

Power Workers' Union (PWU) INTERROGATORY #1 List 1

Interrogatory

Issue: 1.6

Issue: Is service quality on the OEB specified performance indicators acceptable?

Exh.A/T15/S1/P.7 (Table 2: Service Reliability Indicators)

(a) Please explain the reason why the OEB's SAIFI target for the years 2005, 2006, 2007 and 2008 (≤ 3.1) is lower (less strict) than the OEB's SAIFI target for 2004 (≤ 3.0)?

(b) Please expand Table 2 to include data for 2002 and 2003.

Response

a) Please refer to the interrogatory response in Exhibit H, Tab 1 Schedule 53.

b) Table 2 Service Reliability Indicators

Performance Measure	2002 OEB Tgt	2002 Act	2003 OEB Tgt	2003 Act	2004 OEB Tgt	2004 Act	2005 OEB Tgt	2005 Act	2006 OEB Tgt	2006 Act
SAIFI Frequency of Interruptions (#of interruptions per customer)	≤ 3.2	2.9	≤ 3.0	2.9	≤ 3.0	3.1	≤ 3.1	2.9	≤ 3.1	2.9
SAIFI including Force Majeure		3.2*		3.5**		3.2***		3.9†		5.2††
SAIDI Duration of Interruptions (hrs of interruption per customer)	≤ 10.1	9.4	≤ 9.4	8.0	≤ 9.4	6.5	≤ 9.4	8.0	≤ 8.0	7.1
SAIDI including Force Majeure		12.5*		15.1**		6.9***		14.5†		28.4††
CAIDI Average Interruption Time (#of hrs per interruption)	≤ 3.1	3.2	≤ 3.1	2.8	≤ 3.1	2.1	≤ 3.0	2.8	≤ 2.6	2.4
CAIDI including Force Majeure		3.9*		4.3**		2.2***		3.7†		5.5††

* Please see Attachment 1 for details on "2002 Force Majeure Events"

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Exhibit H

Tab 6

Schedule 1

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- 1 ** Please see Attachment 1 for details on “2003 Force Majeure Events”
- 2 *** See Exhibit A, Tab 15, Schedule 1 for details on “2004 Force Majeure Events”
- 3 † See Exhibit A, Tab 15, Schedule 1 for details on “2005 Force Majeure Events”
- 4 †† See Exhibit A, Tab 15, Schedule 1 for details on “2006 Force Majeure Events”
- 5

ATTACHMENT 1

Information below is extracted from Exhibit A, Tab 15, Schedule 1 in the 2006 Rates Application under Proceeding EB-2005-0378.

1.0 2002 Force Majeure Events

Hydro One Distribution considers the storms of January 31st to February 1st and March 9 to 12th, 2002 as "force majeure" events. The 2 storms interrupted 11% and 21% of our customers respectively. This type of damage is beyond what is typically expected from historic business practice. The January 31st to February 1st, 2002 storm caused massive damage in Ontario from Essex to Vankleek Hill along the north shores of Lake Erie and Lake Ontario. Environment Canada reported snow, freezing rain and winds up to 100 km/hr. The storm snapped trees and poles and caused major structural damage. It closed roads and brought normal activities to a stand still, especially in Southwestern Ontario.

The second storm March 9th to 12th, 2002 had such extensive damage that repairs continued into the following week. Icy winds tore through Southern Ontario for more than 24 hours, uprooting trees, knocking down power lines and damaging property by hurling roof shingles and blowing large beams 30 meters across a highway. Debris and trees littered the roads and highways making it difficult to travel. In some cases roads were closed to traffic due to the damage which inhibited power restoration efforts.

Removing the effect of the 2 storm results in annual SAIDI of 9.4 hours, annual SAIFI of 2.9 interruptions and annual CAIDI of 3.2 hours.

1.1 2003 Force Majeure Events

In 2003 there were four storms that met the force majeure criteria. The storms occurred on April 4th, August 21st, November 12th and November 28th. Each of those days, respectively they interrupted the following percentages of customers: 16%, 12%, 27% and 16%.

On April 4th, 2003, southern Ontario, from Essex to Vankleek Hill, was hit with freezing rain, and ice pellets, heavy ice accumulation, and gusting winds from 40 to 60 km/hr. Over the course of the outages caused by this storm over 180,000 Hydro One customers experienced outages in Hydro One territory.

On August 21st, thunder storms and high winds adversely affected 18 of our Operation Centers from Georgian Bay east to the Quebec border. The storms interrupted power to 123,000 our customers.

A winter windstorm started on November 12th. High winds from 60 km/h gusting to 110 km/h and snow squalls caused power interruptions to about 130,000 Hydro One

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Tab 6

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1 customers across Ontario from Sudbury to Lakes Erie and Ontario.

2

3 Another winter storm hit southern, central and eastern Ontario on November 28th. This
4 time high winds gusting up to 80 km/h and heavy, moist snow caused power
5 interruptions to about 180,000 Hydro One customers.

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7 Removing the effect of the 4 storms result in annual SAIDI of 8.0 hours, annual SAIFI
8 of 2.9 interruptions and annual CAIDI of 2.8 hours.

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1 **Power Workers' Union (PWU) INTERROGATORY #2 List 1**

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3 **Interrogatory**

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5 **Issue: 1.6**

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7 **Issue:** Is service quality on the OEB specified performance indicators
8 acceptable?

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10 Ref (a): Exh.A/T3/S1/P 18 – Figure 4, P.19 – Figure 5

11 Ref (b): Exhibit C1/Tab 2/P.30/ Table 9

12
13 Preamble:

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15 Ref (a) indicates that tree contacts accounted for 57% of total SAIDI and 28%
16 SAIFI for the period 2003-2006.

17
18 Ref (b) indicates that vegetation management accounted for \$88.9m, \$86.4m,
19 and \$89.1m in 2004, 2005, and 2006 respectively.

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21 Questions:

22
23 (a) Please explain why the budget allocated to vegetation management
24 decreased in 2005 by about 3% from the amount in 2004.

25
26 (b) Can Hydro One confirm that the high contribution of tree contacts to SAIDI
27 and SAIFI in Ref (a) is partly due to the low levels of spending on
28 vegetation management for the period 2004-2006? Please explain.

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30
31 **Response**

32
33 a. The 2004 and 2005 figures are actual values, not budget amounts. The budget
34 allocated to vegetation management did not decrease in 2005 from the amounts in
35 2004. Please refer to the interrogatory response in Exhibit H, Tab 1, Schedule 63 for
36 additional details on vegetation management accomplishments.

37
38 b. Typically there is a lag between increased or reduced spending on vegetation
39 management and reliability performance. For details on the Vegetation Management
40 Program's impact on reliability, please refer to the interrogatory response in Exhibit
41 H, Tab 1, Schedule 49.

1 **Power Workers' Union (PWU) INTERROGATORY #3 List 1**

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3 **Interrogatory**

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5 **Issue 4.3**

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7 **Issue:** Are the 2008 sustaining capital expenditures proposed for Asset
8 Replacement appropriate?

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10 Ref (a): Exhibit A/T15/S 2/ Attachment A, Hydro One Distribution Benchmarking
11 Study and Exhibit A/T 14/S 5 – Tree Trimming

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13 Preamble:

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15 Ref (a) states:

16 "...Hydro One has by far the longest cycle time between consecutive trimming of
17 each tree. It would be worth investigating to see whether that has led to greater
18 difficulty in performing the trimming when the time comes for each tree or circuit.
19 It is also conceivable that this long cycle leads to more "hot-spot" trimming than
20 usual, which is typically more expensive than routine cycle trimming. Previous
21 studies executed by PA Consulting have indicated that the optimum tree
22 trimming cycle length is nearer to 5-6 years than to the 11 currently in practice at
23 Hydro One."

24
25 Questions:

- 26
27 (a) Please provide Hydro One's understanding of the above statement,
28 specifically whether shortening the tree trimming cycle length from the
29 current 11 years to 5-6 years would be less expensive and/ or improve
30 reliability.
31 (b) Does Hydro One plan to shorten its current tree trimming cycle length?
32 Please explain.
33

34
35 **Response**

- 36
37 a. Hydro One's understanding of the statement referenced is that once a shorter cycle is
38 fully implemented, the unit cost for tree trimming will be less than the current cost.
39 This reduction is driven by the fact that a shorter cycle would result in crews dealing
40 with less vegetation growth.
41

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Exhibit H

Tab 6

Schedule 3

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- 1 For details on the Vegetation Management Program's impact on reliability, please
2 refer to the interrogatory response in Exhibit H, Tab 1, Schedule 49.
3
4 b. Yes, Hydro One Distribution is planning for an 8 year clearing cycle in 2008 as
5 discussed in the interrogatory response in Exhibit H, Tab 1, Schedule 50.

1 **Power Workers' Union (PWU) INTERROGATORY #4 List 1**

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3 **Interrogatory**

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5 **Issue 4.3**

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7 **Issue:** Are the 2008 sustaining capital expenditures proposed for Asset
8 Replacement appropriate?

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10 Ref (a): Exhibit D1 Tab 2 Schedule 1 page 7

11 Ref (b): Exhibit D1 Tab 3 Schedule 2 – Wood Structure Replacement

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13 Preamble:

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15 In Ref (a), “Very Poor” and “Poor” condition assets are defined as high risk and
16 requiring replacement, refurbishment or other remedial action within the next 5
17 years to correct significant deterioration.

18
19 In Ref (b), On Page 19, it is indicated that about 4% of Hydro One’s 1.65m **poles**
20 have been found to be sub-standard, i.e., in “poor” or “very Poor” state. This
21 amounts to 66,000 poles.

22
23 On Page 20, it is stated that Hydro One replaced 5,200 poles in 2006 and 6,852
24 poles in 2007 and plans to replace 7, 000 poles in 2008.

25
26 Questions:

27
28 (a) What proportion of the 4% (66,000) of the poles require replacement in the
29 next 5 years and what proportion is planned for refurbishment or other
30 remedial action?

31
32 (b) If the 66,000 poles cited above require replacement over the next 5 years,
33 and given the historic data for 2006 and 2007 cited above, please explain
34 how Hydro One plans to achieve the target of replacing 66,000 poles in
35 “poor” and “very Poor” condition in the next 5 years at the current rate of
36 pole replacement?

37
38 (c) Please explain the slight decrease from \$ 40.1m in the 2007 to \$39.8m in
39 the 2008 Test year in the spending level for pole replacement given Hydro
40 One’s plan of increasing the number of poles replaced from 6,852 in 2007
41 to 7,000 in 2008?
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Response

- a. Those poles that are found to be in very poor condition will be replaced under Trouble Call and the poles found to be in poor condition as part of the pole assessment program will be replaced within 5 years.
- b. Please refer to the interrogatory response in Exhibit H, Tab 1, Schedule 18.
- c. The slight reduction in planned 2008 expenditures from 2007 is driven by lower unit costs in 2008. Through the Wood Structure Replacement Program, Hydro One replaces a wide variety of poles in terms of pole class, height, footing type (e.g. in earth, in rock) and location. In any given year, the mixture of replacements can swing from lower cost poles to higher cost depending on the quantities and types of poles that have been identified for replacement. For example, a smaller pole supporting a rural feeder is less costly to replace than a larger pole supporting a sub-transmission feeder. In 2007, the approximate ratio of rural poles to sub-transmission poles was 2:1 where in 2008 the number of rural poles compared to subtransmisssion poles is expected to increase. The greater proportion of rural pole replacements in 2008 drive the lower overall unit cost for the program and thus the slight reduction in overall spending.