adopted, approved, established or developed after these Orders were made:

- NERC's Reliability Standard INT-011-1 - Intra-Balancing Authority Transaction Identification ("**INT-011-1**")

- NERC's Reliability Standard MOD-026-1 - Verification of Models and Data for Generator Excitation Control System or Plant Volt/Var Control Functions ("**MOD-026-1**")

- NERC's Reliability Standard MOD-027-1 - Verification of Models and Data for Turbine/Governor and Load Control or Active Power/Frequency Control Functions ("**MOD-027-1**")

- NERC's Reliability Standard PRC-025-1 - Generator Relay Loadability ("**PRC-025-1**")

Note that NERC's Reliability Standard PRC-006-1 "Automatic under Frequency Load Shedding" (**"PRC-006-1"**) also became enforceable in Ontario on October 1, 2013. On January 30, 2014, Hydro One submitted an exemption application, requesting that the Board exempt it from compliance with PRC-006-1 under the Reliability Standards Orders. In its August 12, 2014 letter to Hydro One, the Board exempted Hydro One from compliance with PRC-006-1.

[2] See Sections 1.2.6, 1.2.6.1, 1.2.6.2 and 1.2.7 of Chapter 5 of the Market Rules.

3. Exemption Request

Pursuant to Section 4(1)(a) of each of the Reliability Standards Orders, the Board may exempt holders of a certificate or a permit from compliance with a reliability standard or any other related obligation under those Reliability Standards Orders if the Board is satisfied that:

(a) the reliability standard or any related obligation does not properly apply to the international power line for which the certificate or permit was issued;

3.1. INT-011-1

The purpose of INT-011-1 is to ensure that transfers within a Balancing Authority Area using Point to Point Transmission Service are communicated and accounted for in congestion management procedures. INT-011-1 became enforceable on January 1, 2015.

This standard falls under the category of "Exemption Type B: Standards that would generally apply to IPLs but are not in use under the Ontario market design". This is defined in Section 3.2 of Hydro One's March 6, 2013 submission (Reliability Standards Declaration and Exemption Request) to the NEB (the "**Hydro One Reliability Standards Original Submission**").

3.2. MOD-026-1, MOD-027-1 and PRC-025-1

The purpose of MOD-026-1 is to verify that the generator excitation control system or plant volt/var control function model (including the power system stabilizer model and the impedance compensator model) and the model parameters used in dynamic simulations accurately represent the generator excitation control system or plant volt/var control function behavior when assessing Bulk Electric System (BES) reliability. MOD-026-1 became enforceable on July 1, 2014.

The purpose of MOD-027-1 is to verify that the turbine/governor and load control or active power/frequency control model and the model parameters, used in dynamic simulations that assess Bulk Electric System (BES) reliability, accurately represent generator unit real power response to system frequency variations. MOD-027-1 became enforceable on July 1, 2014.

The purpose of PRC-025-1 is to set load-responsive generator protective relays at a level such that generators do not trip during system disturbances that are not damaging to the generator thereby unnecessarily removing the generator from service. PRC-025-1 became enforceable on October 1, 2014.

These standards fall under the category of "Exemption Type A: Standards that do not apply to IPLs". This is defined in Section 3.1 of the Hydro One Reliability Standards Original Submission.

Note that, in its November 13, 2013 letter to Hydro One, the Board had exempted Hydro One from compliance with reliability standards listed along with Exemption Types A, B, C and D. INT-011-1 falls under the "Exemption Type B" category. MOD-026-1, MOD-027-1 and PRC-025-1 fall under the "Exemption Type A" category.

As such, Hydro One requests that the Board exempt Hydro One from compliance with the obligations under the Reliability Standards Orders that pertain to NERC Reliability Standards INT-011-1, MOD-026-1, MOD-027-1, and PRC-025-1.

4. Additional Information

To further inform the Board, in Table 2.1 (attached), Hydro One provides an updated list (as of January 30, 2015) of the NERC and NPCC reliability standards applicable to Hydro One's IPLs and to which Hydro One adheres, from the list that is set out in the Hydro One Reliability Standards Original Submission. Table 2.1 identifies version changes (between January 31, 2014 and January 30, 2015) to those standards and when the revised versions became enforceable in Ontario. Table 2.1 also identifies the standard that was retired since January 30, 2014.

Version changes and retirement between March 6, 2013 and January 30, 2014 were provided in Table 2 of Hydro One's January 30, 2014 Annual Filing for the National Energy Board General Order MO-036-2012, Amending Order AO-004-EPE-113 and Amending Order AO-005-EPE-59.

Table 2.1 - Applicability of Mandatory Reliability Standards (as of January 30, 2015) to International Power Lines Version Changes and Retirement (between January 31, 2014 and January 30, 2015)

Standard Group	Standard Number	Standard Document Title	Notes on revision
NERC Standards			
CIP*	~~CIP-001-2a~~	~~Sabotage Reporting~~	This standard was retired on December 31, 2013 and replaced by EOP-004-2
EOP*	EOP-001-2.1b	Emergency Operations Planning	The standard was revised to Version 2.1b (from EOP-001-0.1b) which became enforceable in Ontario on July 1, 2013
	EOP-004-2	Event Reporting	The standard was revised to Version 2 (from EOP-004-1) which became enforceable in Ontario on January 1, 2014. Title of the standard changed to "Event Reporting" from "Disturbance Reporting". Accountability as per TOP matrix we have with IESO remains the same (applicable to both)
	EOP-005-2	System Restoration from Blackstart Resources	The standard was revised to Version 2 (from EOP-005-1) which became enforceable in Ontario on July 1, 2013. Title of the standard also changed from "System Restoration" to "System Restoration from Blackstart Resources"
	EOP-008-1	Loss of Control Center Functionality	The standard was revised changed to Version 2 (from EOP-008-0) which became enforceable in Ontario on October 1, 2013. Title of the standard changed from "Plans for Loss of Control Center Functionality" to "Loss of Control Center Functionality"
FAC	FAC-003-3	Transmission Vegetation Management Program	The standard was revised to Version 3 (from FAC-003-1) which became enforceable in Ontario on July 1, 2014.
TPL	TPL-001-4	System Performance Under Normal (No Contingency) Conditions (Category A)	This standard was revised to Version 4 (from TPL-001-0.1) which became enforceable on January 1, 2015
VAR	VAR-001-4	Voltage and Reactive Control	This standard was revised to Version 4 (from VAR-001-2) which became enforceable in Ontario on January 1, 2015

* The version changes and retirement of CIP and EOP Standards should have been included in Hydro One's January 30, 2014 submission to the Board but were inadvertently omitted.

Hydro One Networks Inc.

2013 Annual Report

Interim Expectations on the Reporting of Incidents on International Power Lines

January 30, 2015

1. Background

Hydro One Networks Inc. ("**Hydro One**") is the holder of a number of National Energy Board ("**NEB**" or the "**Board**") International Power Line ("**IPL**") Certificates and Permits. Table 1 below contains a list of NEB Certificates, Permits and the line designations.

Table 1 - NEB Certificates, Permits and Line Designations

Province	Owner/Operator	Certificate/Permit No.	Line Designation
Ontario	Hydro One Networks Inc.	EC-III-6	L4D
Ontario	Hydro One Networks Inc.	EC-III-13	L51D
Ontario	Hydro One Networks Inc.	EC-III-20	PA301, PA302
Ontario	Hydro One Networks Inc.	EC-18	L33P
Ontario	Hydro One Networks Inc.	EC-11	L34P
Ontario	Hydro One Networks Inc.	EC-13	J5D
Ontario	Hydro One Networks Inc.	EC-12	B3N
Ontario	Hydro One Networks Inc.	EC-16	BP76, PA27
Ontario	Hydro One Networks Inc.	EC-14	BSC105N
Ontario	Hydro One Networks Inc.	EC-15	BSC105S
Ontario	Hydro One Networks Inc.	EC-17	BL104, BSH106
Ontario	Hydro One Networks Inc.	EPE-59 and EPE-113	F3M

As part of the requirements set in the Board's Interim Expectations on the Reporting of Incidents on International Power Lines ("**Interim Expectations**"), IPL companies are expected to file annually a report that includes any known instances wherein an IPL's operational conditions or structure or hardware conditions resulted in:

a. violations of any of an IPL's minimum or maximum specifications or limits; or
b. an IPL violating any safety requirements, including minimum conductor clearances.

This annual report should also include copies of the following:

c. reports resulting from any patrols or inspections of an IPL undertaken during the year, and
d. reports resulting from any vegetation management assessments or activities around or under an IPL, undertaken during the year.

2. 2013 Annual Report for Incident Occurrence on IPLs

In 2013, there was one reportable incident (all times are approximate):

On April 26, 2013 at 12:25 pm, Hydro One's Ontario Grid Control Centre ("**OGCC**") noticed and verified a thermal limit concern on its B3N circuit (NEB IPL Certificate EC-12). The Independent Electricity System Operator ("**IESO**") also detected this thermal limit concern and advised Hydro One to adjust tap positions on the companion circuits (J5D and L4D) to alleviate the situation. At 12:49 pm, the B3N circuit was removed from service to prevent any damage to the circuit, after it had exceeded the 15 minutes thermal rating.

At 3:21 pm, after performing a visual patrol to ensure there was no excessive conductor sag and that there were no vegetation concerns or equipment/safety issues, Hydro One deemed that B3N was available for service, and subsequently the circuit was restored to service.

3. 2013 Patrols/Inspections Report on IPLs

A 2013 Patrols/Inspections Report (as of December 2013) is provided in the table below:

Patrol or Inspection	IPL Involved	IPL Section	Date Performed	Summary of General Condition and/or Deficiencies Noted	Action Taken to Mitigate	Next Steps (if required)
Foot Patrol	L4D	LAMBTON TS #2-MID R JCT ST CL L4D	2013			
Helicopter Patrol	L51D	LAMBTON TS #2-MID R JCT ST CL L51D	2013			
Helicopter Patrol	PA301	BECK #2 TS-BECK #2 TS	2013			
Helicopter Patrol	PA301	BECK #2 TS-MID R JCT NIAGARA 345	2013			
Helicopter Patrol	PA302	BECK #2 TS-BECK #2 TS	2013			
Helicopter Patrol	PA302	BECK #2 TS-MID R JCT NIAGARA 345	2013			
Helicopter Patrol	L33P	ST.LAWRENCE TS-MASSENA JCT	2013			
Helicopter Patrol	L34P	ST.LAWRENCE TS-MASSENA JCT	2013			
Foot Patrol (no fly circuit)	J5D	KEITH TS-MID R. JCT WATERMAN	2012	One structure with cracked insulators - minor defect	none, not necessary	to be re-assessed in 5-10 years
Helicopter Patrol	B3N	VIDAL JCT-SUN OIL CO JCT	2013			
Helicopter Patrol	B3N	SARNIA SCOTT JCT-VIDAL JCT	2013			
Helicopter Patrol	B3N	MID R. JCT BUNCE CRK-SUN OIL CO JCT	2013			
Helicopter Patrol	B3N	SARNIA SCOTT TS-SARNIA SCOTT JCT	2013			
Helicopter Patrol	BP76	BECK #2 TS-MID R. JCT NIAGARA	2013			
Helicopter Patrol	PA27	BECK #2 TS-MID R. JCT NIAGARA	2013			
Foot Patrol	BSC105	CANAL JCT-NIAGARA PARKS TS	2013			
Foot Patrol	BSC105	NIAGARA PARKS TS- MID RIVER 105 JCT	2013			
Foot Patrol	BSC105	BECK #1 SS-CANAL JCT	2013			
Foot Patrol	BL104	BECK #1 SS-MID R. JCT NIAGARA	2013			
Foot Patrol	BSH106	BECK #1 SS-MID R. JCT NIAGARA	2013			
Foot Patrol	F3M	FORT FRANCES TS-ACH FORT FRANCES CTS	2013			
Helicopter Patrol	F3M	ACH FORT FRANCES CTS-INT'L BDY MINN JCT	2013			

4. 2013 Vegetation Management Assessment Report on IPLs

A 2013 Vegetation Management Assessment Report (as of December 2013) is provided in the table below. There was only one patrol or inspection done in 2013, on circuit J5D. Please note that these circuits are on a 6-8 years patrol/inspection cycle.

Circuit	Functional Locations	Line section name	Last Line Clearing	Last Brush Clearing	Last Condition Patrol	Summary of General Condition and/or Deficiencies Noted	Vegetation Maintenance Cycle (years)
L4D	N-TL-L4D -01	LAMBTON TS #2-MID R JCT ST CL L4D	2009	2009	2012	In good condition	6
L51D	N-TL-L51D -01	LAMBTON TS #2-MID R JCT ST CL L51D	2009	2009	2012	In good condition	6
PA301	N-TL-PA301 -01	BECK #2 TS-BECK #2 TS	2009	2009	2012	In good condition	6
PA301	N-TL-PA301 -02	BECK #2 TS-MID R JCT NIAGARA 345	2009	2009	2012	In good condition	6
PA302	*N-TL-PA302 -01*	BECK #2 TS-BECK #2 TS	2009	2009	2012	In good condition	6
PA302	*N-TL-PA302 -02*	BECK #2 TS-MID R JCT NIAGARA 345	2009	2009	2012	In good condition	6
L33P	N-TL-L33P -01	ST.LAWRENCE TS-MASSENA JCT	2012	2012	2009	In good condition	6
L34P	*N-TL-L34P -01*	ST.LAWRENCE TS-MASSENA JCT	2012	2012	2009	In good condition	6
J5D	N-TL-J5D -01	KEITH TS-MID R. JCT WATERMAN	2010	2010	2013	In good condition	6
B3N	N-TL-B3N -04	VIDAL JCT-SUN OIL CO JCT	2009	2009	2012	In good condition	6
B3N	N-TL-B3N -03	SARNIA SCOTT JCT-VIDAL JCT	2009	2009	2012	In good condition	6
B3N	N-TL-B3N -02	MID R. JCT BUNCE CRK-SUN OIL CO JCT	2009	2009	2012	In good condition	6
B3N	N-TL-B3N -01	SARNIA SCOTT TS-SARNIA SCOTT JCT	2009	2009	2012	In good condition	6
BP76	*N-TL-BP76 -01*	BECK #2 TS-MID R. JCT NIAGARA	2009	2009	2012	In good condition	6
PA27	N-TL-PA27 -01	BECK #2 TS-MID R. JCT NIAGARA	2009	2009	2012	In good condition	6
BSC105	N-TL-BSC105-01	CANAL JCT-NIAGARA PARKS TS	2009	2009	2012	In good condition	6
BSC105	N-TL-BSC105-02	NIAGARA PARKS TS- MID RIVER 105 JCT	2009	2009	2012	In good condition	6
BSC105	N-TL-BSC105-03	BECK #1 SS-CANAL JCT	2011	2011	2008	In good condition	6
BL104	N-TL-BL104 -01	BECK #1 SS-MID R. JCT NIAGARA	2012	2012	2008	In good condition	6
BSH106	*N-TL-BSH106-01*	BECK #1 SS-MID R. JCT NIAGARA	2012	2012	2008	In good condition	6
F3M	N-TL-F3M -01	FORT FRANCES TS-ACH FORT FRANCES CTS	2008	2008	2012	In good condition	8
F3M	N-TL-F3M -02	ACH FORT FRANCES CTS-INT'L BDY MINN JCT	2008	2008	2012	In good condition	8

5. Reporting Requirements

On December 6, 2012, the Board issued General Order MO-036-2012, Amending Order AO-004-EPE-113 and Amending Order AO-005-EPE-59 (collectively the "**Reliability Standards Orders**"), setting out certain reporting requirements for IPL owners.

Hydro One submits that the requirements set in the Interim Expectations (which was issued in 2004) have been superseded by the reporting requirements prescribed in the Board's December 6, 2012 Reliability Standards Orders (specifically sections 7, 9 and 10). As such, and as noted in our letter to the Board, dated January 30, 2015, while Hydro One will continue to observe the reporting requirements set in the Reliability Standards Orders, it will no longer provide reports required by the Board's Interim Expectations in the future.