

EB-2007-0681
AMPCO Cross Examination
Document Brief

**Hydro One Panel #4: Load Forecast including CDM, Cost
Allocation, Rate Design and Rate Harmonization.**

July 15, 2008

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Ontario Energy Board (Board Staff) INTERROGATORY #133 List 1

Interrogatory

Ref: Exhibit G1 / Tab 2 / Schedule 3 / p. 9/Issue 7.1

- a. Did Hydro One consider two or more classes of customers that would be served at 13.8kV and above, eg embedded distributors considered separately from the remainder of the proposed ST class, former Transmission class as separate, etc.?
- i) If so, what alternatives were developed in sufficient detail to yield approximate cost allocation results, and what were the results?
- ii) If not, why not?
- b. Does Hydro One expect to have cost savings related to Metering and/or Billing as a result of discontinuing the classification of Embedded Distributor and classifying those distributors as ST customers? If so, what is the approximate amount of the savings?
- c. Does Hydro One expect to have cost savings related to Metering and/or Billing as a result of discontinuing the classification of Embedded Direct and serving those customers as ST customers? If so, what is the approximate amount of the saving?

Response

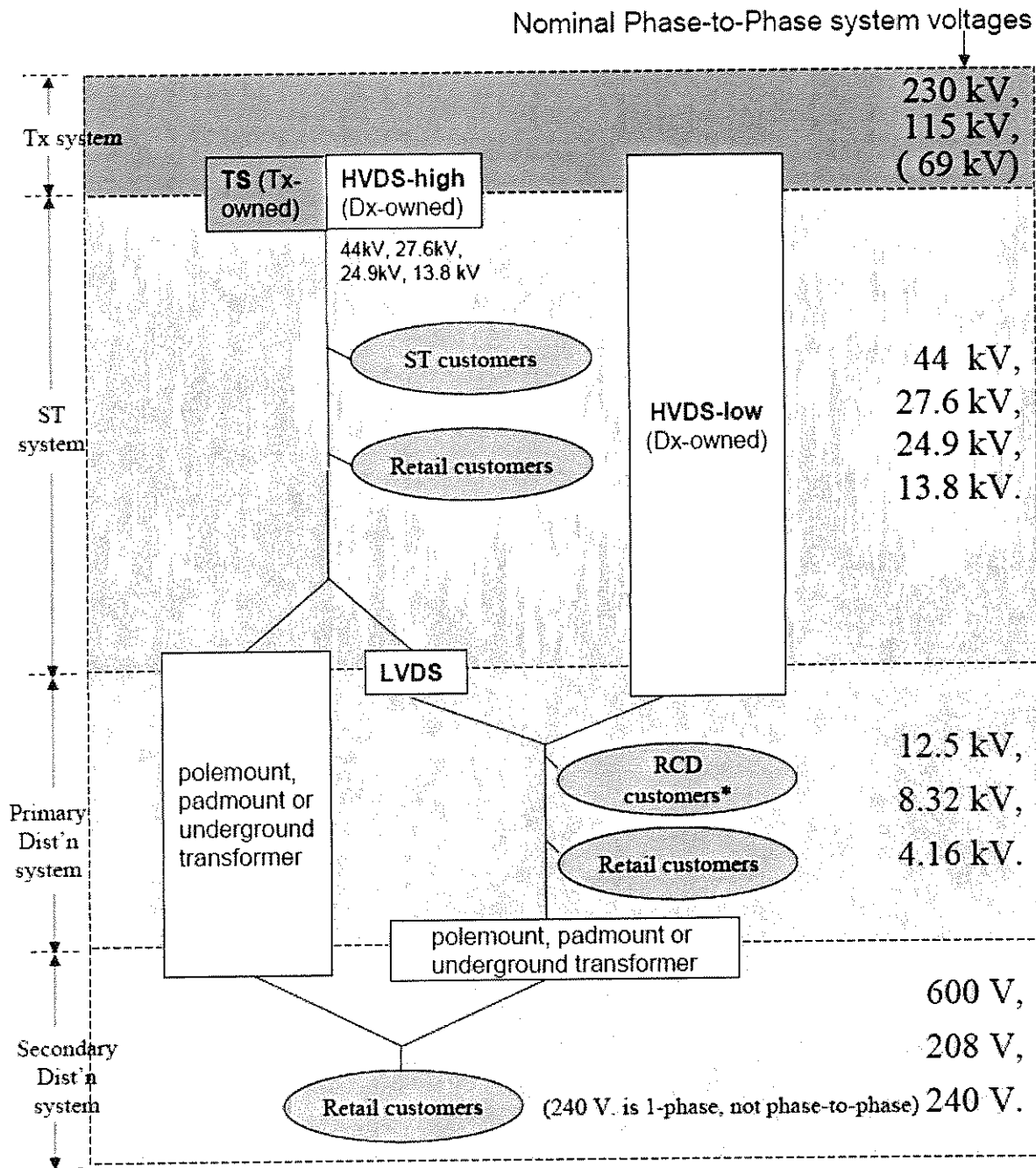
- a. No, Hydro One did not consider two or more classes of customers for customers served at 13.8 kV and above.

One of the criteria considered in proposing the 12 customer classes is to reduce the number of existing customer classes. Since the existing OEB approved Low Voltage class currently includes all embedded Distributors and all Direct customers, consideration was not given to splitting this customer group. Direct customers are customers with average consumption above 5 MW, that prior to market opening were supplied by Ontario Power Generation. Another criteria considered was to group all customers according to their asset utilization. Embedded distributors supplied at 13.8 kV and above use the same assets as all other customers that are proposed to be grouped in the new Sub-Transmission class and therefore, no consideration was given to treat them separately.

- b. and c.

No, Hydro One does not expect any cost savings related to Metering and/or Billing of Embedded Distributors or Embedded Direct customers. Billing and Metering for these customers will continue to be performed in the same manner as it is done now. Classifying these customers now as part of the new Sub-Transmission class will not change the Billing and/or Metering applicable to these two types of customers.

Dx System and Customers – ST basis



* RCD customers are embedded distributor LDCs whose delivery points are between 12.5kV and 4.16kV (nominal phase-to-phase voltages).
RCD = "Rural-Connected Distributor"

Excerpt from: Exhibit G1, Tab 4, Schedule 4, Page 2 of 4 (Filed: December 18, 2007).

12

13

Table 1

14

ST Proposed 2008 monthly charges

15

LV		ST	
Asset Type Utilized	Current Volumetric Rate*	Asset Type Utilized	Proposed Volumetric Rate**
Shared LV Line	\$0.633/kW	Common ST Line	\$0.58/kW
HVDS-high	\$1.678/kW	HVDS-high	\$1.42/kW
HVDS-low	\$3.797/kW	HVDS-low	\$2.66/kW
Shared LVDS	\$2.12/kW	LVDS-low	\$1.24/kW
Specific LV Line	\$526/km	Specific ST Line	\$729/ km
Specific Distribution Line	\$358/km	Specific Primary Line	\$565/ km

16

*No applicable Service Charge

17

** Fixed Charge of \$188 and a meter charge of \$553 will also apply

Ontario Energy Board (Board Staff) INTERROGATORY #137 List 1

Interrogatory

Ref. Exhibit G2 / Tab 1 / Schedule 1

Please provide a copy of the most current cost allocation model as an official part of this application. Please also provide the following:

- a. Please file a version with the customer classes as shown on pp. 4-5 of the Exhibit, and not with 270 classes as described at p. 1;
- b. Please provide a complete version in electronic form but it is necessary to provide a paper copy of only worksheets I2, I6, I8, O1, O2, and E2
- c. If not included in this version of the cost allocation model, please include a copy of the diagram "Dx System and Customers - ST Basis" that was included in the Hydro One's filing EB-2007-0001

Please describe the cost basis for the following charges or credits, by indicating the relevant results in the Hydro One cost allocation model, if applicable:

- d. USL credit (Ref: Exhibit G2 / Tab 1 / Schedule 1 / pp. 13 & 19)
- e. ST monthly service charge, ST common line, and two specific line charges (Ref: Exhibit G2 / Tab 94 / Schedule 1 / p. 2)
- f. Transformer Ownership Allowance (Ref: Exhibit G1 / Tab 4 / Schedule 6, and Exhibit G2 / Tab 1 / Schedule 1 / p. 12).
- g. Sentinel Lights miscellaneous revenue (Ref: Exhibit E3 / Tab 1 / Schedule 1 / p. 2)

Response

- a. This is provided in Exhibit G2, Tab 1, Schedule 1, Attachment A, filed on February 28, 2008.
- b. A complete electronic version of Hydro One Distribution's Cost Model, in PDF format, has been provided in the same February 28, 2008 filing. Refer to Exhibit G2, Tab 1, Schedule 1, Attachment A.
- c. Please see Attachment A.
- d. The USL credit was extracted from the Cost Model Tab O3.5 USL Metering Credit. Refer to Exhibit G2, Tab 1, Schedule 1, Attachment A, which contains the Cost Model.

- e. The cost basis for the ST monthly Service charge is as follows:
The amount recovered by the proposed ST Service Charge of \$188 plus the amount recovered by the proposed ST Meter Charge equals what would have been recovered

ST Rates

designed based on physical characteristics of its system

1 by the ST "Max SrChg" Service Charge value of \$372 in the OEB Cost Allocation
2 model (cell I19 on the "Scenarios" sheet).

3
4 In other words, the OEB Cost Allocation model identified \$372 as the ST "Max
5 SrChg" Service Charge. Removing ST meter costs revised the Service Charge to
6 \$188. That revision was offset by introducing the Meter Charge, charged solely to
7 those customers for whom Hydro One owns the ST meters.

8
9 The cost basis for the ST Specific Line and Primary Specific Line rates is as follows:

10
11 The cost of Distribution Lines was taken from the OEB Cost Allocation model, and
12 divided by the unit-cost-weighted lengths of ST line and Primary Line to produce the
13 two rates: an ST Specific Line rate per km and a Primary Specific Line rate per km.
14 These values were consistent with the Common Line rate when the Revenue-Cost
15 Ratio equalled 1, so these values were prorated in proportion to the Common Line
16 rate when the Revenue-Cost Ratio equalled 1.15. This produced the proposed
17 Specific Line rates.

18
19 The cost basis for the ST Common Line rate is as follows:

20 From the variable revenue requirement, (at Revenue-Cost Ratio = 1), allocated to ST
21 by the OEB Cost Allocation model, was subtracted, at Revenue-Cost Ratio =
22 1, the amounts recovered via the HVDSs rates, the LVDs-low rate, and the Specific
23 Line rates. Added to the result, was the amount under collected by the Service
24 Charge due to fixing the Service Charge at a value lower than "the amount allocated
25 to Service Charges divided by the number of delivery points" *.

26 This result was divided by the charge determinant kW to get the Common Line rate
27 at Revenue-Cost Ratio = 1. This rate was then increased to get the rate for Revenue-
28 Cost Ratio = 1.15.

29 * What this means is that the amounts recovered by the proposed Service Charge and Meter Charge
30 are less than the fixed amount allocated to the ST class. This difference is recovered through the ST
31 Common Line rate.

32
33 f. The Transformer Ownership Allowance proposed by Hydro One is the current
34 approved rate of \$0.60 per kW and is not from the Cost Model.

35
36 g. The Hydro One cost allocation model is not used in determining the cost basis for
37 sentinel lights miscellaneous revenue.

38
39 To determine the sentinel lights miscellaneous revenue, Hydro One Distribution uses
40 a revenue requirement model. The sentinel lights revenue requirement include costs
41 that are directly attributable to sentinel lights and a portion of common shared
42 charges.

Ref (4.6.9.4)

There below band brought to the lower end
 " above " " " higher end.

Excerpt from: Exhibit G1, Tab 3, Schedule 1, Page 2 of 5 (Filed: December 18, 2007).

Table 1
 Hydro One Cost Allocation Study Results

	UR	R1	R2	Seasonal	UGSe	UGSd	GS e	GS d	ST	DG	Street Light	Sent. Light	Total
Rev Req \$M	66.0	240.2	390.3	83.6	9.3	16.8	111.1	105.4	27.4	0.4	8.1	8.0	1,066.6
Revenue at current rates \$M	57.7	197.1	404.6	77.0	12.1	16.0	119.6	107.9	64.2	0.6	4.9	4.9	1,066.6
Rev/cost ratio	0.87	0.82	1.04	0.92	1.29	0.95	1.08	1.02	2.35	1.63	0.60	0.62	1.00

Excerpt from: Exhibit G1, Tab 3, Schedule 1, Page 4 of 5 (Filed: December 18, 2007).

Table 2
 Proposed Revenue/Cost Ratio by Customer Class

	UR	R1	R2	Seasonal	UGSe	UGSd	GS e	GS d	ST	DG	Street Light	Sent. Light	Total
Proposed Revenue Requirement \$M	66.0	211.4	404.6	83.6	11.2	16.8	119.6	107.9	31.5	0.4	5.7	5.6	1,064.1
Proposed revenue to cost ratio	1.0	0.88	1.04	1.0	1.2	1.0	1.08	1.02	1.15	1.00	0.7	0.7	1.0

*Revenue to cost ratios in bold show the proposed change

left unchanged
 coz within band 7 of 9

why choose high end
 - first time doing CA
 - to limit unreasonable impacts on other C.

Excerpt from: Exhibit G1, Tab 3, Schedule 1, Page 5 of 5 (Filed: December 18, 2007) (Note: the typo for UGe customers is in the original).

Table 3
Impact to Customer Classes of Revenue/Cost Ratios

	Proposed R/C	Average impact %	R/C = 1	Average impact %
UR	1.0	3.4	1	3.4
R1	0.88	3.0	1	8.3
R2	1.04	1.0	1	(0.8)
Seasonal	1.0	9.7	1	9.7
UGe	1.2	(2.3)	1	(6.3)
UGd	1.0	0.3	1	0.3
GSe	1.08	0.5	1	(2.2)
GSd	1.02	(2.1)	1	(2.7)
DG	1	(29.0)	1	(29.0)
Street Light	0.7	5.0	1	21.7
Sentinel Light	0.7	25.0	1	118.1
ST	1.15	(4.7)	1	(5.0)

Summary of: Ontario Energy Board Report, Application of Cost Allocation for Electricity Distributors, dated November 28, 2007.

- The Board set target revenue-to-cost ratio ranges for different rate classes as follows (see pages 8-9):
 - Residential Class (0.85 to 1.15).
 - General Service less than 50kW (0.80 to 1.20).
 - General Service 50 to 4,999kW (0.80 to 1.80).
 - General Service Unmetered Scattered Load Class (0.80 to 1.20).
 - Large User (0.85 to 1.15).
 - Street Lighting and Sentinel Lighting (0.70 to 1.20).
- However, the board set out a number of “Influencing Factors” that had an impact on its policy relating to revenue-to-cost ratios, including (see pages 5-7):
 - Quality of the data.
 - Limited modelling experience.
 - Status of current rate classes.
 - Managing the movement of rates closer to allocated costs.

