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VIA RESS AND COURIER

Kirsten Walli
Board Secretary
Ontario Energy Board
P.O. Box 2319
2300 Yonge Street, 27th Floor
Toronto, Ontario M4P 1E4

Dear Ms. Walli:

**RE: EB-2016-0160 Hydro One Networks Inc. (“Hydro One”) Transmission Rates
Application – Responses to Undertakings J7.5, J9.1 and J9.6**

Hydro One’s responses to Undertakings J7.5, J9.1 and J9.6 are enclosed.

Yours truly,

McCarthy Tétrault LLP

Per:



For: Gordon M. Nettleton

GMN

1 **UNDERTAKING – J7.5**

2
3 **Undertaking**

4
5 To work out with the math that you provided in I10-5 and I10-3 for the same two figures,
6 the averages on the Northern System interruption duration, average interruption duration
7 -- This is TCJ2.5, page 3, and the TCJ2.5, page 4, northern system delivery point
8 unreliability index average.

9
10 **Response**

11
12 **Background Information:**

- 13 • Exhibit I-10-3 provides tables for **Frequency and Duration of Interruptions** and
14 **Delivery Point Unreliability** for the Northern Transmission System and
15 separately for the First Nation Communities
- 16 • Exhibit I-10-5 provides charts for **Frequency and Duration of Interruptions**
17 and **Delivery Point Unreliability** for only the First Nation Communities. The
18 data values on the charts match the table values in Exhibit I-10-3, but are
19 presented (as requested) in a chart format here.
- 20 • Exhibit TCJ2.5 provides charts for **Frequency and Duration of Interruptions**
21 and **Delivery Point Unreliability** for the Northern Transmission System and
22 separately for the First Nation Communities. The data values on the charts match
23 the values presented in Exhibits I-10-3 and I-10-5. The change here is that (as
24 requested) the charts have had the 10-year average line included.

25
26 **Method of Calculating the 10-year average line on each chart:**

27
28 The 10-year average is NOT calculated by taking the 10 individual year's values, adding
29 them together and dividing by 10, this would skew the results and is not reflective of the
30 actual 10-year average.

31
32 The 10-year average is calculated using the source data for each chart. This involves
33 using the total number of interruption minutes (or counts) and total number of delivery
34 points over the 10-year timeframe. An example is included here.

35
36 The "Duration of Sustained Interruptions" in Exhibit I-10-3 on page 3 is also included as
37 the "Northern System Average Interruption Duration" in Exhibit TCJ2.5 on page 3.

Witness: Scott McLachlan

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total '06-15
Duration of sustained interruptions (minutes)	23108	22555	29650	14167	37063	86609	52229	29136	17466	26512	338494
# of DPs in Northern Region	150.5	150.0	150.6	149.2	147.5	146.4	146.7	148.6	149.2	148.6	1487.3
T-SAIDI*	153.5	150.4	196.9	95.0	251.2	591.6	356.0	196.1	117.1	178.4	227.59

1
2
3

The 10-year average line for this example is calculated based on the following formula:

$$\begin{aligned}
 T - SAIDI &= \frac{\text{Total Interruption Durations in the period}}{\text{Total Number of Delivery Points}} \\
 &= \frac{\sum_{2006}^{2015} \text{Duration}}{\sum_{2006}^{2015} \text{Number of Delivery Points}} \\
 &= \frac{338,494 \text{ minutes}}{1,487.3 \text{ delivery point} * \text{year}} \\
 &= 227.6 \text{ minutes per delivery point per year}
 \end{aligned}$$

4
5
6
7

All the other Northern Transmission System and First Nations Communities charts included in Exhibit TCJ2.5 on pages 3 to 6 are calculated using the same methodology.

1 **UNDERTAKING – J9.1**

2
3 **Undertaking**

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5 To advise whether the relationship between Hydro One and Great Lakes Power
6 Transmission is an affiliate relationship as per the Affiliate Relationship Code

7
8 **Response**

9
10 Hydro One views and treats this relationship as an affiliate relationship under the
11 Affiliate Relationships Code.

1 **UNDERTAKING – J9.6**

2
3 **Undertaking**

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5 To review the exhibit and advise which companies are rate regulated (and % of total
6 assets are in regulated business)

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8 **Response**

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10 Please see the attachment to this response.

Witness: Ryan Resch

Hydro One Inc.
 2015 Executive Peer Group - Regulated Operations

Hydro One 2015 Peer Group	Regulated Operations?	2015 Regulated Operations (as a % of total)
Utility Peer Group (n = 8)		
AltaGas	✓	49%
ATCO Group	✓	<i>Not Disclosed</i>
Emera Inc.	✓	79%
Fortis Inc.	✓	96%
Inter Pipeline Ltd.	-	
Keyera Corp.	-	
Pembina Pipeline Corp.	-	
TransAlta Corp.	-	
Other Asset Intensive Companies (n = 13)		
Agrium Inc.	-	
Bombardier Inc.	-	
Canadian National Railway	✓	<i>Not Disclosed</i>
Canadian Pacific Railway Ltd.	✓	<i>Not Disclosed</i>
Canadian Tire Corporation	-	
Capital Power Corporation	-	
CGI Group Inc.	-	
Enbridge Inc.	✓	<i>Not Disclosed</i>
Intact Financial Corp.	-	
Rogers Communications Inc.	✓	<i>Not Disclosed</i>
SNC Lavalin Group Inc.	-	
TELUS Corp.	✓	<i>Not Disclosed</i>
TransCanada Corp.	✓	<i>Not Disclosed</i>
Hydro One	✓	98%