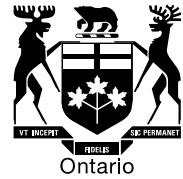


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BY E-MAIL

September 30, 2013

Attention: Ms. Kirsten Walli, Board Secretary

Dear Ms. Walli:

**Re: Toronto Hydro-Electric System Limited
Application for Disposition and Recovery of Smart Meter Amounts
Board File Number EB-2013-0287**

In accordance with Procedural Order No.1 issued on September 12, 2013, please find attached the Board staff interrogatories on the referenced application filed by Toronto Hydro-Electric System Limited.

Original Signed By

Martin Davies
Project Advisor, Applications & Regulatory Audit

Attachment

cc: Parties to EB-2013-0287 proceeding

**Toronto Hydro-Electric System Limited
Smart Meter Clearance Application
EB-2013-0287**

Board staff Interrogatories

1. Ref: Application, pages 2 and 11-12 of 17, Appendices C1, C2, C3 and F

Board staff has prepared the attached spreadsheet comparing the capital and OM&A costs by year from THESL's smart meter model in Appendices C1, C2 and C3 and the Board-issued Smart Meter Model populated in Appendix F. The analysis also includes a comparison with the Variance Analysis shown in Appendix B, Table 1 and the Costs by Minimum Functionality and Beyond Minimum Functionality shown in Appendix A, Table 1.

Appendices A and B and Appendix F appear to match, subject to rounding. The table shows different capital amounts for Appendices C1, C2 and C3 compared with Table 1 and Appendix F. In particular, the total capital expenditures documented in Appendices C1, C2 and C3 total \$75,536,037, about \$1.9 million less than the \$77,105,084 in Appendices A, B and F. Also, \$5,611,816 of computer hardware and software costs are added to rate base in 2009 in Appendix C1, but appear to be added to rate base in 2008 in Appendix F (and in Appendices A and B). All else being equal, the higher costs and adding the \$5.6 million to rate base one year earlier will result in a larger deferred revenue requirement in Appendix F compared to Appendices C1, C2 and C3.

- a) Please confirm or correct the inputs on Board staff's spreadsheet.
- b) Please indicate what are the correct capital and operating costs and by year for which THESL is seeking recovery of deferred and ongoing incremental revenue requirement costs.
- c) Given that Appendix F differs in terms of the total capital costs and in terms of the timing of when capital and OM&A costs are incurred for the purposes of calculating the deferred revenue requirement, please explain how this supports THESL's claim that the two approaches give similar results.

2. Ref: Application, page 5, Table 2 Smart Meter Expenditures and Appendix A, Table 1

Table 2 on page 5 includes a category "Other Capital Costs" for which a breakdown is provided in Appendix A, Table 1.

- a) Please provide a brief explanation as to what is included in each of these categories and why these costs are appropriate for recovery as smart meter related costs.
- b) Please provide explanations for the year over year variances in these costs as outlined in Appendix A Table 1.

3. Ref: Application, Pages 6 and 7, Table 3 Smart Meter Costs

Table 3 is stated as showing that the average per unit cost (capital and operating) for an installed smart meter (residential and commercial) has increased 223% from \$163.56 per smart meter in 2006 to \$527.96 per smart meter in 2010.

For residential & GS < 50 kW smart meters, this increase occurs in the years 2008 to 2010, during which time the installed meter capital costs nearly doubled from \$156.49 to \$307.39.

THESL cites a couple of reasons for this increase stating that it can be partly attributed to a greater number of smart meter installations in difficult and/or costly locations and the installation of a greater proportion of more expensive three-phase meters installed throughout that same time frame.

- a) While it is understandable that these factors would tend to increase the cost per average smart meter installed, and have been cited in applications for smart meter cost recoveries by other utilities, please state whether or not these are the only factors? If not, please state what other factors were drivers for the average increase in smart meter costs over time.
- b) To the extent possible, please provide a breakdown of the increase in the average cost for smart meters over time between all relevant factors.

4. Ref: Application, Page 7, Table 4 Relative Cost Factors of Smart Meter Installations

Please state why for Meter Capital cost (relative to Standard 2008), the GS > 50 kW Smart Meters relative cost factor decreased to 4.7 in 2010 from the 8.2 and 8.0 level for 2008 and 2009 respectively.

5. Ref: Application, Page 8

It is stated that:

“To prepare customers for mandatory TOU implementation, THESL mailed three sets of direct-to-customer communications (reaching 395,000 customers) in defined groupings throughout 2009. In 2010, THESL customer communications changed from a direct-to-customer approach to a mass media approach, resulting in 2010 smart meter OM&A costs for customer communications increasing slightly from 2009. While customer communication costs are properly classified as smart meter costs (in that they are needed to inform the customer of the change to TOU rates), they are not a cost directly attributable to the installation of smart meters, nor to any annual per unit cost variance analysis.”

Please state why THESL changed its customer communication approach in 2010 and why it resulted in higher costs.

6. Ref: THESL Smart Meter Model, Appendix C1 – 2008 Smart Meter Costs

- a) Please confirm that the 2008 Smart Meter capital costs incurred in 2008 is \$28,687.7K, calculated as the sum of \$27,559.4K (December 31, 2008 NBV) + \$1,128.3K depreciation expense.
- b) In Appendix C1, THESL documents \$5,611.8K for computer hardware and software as capital additions in 2008 related to the 2008 smart meter installations. Please explain what these capital additions are and how they are directly attributable to the smart meters installed in 2008.
- c) Depreciation expense in 2008, and accumulated depreciation are input as an aggregate numbers in the revenue requirement sheet for each year (T5/RR.2008, T3.RR.2009, T3.RR.2010). The smart meter rate base consists of assets of different classes with differing typical useful lives. Please provide the calculation of the depreciation expense for all years.

- d) Please provide the calculations showing the depreciation expense calculation, by year, for the 2009 and 2010 smart meter additions documented in, respectively, Appendices C2 and C3.

7. Ref: THESL Application, Appendix E

Table 1 (Sheet 1) of Appendix E of THESL's application is labelled as "2014 Revenue Requirement Due to 2008-2010 Smart Meter Spending". Entries in the table refer to "Start of 2012" (Cell C6) and "End of 2012" (D6). Entries for calculating average NBV and depreciation expense also refer to 2012 amounts.

- a) Please state whether Table 1 of Appendix E is calculating the incremental revenue requirement used to derive the SMIRR based on 2012 or 2014 average NBVs of smart meters installed from 2008 to 2010.
- b) Please provide the calculation for the derivation of the depreciation expense shown in Table 1.
- c) Table 2 (Sheet 2) of Appendix E is labelled as "2011 Revenue Requirement – PILs calculation" but is linked to Table 1. Please state whether Table 2 calculates the estimated PILs expense for 2011, 2012 or 2014.

8. Ref: Smart Meter Model, Appendix F, Sheet 2 – Smart Meter Costs

In the hardcopy and PDF versions of Appendix F, but not in the Excel version, THESL has overwritten the years to start in 2008. THESL shows smart meter installations from 2006 to 2010 (i.e. 2008 to 2012 via the manual labelling). THESL was a named utility in O.Reg. 427/06 authorized to conduct discretionary metering activities and began deploying smart meters in 2006.

Please state what years the smart meters installed shown on Sheet 2 of Appendix F correspond to.

9. Ref: Smart Meter Model, Appendix F, page 6 Cost of Capital

Please state the source of and the reason for using each of the capital structure and cost of capital parameters by year that are included in this Appendix.

10. Ref: Smart Meter Model, Appendix F, page 6 Working Capital Allowance

Please state the source of and the reason for using each of the working capital allowance rates by year that are included in this Appendix.

11. Ref: Smart Meter Model, Appendix F Taxes/PILs

Please confirm that the tax rates shown in this table are the tax rates corresponding to the taxes or PILS that underpins distribution rates in each of the historical years, and that THESL forecasts it will pay in 2013 and 2014. In the alternative, please explain the tax rates input and their derivation.

12. Ref: Application, page 3– Stranded Meters

THESL states that “In accordance with the Smart Meter Guidelines, the disposition of stranded meter amounts will be addressed in THESL’s next rebasing application.”

- a) Please confirm that THESL is continuing to amortize the capital cost of conventional meters stranded through replacement by smart meters for residential and GS < 50 kW customers.
- b) Please provide an estimate, by customer class, of the net book value of conventional meters stranded by replacement by smart meters as of December 31, 2014.

13. Ref: Operational Efficiencies and Cost Savings

On page 19 of *Guideline G-2011-0001: Smart Meter Funding and Cost Recovery – Final Disposition*, the Board states:

“In considering the recovery of smart meter costs, the Board also expects that a distributor will provide evidence on any operational efficiencies and cost savings that result from smart meter implementation.”

- a) Please discuss operational efficiencies and cost savings achieved by THESL resulting from smart meter implementation.

- b) Please state whether any operational efficiencies and cost savings resulting from smart meter implementation have been factored into THESL's current Board-approved rates (i.e., whether operational savings were taken into account in THESL's 2011 rates application EB-2010-0142). If so, please explain how these were reflected, and provide references to the evidence in that proceeding where this was documented.
- c) Please explain if THESL expects to achieve operational efficiencies and cost savings from smart meter implementation in the future. If so, please provide THESL's estimates as to the timing and nature of these savings.

14. Ref: THESL Application, Tables 7 and 8

In these tables, THESL summarizes its derivation of the class-specific SMDRs and SMIRRs, respectively. THESL documents that it is using 2012 customer counts for Residential, GS < 50 kW and GS > 50 kW customer classes as the denominators for deriving the SMDRs and SMIRRs.

- a) In the derivation of the deferred revenue requirement for the SMDR, how has THESL allocated SMFA revenues collected by other metered customer classes to Residential, GS < 50 kW and GS > 50 kW classes?
- b) Are the 2012 customer numbers shown average or mid-year or year-end customer counts?
- c) Why is THESL not using forecasted average or mid-year 2014 customer counts in the denominators for the proposed SMDRs and SMIRRs since the rates are proposed to be implemented for the 2014 rate year?

15. Ref: Smart Meter Model

- a) If THESL has changed its inputs to either of the models submitted in this application, as a result of any of the above interrogatory responses, please update and re-file both models in working Microsoft Excel format.

- i. For the Board-issued model, please use version 4.00 .
THESL should also include the necessary inputs on sheets 9, 10A and 10B to calculate class-specific SMDRs and SMIRRs for the Residential, GS < 50 kW and GS > 50 kW models. The model is available through the following link:
<http://www.ontarioenergyboard.ca/OEB/ Documents/2014 EDR/2014 Smart Meter Model V4.0.xlsm>
- ii. Please also provide updates of THESL's smart meter model, as documented in Appendices C1, C2, C3, D and E, and any ancillary spreadsheets used to document its calculations of aggregate inputs, such as depreciation expense. These models should also be provided in working Microsoft Excel format.

16. Ref: THESL Application/page 17 – Bill Impacts

Please provide an update to Table 10 showing revised bill impacts as a result of any changes due to responses in interrogatories for each of the two models.

		2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
Appendix A: Table 1 - Costs by and Beyond Minimum Functionality											
Minimum Functionality	Capital	\$ -	\$ -	\$ 26,211,700	\$ 16,088,000	\$ 13,719,700	\$ -	\$ -	\$ -	\$ -	\$ 56,019,400
	OM&A	\$ -	\$ -	\$ 751,500	\$ 2,521,400	\$ 2,391,700	\$ -	\$ -	\$ -	\$ -	\$ 5,664,600
Beyond Minimum Functionality	Capital	\$ -	\$ -	\$ 8,600,800	\$ 6,745,200	\$ 6,079,700	\$ -	\$ -	\$ -	\$ -	\$ 21,425,700
	OM&A	\$ -	\$ -	\$ 111,200	\$ 610,700	\$ 718,600	\$ -	\$ -	\$ -	\$ -	\$ 1,440,500
Total	Capital	\$ -	\$ -	\$ 34,812,500	\$ 22,833,200	\$ 19,799,400	\$ -	\$ -	\$ -	\$ -	\$ 77,445,100
	OM&A	\$ -	\$ -	\$ 862,700	\$ 3,132,100	\$ 3,110,300	\$ -	\$ -	\$ -	\$ -	\$ 7,105,100

Appendix B: Table 1 - Variance Analysis											
	Capital	2006 and 2007 omitted as amounts	\$ -	\$ 34,812,500	\$ 22,833,200	\$ 19,799,400	\$ -	\$ -	\$ -	\$ -	\$ 77,445,100
	OM&A	previously disposed	\$ -	\$ 862,700	\$ 3,132,100	\$ 3,110,300	\$ -	\$ -	\$ -	\$ -	\$ 7,105,100

Appendices C1, C2, C3: THESL Smart Meter Model											
Appendix C1 - 2008 Smart Meter Installations	Capital	\$ -	\$ -	\$ 28,687,715	\$ 5,611,816	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 34,299,531
	OM&A	\$ -	\$ -	\$ 862,695	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 862,695
Appendix C2 - 2009 Smart Meter Installations	Capital	\$ -	\$ -	\$ -	\$ 21,792,685	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 21,792,685
	OM&A	\$ -	\$ -	\$ -	\$ 3,132,066	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,132,066
Appendix C3 - 2010 Smart Meter Installations	Capital	\$ -	\$ -	\$ -	\$ -	\$ 19,443,821	\$ -	\$ -	\$ -	\$ -	\$ 19,443,821
	OM&A	\$ -	\$ -	\$ -	\$ -	\$ 3,110,323	\$ -	\$ -	\$ -	\$ -	\$ 3,110,323
Total	Capital	\$ -	\$ -	\$ 28,687,715	\$ 27,404,501	\$ 19,443,821	\$ -	\$ -	\$ -	\$ -	\$ 75,536,037
	OM&A	\$ -	\$ -	\$ 862,695	\$ 3,132,066	\$ 3,110,323	\$ -	\$ -	\$ -	\$ -	\$ 7,105,084

Appendix F: Board-issued Smart Meter Model Version 2.17											
Note: Entries shifted to correspond with 2008 to 2010 years per labelling of PDF version of Appendix F											
Appendix F	Capital	\$ -	\$ -	\$ 34,812,531	\$ 22,833,187	\$ 19,799,385	\$ -	\$ -	\$ -	\$ -	\$ 77,445,103
	OM&A	\$ -	\$ -	\$ 862,695	\$ 3,132,066	\$ 3,110,323	\$ -	\$ -	\$ -	\$ -	\$ 7,105,084