**EB-2010-0142**

**ONTARIO ENERGY BOARD**

**IN THE MATTER OF** the *Ontario Energy Board Act, 1998,* S.O. 1998, c. 15, (Schedule B);

**AND IN THE MATTER OF** an application by Toronto Hydro-Electric System Limited for an order approving just and reasonable rates and other charges for electricity distribution to be effective May 1, 2011

# MOTION DOCUMENT BRIEF OF THE SMART SUB-METERING WORKING GROUP

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**ONTARIO ENERGY BOARD**

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# NOTICE OF MOTION

**THE MOVING PARTY,** the Smart Sub-metering Working Group ("SSMWG") will make a motion to the Ontario Energy Board ("OEB" or "Board") on a date, time and place, and in a manner to be determined by the Board.

**THE MOTION IS FOR:**

1. An order requiring Toronto Hydro-Electric System Limited ("THESL") to forthwith provide full and complete answers to the Interrogatories of the SSMWG, which THESL refused or neglected to answer, or only partially answered. These Interrogatories are contained in Appendix "A" to this Notice of Motion.

2. An order amending the timetable for all future procedural matters and the oral hearing in respect of issues arising out of the Interrogatories of the SSMWG to allow the SSMWG such further time as is appropriate to receive THESL's answers to the subject Interrogatories, to prepare for and participate in a Technical Conference, prepare and file evidence, and attend and participate in an oral hearing in respect of such issues.

3. The SSMWG requests that this motion be heard orally.

4. Its costs of this motion.

5. Such further and other relief as counsel may advise and the Board deems just.

**THE GROUNDS FOR THE MOTION ARE AS FOLLOWS:**

1. The SSMWG is a working group consisting of the majority of Ontario's private-sector (i.e., not municipally owned) licensed unit sub-metering companies (formerly smart sub-metering). These companies compete with each other and with those electric LDCs which offer a similar electronic metering configuration, namely, the installation of Quadlogic-type electronic metering systems in multi-unit residential and commercial buildings. Members of the SSMWG did not, and have not, competed against LDCs in their roll out of their respective Smart Meter Programs as part of the Province's Smart Meter Initiative. The Board has, on numerous occasions, confirmed that unit sub-metering is a competitive market activity. [1]

2. THESL offers two metering programs to existing and prospective multi-unit residential customers, which need to be distinguished. THESL has undertaken a Smart Meter Program, which has been the subject of the consideration of the Board and intervenors for several years and has involved the installation of smart meters in over 600,000 residences in Toronto, including, it appears, about 110,000 units in multi-unit residential buildings. THESL's Smart Meter Program, like similar programs of many other LDCs, has been the subject of detailed scrutiny by the Board and the establishment of a Smart

[1] OEB Majority and Minority Decision, July 27, 2009, EB-2008-0244 (PowerStream); OEB Decision and Order, January 27, 2010 EB-2009-0308 (Compliance Proceeding); and Decision, April 9, 2010, EB-2009-0139 (THESL); Notice of Amendment of Code, December 16, 2010, EB-2010-0321

Meter Rate Adder which assists in the recovery of costs associated with the program. The SSMWG has not intervened and participated in any LDC rate case in respect of any issues relating to that LDCs' Smart Meter Program. This includes THESL. To be clear, the SSMWG took no position in respect of any issue associated with THESL's Smart Meter Program in THESL's 2010 Rate Case (EB-2009-0139).

3. In contrast, THESL also offers condominium and apartment building developers and existing bulk-metered, multi-unit residential buildings an opportunity, under its Suite Metering Program, to engage THESL to install Quadlogic electronic metering systems.[2] As the SSMWG has submitted on previous occasions, these systems have a much higher capital and O&M cost than smart meters. These metering systems are easily distinguishable from smart meters in that the electronic systems house meters for 10 or more units in one small panel, thereby reducing significantly the amount of space that a developer or building owner must devote to electric meters. These electronic metering systems were not approved by the Board for the purposes of THESL's Smart Meter Program as part of the Province's Smart Meter Initiative.

4. In many instances, the electronic metering systems used by THESL as part of its Suite Metering Program are identical to those being offered and used by members of the SSMWG. Indeed, it is often also necessary for THESL to include a bulk master meter in some configurations (as is required in all sub-metering configurations) to capture the usage by all or some of the common elements of a building. Members of the SSMWG, therefore, compete directly with THESL to attract new and existing building developers

[2] In its 2010 Rate Case, EB-2009-0139, at D1/T8/S8-9, p. 2 of 3, THESL acknowledges that its Suite Metering Program is based on the Quadlogic metering systems.

and owners as customers. This competition, in Toronto, is between THESL's Suite Meter Program and privately-owned unit sub-meter providers.

5. In each of the past three rate cases, THESL has asked for approval to expend specific amounts of money on its Suite Metering Program. These requests are unrelated to and independent of the expenditures by THESL on its Smart Meter Program. The SSMWG intervened in THESL's 2010 Rate Case (EB-2009-0139) because of its concern about THESL's practice of not charging developers or existing buildings desiring conversion for the costs to install the Quadlogic electronic metering system. Instead, THESL looks to recover these costs through its revenue requirement. The SSMWG is concerned that THESL is undertaking activities in a competitive market and cross-subsidizing such activities which provides it with an unfair and anti-competitive advantage. The SSMWG has made it abundantly clear in all of its previous interventions in OEB proceedings that its interests relate to THESL's Suite Metering Program, which is, specifically, the installation of Quadlogic-type electronic metering systems. The costs of these systems are distinct from those costs incurred in respect of the installation of smart meters, including smart meters installed in multi-unit residential buildings, the costs of which are included in a deferral account which will be reviewed for prudence in a subsequent proceeding.

6. THESL's evidence in this proceeding is that it installed 3,889 suite meters in 2008, 5,534 in 2009, for a total of 9,423 actual suite meters installed by the end of 2009 (Exhibit D1, Tab A, Schedule 7, page 5, Table 2). In its 2010 Rate Case, THESL forecast that it would install 5,400 suite meters in 2010 (EB-2009-0139, D1/T8/S7, p. 3 of 3). As a result of concerns expressed by the SSMWG and the evidence adduced by its expert, Professor Phil Hanser, during THESL's 2010 Rate Case (EB-2009-0139), the Board, in

its Decision with Reasons, was of the opinion that the potential for cross-subsidization is ongoing. As a result, the Board ordered THESL (at page 29 of the Decision) to "undertake a cost allocation study related to its provision of suite metering services". Clearly, the cost allocation study which the Board ordered requires THESL to assess the costs related to providing services to its "suite metered customers". If the study period remains the end of 2009, then it should examine the costs to install, serve, and maintain the 9,423 units served by Quadlogic suite metering systems as of the end of 2009. Alternately, if the cost allocation study is to be more up to date, it must relate to the 19,494 "suite metered customers" that THESL has forecast for 2011 (as set out in response to SSMWG Interrogatory No. 6 in this proceeding – Ex. R1, Tab 10, Schedule 6).

7. Instead, THESL undertook a cost allocation study comparing the cost to serve virtually the entire universe of multi-unit residential customers with the cost to serve the balance of the residential rate class. In BDR's report, the sub-metering rate class consists of 119,947 units[3] of which about 110,000 are units that are being served by smart meters– not Quadlogic electronic metering systems.[4] The sub-class which THESL has used for its cost allocation study is therefore of no relevance to the concerns raised by the SSMWG and cannot assist the Board in determining whether there is any cross-subsidy in respect of THESL's Suite Metering Program.

8. Recognizing this, the SSMWG asked in Interrogatory No. 13 (Second Round), filed December 23, 2010, for THESL to recast the definition of the suite metered sub-class for the purposes of the cost allocation study and to limit it to only those 9,423 customers of

[3] *Cost of Service Study for Individually Metered Suites in Multi-Unit Residential Buildings,* BDR, November 29, 2010, at p. 7, Table 4.1 (EB-2010-0233)
[4] SSMWG IR #12, Second Round, Ex. R1/T10/S25, p. 2 of 2

THESL's Suite Metering Program as at the end of 2009. THESL refused to redo the study and denies that the cost allocation study does not meet the requirements of the Board's directive from its Decision in the EB-2009-0139 proceeding.

9. The SSMWG also asked for a working Excel spreadsheet which would allow its expert consultants to examine the cost allocation model. In the event that the Board orders THESL to complete the cost allocation as required by the Board directive, the SSMWG requests that the Board order THESL to provide a working copy of its Excel spreadsheet arising out of the further cost allocation study.

10. THESL has also either refused to answer, partially answered, or in some instances, completely ignored questions asked by the SSMWG during the First Round of Interrogatories. SSMWG Interrogatory No. 1, on November 19, 2010 (First Round), asked a number of questions which relate to THESL's statement in EB-2010-0233, (THESL's Application for a Smart Sub-metering Licence), that it intended to start providing services pursuant to the Licence on January 1, 2011. The SSMWG asked a series of questions, all of which are grounded in issues in this proceeding. THESL refused to fully respond. The SSMWG seeks an Order requiring THESL to fully respond to such questions.

11. The SSMWG asked in its interrogatories filed November 19, 2010 (First Round), Interrogatories No. 11, 12 and 13. THESL did not respond in any manner to any of these interrogatories. As each is clearly related to issues in this proceeding, the SSMWG seeks an Order compelling THESL to provide full and complete answers to each of these Interrogatories. The SSMWG submits that by reason of THESL not

providing any reason for not responding, THESL has waived any right to challenge the validity of such Interrogatories.

**THE EVIDENCE** that will be used on this motion includes:

(a) Relevant portions of evidence filed in THESL's 2008 Rate Application, EB-2007-0680;

(b) Relevant portions of evidence filed in PowerStream's 2009 Rate Application, EB-2008-0244;

(c) Relevant portions of evidence filed in THESL's 2010 Rate Application, EB-2009-0139;

(d) Relevant portions of evidence filed in this proceeding;

(e) Such further and other material as counsel may advise and the Board may permit.

Date: January 14, 2011

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**TO:** The Applicant and Intervenors, EB-2010-0142

**APPENDIX "A"**

## First Round Interrogatories of the SSMWG, filed November 19, 2010

**Interrogatory #1**

*Reference : EB-2010-0233 and Issues 7.2 and 7.3*

THESL, in Board File EB-2010-0233, filed an Application for a Licence to "engage in the commercial offering or commercial provision of smart sub-metering systems, equipment and technologies, and any associated equipment, systems and technologies". THESL indicates in its Application that it is not currently providing these services and intends to start providing them on January 1, 2011.

(a) Please confirm that this Application signals THESL's intention to offer competitive unit sub-metering and to compete directly with private sector smart sub-meter providers.

**RESPONSE:**

**THESL does not accept the citation of a separate proceeding as the only reference forming the basis for this interrogatory and does not accept that the question pertains to any approved issue in this proceeding. THESL therefore declines this interrogatory.**

(b) If THESL only intends to use a smart sub-metering licence in order to acquire existing unit sub-metering providers, then please confirm that intention and explain how the time period during which unit sub-metering will be provided (rather than unit smart metering) will be minimized.

**RESPONSE:**

**THESL declines this interrogatory for the reasons given in response a).**

(c) If THESL intends to use a smart sub-metering licence to carry on business beyond acquiring an existing unit sub-metering provider and immediately converting all customers to unit sub-metering, please provide examples of situations where THESL intends to undertake unit sub-metering, rather than unit smart metering (i.e. its current suite metering program).

**RESPONSE:**

**THESL declines this interrogatory for the reasons given in response a).**

(d) If THESL intends to use a smart sub-metering licence to carry on business beyond acquiring an existing unit sub-metering provider and immediately converting all customers to unit sub-metering, please explain how THESL's unit sub-metering activities will differ from its unit smart metering activities, including:

(i) What customers will be targeted;

(ii) What customers will be served;

(iii) How will the pricing be different?

**RESPONSE:**

**THESL declines this interrogatory for the reasons given in response a).**

(e) If THESL intends to use a smart sub-metering licence to carry on business beyond acquiring an existing unit sub-metering provider and immediately converting all customers to unit sub-metering, please explain in detail all of the services that THESL's unit sub-metering business will offer to prospective customers of the business.

**RESPONSE:**

**THESL declines this interrogatory for the reasons given in response a).**

(f) Please explain why it is appropriate for THESL to undertake unit sub-metering activities, even if only by way of acquisition, within the utility rather than through an affiliate when those activities are already offered in the competitive marketplace.

**RESPONSE:**

**THESL does not accept the premise of the question, which is that THESL would carry on sub-metering activities within the utility.**

(g) What is the methodology which THESL's unit sub-metering business will use for the purposes of calculating unit sub-metering rates or charges?

**RESPONSE:**

**THESL declines this interrogatory for the reasons given in response a).**

(h) Please explain in detail how the costs and revenues of THESL's unit sub-metering activities will be determined, tracked and allocated.

**RESPONSE:**

**To the extent that THESL undertakes non-utility sub-metering activities, it will maintain separate financial records of those activities and employ standard fully-allocated costing methodologies to separate non-utility costs from utility costs.**

(i) Please indicate whether THESL intends to include unit sub-metering assets in its rate base. If the answer is Yes, please explain why this is appropriate in light of the OEB's findings in the Enbridge Gas Distribution EB-2009-0172 Decision (December 22, 2009) that assets that support a utility's activities in a competitive marketplace should not be included in rate base.

**RESPONSE:**

**THESL does not intend to include sub-metering assets in its utility ratebase.**

(j) Please explain in detail what steps, processes and/or rules will be implemented to address the following concerns:

(i) THESL's electric distribution business cross-subsidizing its unit sub-metering business;

(ii) Protecting the confidentiality of information collected by either of the electrical distribution business or the unit sub-metering business;

(iii) Ensuring that prospective customers of the unit sub-metering business do not have preferential access to electricity distribution services;

(iv) Preventing the electricity distribution business from acting in a manner than provides an unfair business advantage to the unit sub-metering business;

(v) Preventing customer confusion that may arise from the relationship between the electrical distribution business and the unit sub-metering business.

**RESPONSE:**

**THESL declines this interrogatory for the reasons given in response a).**

(k) Please provide all references in THESL's 2011 rate application (EB-2010-0142) that discuss or relate to its unit sub-metering activities, including the financial impact of those activities (including rate base, expenses and revenue requirement impact). If there are no direct references to THESL's planned unit

sub-metering activities in the rate application, please explain why and please provide references to where the financial impacts of the planned unit sub-metering activities are aggregated with other activities.

**RESPONSE:**

**THESL will not undertake sub-metering activities within the regulated utility and therefore there are no direct references, financial or otherwise, to THESL's planned unit sub-metering activities in this rate application.**

(l) Please advise if the proposed unit sub-metering business will be providing any services to the electricity distribution business. For the purposes of your response to this question, please also identify any services that the electricity distribution business is currently providing which will be assumed by the unit sub-metering business.

**RESPONSE:**

**THESL declines this interrogatory for the reasons given in response a).**

(m) Please provide all documents related to THESL's plans for its unit sub-metering activities, including (but not limited to):

(i) Strategic plans

(ii) Budgets

(iii) Minutes from any management or Board of Directors meetings where this was discussed

(iv) Marketing materials

(v) Internal communications (memos, emails etc.);

(vi) Business Case Analysis.

**RESPONSE:**

**THESL declines this interrogatory for the reasons given in response a).**

**INTERROGATORY #11**

Reference: Issues 2.1, 3.1, 4.1, 4.2, 7.2 and 7.3

In EB-2007-0680, THESL produced a business plan for its Suite Metering Program, entitled "Draft - Project Plan for Individual Suite Metering in Condominium Buildings". A copy of this business plan was filed on November 12, 2007, in response to VECC Interrogatory 9 in EB-2007-0680.

Please advise as follows:

(a) Has this business plan been updated, or has THESL prepared a new or revised business case or plan in respect of condominium suite metering? If so, please produce copies of same.

(b) Does THESL contemplate undertaking suite metering in any *Residential Tenancy Act* buildings (new and/or to be converted) in 2011? If so, how many, and what is THESL's forecast of the total cost to suite meter these buildings? Does THESL seek recovery or plan to capitalize and request approval to clear to rate base any amounts associated with the installation and operation of suite meters in *Residential Tenancy Act* buildings in 2011?

**RESPONSE:**

**[THESL did not respond to this Interrogatory]**

**INTERROGATORY #12**

Reference: Issues 3.1 and 4.2 and C1/T1/S1 (Conditions of Service)

THESL is currently taking the position that the treatment and calculation of the amount of the expansion deposit paid by a condominium developer, which THESL is required to return under the *Distribution System Code* ("DSC") to the condominium developer, is dependent upon whether THESL suite meters the condominium or whether the condominium is sub-metered by a licensed smart sub-meter provider.

More specifically, THESL is advising condominium developers, on or about the time that they are provided with an Offer to Connect, that if THESL suite meters the building, the expansion deposit will be returned in an amount equal to the percentage of the actual connections which are ultimately constructed. In other words, if a condominium developer forecasts 199 residential units and 1 common elements meter, and the condominium developer constructs a building with such connections, the developer will receive 100% of the expansion deposit.

In contrast, THESL is advising condominium developers that if the condominium is smart sub-metered by a licensed smart sub-metering provider, the expansion deposit will be returned only to the extent that actual demand meets the forecast incremental demand in the developer's request to connect. Stated differently, if a developer forecasts a demand of 500 kW, and the actual demand which the building achieves in its first year of existence is 400 kW, the condominium developer will be refunded only 80% of the expansion deposit.

Clause 3.2.23 of the DSC provides as follows:

> "Once the facilities are energized and subject to sections 3.2.22 and 3.2.24, the distributor shall annually return the percentage of the expansion deposit in proportion to the actual connections (for residential developments) or actual demand (for commercial and industrial developments) that materialized in that year (i.e., if twenty percent of the forecasted connections or demand materialized in that year, then the distributor shall return to the customer twenty percent of the expansion deposit). This annual calculation shall only be done for the duration of the customer connection horizon as defined in Appendix B. If at the end of the customer connection horizon the forecasted connections (for residential developments) or forecasted demand (for commercial and industrial developments) have not materialized, the distributor shall be allowed to retain the remaining portion of the expansion deposit."

Given the above, please respond to the following questions:

(a) Does THESL acknowledge that a residential condominium development remains a residential development regardless of who meters the building?

(b) Does THESL acknowledge that a significant portion of the demand load of every large multi-residential condominium is generated by the common elements of the building and is a commercial rate customer even when THESL meters the building?

(c) Does THESL treat the demand load generated by the common elements of a building any differently for the purposes of returning an expansion deposit to the condominium developer in situations where THESL suite meters the building?

(d) Please provide any analysis, justifications, studies, or other basis for treating residential condominium developers differently under Clause 3.2.23 of the DSC, by reason of their engaging a licensed smart sub-metering provider versus THESL for the purposes of metering the building.

(e) Has THESL forecast the additional expansion deposit revenues that it will retain as a result of the above expansion deposit policy which it has adopted?

(f) Please reference and attach copies of THESL's Conditions of Service which it relies upon for the purposes of adopting the above-stated expansion deposit return policy and please advise when, if ever, those provisions of the Conditions of Service have been the subject of any review or discussion by the OEB.

**RESPONSE:**

**[THESL did not respond to this Interrogatory]**

**INTERROGATORY #13**

Reference: Issues 3.1 and 4.2 and C1/T1/S1 (Conditions of Service)

In respect of THESL's expansion deposit return policy, and the different application of that policy to developers who obtain suite metering from THESL rather than from smart sub-metering providers, please provide copies of all internal memoranda, notes, communications, business plans, executive management team minutes, emails, and all correspondence with third parties which relate to this issue.

**RESPONSE:**

**[THESL did not respond to this Interrogatory]**

## Second Round Interrogatories of the SSMWG, filed December 23, 2010

### INTERROGATORY #1

Reference: *Cost of Service Study for Individually Metered Suites in Multi-Unit Residential Buildings*, prepared by BDR, dated November 29, 2010 (the "Cost of Service Study")

Please file, in Excel format, the Cost of Service Study for individually metered suites in multi-unit residential buildings showing the formulas, inputs, and assumptions used in the model.

**RESPONSE**

**THESL'S Cost of Service Study uses the Board's Cost Allocation Model. This model has been specifically designed by the Board to "roll-up" detail and removes formulas prior to filing. Any party can obtain the working model without LDC specific data from the Board's website to see the model formulas and logic. The excel sheets provided in the filed material contain the input data and assumption used (see sheets I1 to 19).**

### INTERROGATORY #13

Reference : Exhibit D1, Tab 8, Schedule 7, page 5, Table 2; and the Cost of Service Study

THESL's evidence is that it installed 3,889 smart suite meters in 2008, and 5,534 in 2009, for a total of 9,423. THESL is seeking approval for a $2.6 million capital investment in suite meters, for 2011, which relates to the installation of Quadlogic electronic metering systems installed primarily by a third party services provider at no cost to a new condominium developer or the owner of an existing building that wishes to convert from a bulk metered configuration. These meters and costs are the suite metering program which was the subject of the SSMWG's involvement in THESL's 2010 rate case (EB-2009-0139) and which were taken to hearing. The SSMWG submitted and adduced evidence to the effect that these suite metering program customers were being cross-subsidized by other THESL residential rate class customers. The concerns about cross-subsidization were clearly directed only at the customers of THESL's suite metering program, which totalled 9,423, as of the end of 2009.

The cost allocation study ordered by the Board stated the following:

> "For the reasons that follow the Board finds that THESL should undertake a cost allocation study related to its provision of suite metering services. The study shall include an analysis of the implications of creating and maintaining a separate rate class for those customers served in this manner. The Board is of the opinion that the potential for cross-subsidization is ongoing and that there may be merit in the establishment of a separate rate class for multi unit-resident customers that are served directly by THESL through its suite metering provision. This should be filed as part of the next cost of service application, which THESL intends to file later this year, but in any event no later than six months from the date of this Decision.

...

> The Board believes that continual delay is not useful. It is significant that the Board recently completed an extensive compliance proceeding against THESL [EB-2009-0308 (January 27, 2010)] which, amongst other things, required THESL to alter its Conditions of Service and to make it clear that condominium developers and unit-holders are able to choose between THESL as a suite metering supplier and a smart sub-metering regime that includes competing suppliers for these services. In other words, the Board has clearly stated that a utility does not hold a monopoly for individual metering in multi-unit buildings. It would defeat the purpose of that exercise to allow cross-subsidization, (if it exists), to exert a negative impact on competition."

It is clear from both the position of the parties, the evidence adduced, and the Decision of the Board that THESL was required to undertake a cost allocation study comparing the costs to serve THESL's suite metering program customers to the costs to serve other residential rate class customers. The Cost of Service Study prepared by BDR instead compares a suite metered class of multi-unit buildings which consists of almost 120,000 units, more than 90 percent of which are not suite-metering program customers.

(a) Please recast the definition of the suite metered sub-class for the purposes of the cost allocation study to include only those 9,423 customers which were customers of THESL's suite metering program as of the end of 2009. Please take those customers that are removed from the suite metered sub-class definition in the Cost of Service Study for the purposes of this interrogatory, and add them to the residential net of suite metered customer class, and redo the cost allocation study using the Board's approved methodologies.

(b) Please provide, in Excel format, this revised cost of service study showing the formulas, inputs and assumptions used in the model.

(c) Please provide a breakdown of all of the capital costs incurred in respect of the primary and secondary infrastructure required (excluding the Quadlogic metering systems) to serve the 5,534 suite meter customers added in 2009. For clarity, this request includes all upstream connection, expansion and/or reinforcement costs incurred and any costs incurred by a developer or building owner for expansion facilities that were subsequently transferred (or where the transfer is pending) to THESL. Please confirm that these costs have not been reduced by any expansion deposit collected by THESL which may be returnable to the developer(s) or owner(s) in question.

**RESPONSE:**

**THESL declines this interrogatory on the basis that it does not accept the premise of the interrogatory and on the basis that the information requested could not be produced within the timeline directed by the Board for responding to interrogatories.**

**THESL disputes the premise of the question, which is that the cost allocation study undertaken and filed by THESL does not meet the requirements of the Board's directive. It does meet those requirements. The Board's directive clearly refers to multi-residential**

**buildings either served or potentially served by THESL through its suite metering program, as distinct from being served as bulk-metered commercial customers. The Board has defined the term 'suite metering' and the meaning of 'multi-residential' is clear in this context; it must refer to buildings that a least have the potential to be served either under bulk metering or suite metering arrangements.**

**It is not open now to the SSMWG to redefine the Board's direction to THESL or to change the accepted meanings of terms to suite its own purposes.**

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

**INTERROGATORY 11:**

**Reference(s): none**

In EB-2007-0680, THESL produced a business plan for its Suite Metering Program, entitled "Draft – Project Plan for Individual Suite Metering in Condominium Buildings". A copy of this business plan was filed on November 12, 2007, in response to VECC Interrogatory 9 in EB-2007-0680.

Please advise as follows:

a) Has this business plan been updated, or has THESL prepared a new or revised business case or plan in respect of condominium suite metering? If so, please produce copies of same.

b) Does THESL contemplate undertaking suite metering in any *Residential Tenancy Act* buildings (new and/or to be converted) in 2011? If so, how many, and what is THESL's forecast of the total cost to suite meter these buildings? Does THESL seek recovery or plan to capitalize and request approval to clear to rate base any amounts associated with the installation and operation of suite meters in *Residential Tenancy Act* buildings in 2011?

**RESPONSE:**

a) THESL has neither updated the previous business plan nor prepared a new or revised business case or plan.

THESL is contemplating undertaking individual metering in Residential Tenancy Act buildings, and is considering doing so in 2011. At this point, THESL has not developed a forecast of the total cost. THESL does not specifically seek recovery or

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

plan to capitalize or clear rate base amounts in Residential Tenancy Act buildings, but will conduct each of those activities in accordance with existing internal policies and processes.

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

**INTERROGATORY 12:**

**Reference(s): C1/T1/S1 (Conditions of Service)**

THESL is currently taking the position that the treatment and calculation of the amount of the expansion deposit paid by a condominium developer, which THESL is required to return under the *Distribution System Code* ("DSC") to the condominium developer, is dependent upon whether THESL suite meters the condominium or whether the condominium is sub-metered by a licensed smart sub-meter provider.

More specifically, THESL is advising condominium developers, on or about the time that they are provided with an Offer to Connect, that if THESL suite meters the building, the expansion deposit will be returned in an amount equal to the percentage of the actual connections which are ultimately constructed. In other words, if a condominium developer forecasts 199 residential units and 1 common elements meter, and the condominium developer constructs a building with such connections, the developer will receive 100% of the expansion deposit.

In contrast, THESL is advising condominium developers that if the condominium is smart sub-metered by a licensed smart sub-metering provider, the expansion deposit will be returned only to the extent that actual demand meets the forecast incremental demand in the developer's request to connect. Stated differently, if a developer forecasts a demand of 500 kW, and the actual demand which the building achieves in its first year of existence is 400 kW, the condominium developer will be refunded only 80% of the expansion deposit.

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

Clause 3.2.23 of the DSC provides as follows:

> "Once the facilities are energized and subject to sections 3.2.22 and 3.2.24, the distributor shall annually return the percentage of the expansion deposit in proportion to the actual connections (for residential developments) or actual demand (for commercial and industrial developments) that materialized in that year (i.e., if twenty percent of the forecasted connections or demand materialized in that year, then the distributor shall return to the customer twenty percent of the expansion deposit). This annual calculation shall only be done for the duration of the customer connection horizon as defined in Appendix B. If at the end of the customer connection horizon the forecasted connections (for residential developments) or forecasted demand (for commercial and industrial developments) have not materialized, the distributor shall be allowed to retain the remaining portion of the expansion deposit."

Given the above, please respond to the following questions:

a) Does THESL acknowledge that a residential condominium development remains a residential development regardless of who meters the building?

b) Does THESL acknowledge that a significant portion of the demand load of every large multi-residential condominium is generated by the common elements of the building and is a commercial rate customer even when THESL meters the building?

c) Does THESL treat the demand load generated by the common elements of a building any differently for the purposes of returning an expansion deposit to the condominium developer in situations where THESL suite meters the building?

d) Please provide any analysis, justifications, studies, or other basis for treating residential condominium developers differently under Clause 3.2.23 of the DSC, by

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

reason of their engaging a licensed smart sub-metering provider versus THESL for the purposes of metering the building.

e) Has THESL forecast the additional expansion deposit revenues that it will retain as a result of the above expansion deposit policy which it has adopted?

f) Please reference and attach copies of THESL's Conditions of Service which it relies upon for the purposes of adopting the above-stated expansion deposit return policy and please advise when, if ever, those provisions of the Conditions of Service have been the subject of any review or discussion by the OEB.

**RESPONSE:**

a) THESL acknowledges that the end-uses present in a given building do not change depending on the party that provides metering. However, for purposes of connection to THESL's electricity distribution system, a bulk-metered residential condominium with more than 6 units is a commercial customer. In condominiums, only residential customer units directly metered by THESL are considered by THESL to be residential customers; common areas and commercial condominium units are commercial customers.

b) Yes.

c) In the case where THESL provides suite metering to a large condominium, both the residential and commercial loads present in the building are treated correctly in accordance with the provisions of the Distribution System Code.

d) THESL does not accept the premise of the question, which is that differential treatment somehow turns on whether a sub-meterer provides service.

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

THESL's current Board-approved tariff provides as follows:

> **"RESIDENTIAL SERVICE CLASSIFICATION**
> This classification refers to an account where the electricity is used exclusively in a separately metered living accommodation. Customers shall be residing in single-dwelling units that consist of a detached house or one unit of a semi-detached, duplex, triplex or quadruplex house, with a residential zoning. Separately metered dwellings within a town house complex or apartment building also qualify as residential customers. Bulk metered residential buildings with up to six units also qualify as residential customers."

If a condominium development meets these requirements, it is classified as residential; if not, it is classified as general service i.e., commercial.

e) Expansion deposits are deposits, not revenues.

f) THESL's Conditions of Service are filed at Exhibit C1, Tab 5, Schedule 1. The expansion deposit "policy" follows from the approved tariff and the Distribution System Code. THESL has no information on whether its Conditions of Service in this respect have ever been reviewed or discussed by the OEB.

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

**INTERROGATORY 13:**

**Reference(s): C1/T1/S1 (Conditions of Service)**

In respect of THESL's expansion deposit return policy, and the different application of that policy to developers who obtain suite metering from THESL rather than from smart sub-metering providers, please provide copies of all internal memoranda, notes, communications, business plans, executive management team minutes, emails, and all correspondence with third parties which relate to this issue.

**RESPONSE:**

THESL declines this interrogatory on the basis that the requested production would be onerous and could not be completed with reasonable effort within the prescribed time period for response. It is not clear that any documents meeting the above description exist and an exhaustive search would be required to determine this. Furthermore, the material would have no probative value since THESL's "policy" in this regard has been fully explained and justified by reference to Board-approved documents, namely THESL's tariff and the Distribution System Code, as set out in previous responses to the same intervenor.

**TAB 2**

Ontario Energy Board

Commission de l'énergie de l'Ontario

Ontario

**EB-2010-0142**

**IN THE MATTER OF** the *Ontario Energy Board Act, 1998*, S. O. 1998, c. 15, Schedule B;

**AND IN THE MATTER OF** an application by Toronto Hydro-Electric System Limited for an order approving just and reasonable rates and other charges for electricity distribution to be effective May 1, 2011.

## PROCEDURAL ORDER NO. 3

Toronto Hydro-Electric System Limited ("Toronto Hydro") filed an application, dated August 23, 2010, with the Ontario Energy Board under section 78 of the *Ontario Energy Board Act, S.O. 1998*, c.15, Schedule B, seeking approval for changes to the rates that Toronto Hydro charges for electricity distribution, to be effective May 1, 2011.

The Board issued a Notice of Application and Hearing dated September 15, 2010.

On October 18, 2010, Procedural Order No.1 was issued establishing, among other items, the dates for which interrogatories were to be filed with the Board and responded to by Toronto Hydro. The Board stated that it would establish subsequent procedural steps upon completion of its review of the responses to the first round of interrogatories, as well as considering the appropriateness of having all identified issues being eligible for settlement.

On November 11, 2010, the Board issued its Issues List Decision and Procedural Order No. 2. In it, the Board approved a Final Issues List and confirmed the schedule for filing interrogatories and responses to interrogatories as set out in Procedural Order No. 1.

On December 1, 2010, Toronto Hydro filed its cost allocation study for suite metering services ("the cost allocation study") pursuant to the requirements of the Board's EB-2009-0139 Decision with Reasons.

On December 6, 2010, Toronto Hydro filed its responses to interrogatories from parties.

The Board has reviewed these responses and has determined the next steps in this proceeding. These are outlined below.

In addition the Board considers it appropriate to deem the issues concerning the cost allocation for suite metering to be ineligible for settlement. The Board's EB-2009-0139 Decision contained the following:

> *The Board also believes that the results of a study completed by THESL will be informative to other utilities and to the Board as to how to advance utility rate structures on a province wide scale in response to the introduction of this competitive sub-metering business.*

The Board believes a full hearing of the issues pertaining to this cost allocation subject matter is the best way to facilitate the stated objective of informing others. Therefore the Board has determined that Issues 7.2 and 7.3 related to Toronto Hydro's suite metering, as contained on the approved Final Issues List of November 11, 2010, are not eligible for settlement. This determination is reflected in the schedule below that facilitates a discovery process for the cost allocation issue as it relates to suite metering that is independent of the other issues in this proceeding.

More generally, the Board notes that the THESL's application seeks either revenue to cover certain items or seeks Board commentary on proposed spending for certain other items that the Board considers collectively to be emerging technologies. The Board is currently considering whether special treatment should be afforded to these items with regard to any potential settlement process. The Board will issue a letter in early January in this regard so as to provide the parties with appropriate advance notice of the Board's intent.

The Board considers it necessary to make provision for the following matters related to this proceeding. The Board may issue further procedural orders from time to time.

**THE BOARD ORDERS THAT**

1. Board staff and intervenors seeking information and material that is in addition to the cost allocation study, and that is relevant to the hearing, shall request the same by written interrogatories filed with the Board and delivered to the intervenors and the Applicant on or before **Friday December 24, 2010.**

2. Responses by the Applicant to interrogatories shall be filed with the Board and delivered to all parties on or before **Friday January 7, 2011.**

3. Board staff and intervenors who wish to file evidence shall do so, on or before **Friday January 21, 2011.**

4. Parties seeking information and material that is in addition to any intervenor or Board staff evidence, and that is relevant to the hearing, shall request the same by written interrogatories filed with the Board and delivered to parties on or before **Tuesday January 25, 2011.**

5. Responses by parties to interrogatories related to any intervenor or Board staff evidence shall be filed with the Board and delivered to all parties on or before **Friday February 4, 2011.**

6. A transcribed technical conference will be held on **Monday January 24, 2011** in the Board's hearing rooms at 2300 Yonge Street on the 25th Floor. Parties should file their questions with the Board and forward them to other parties by **Tuesday January 18, 2011.**

7. A Settlement Conference will be convened on **Tuesday January 25, 2011** starting at 9:30 am and, if needed, may continue until **Friday January 28, 2011.** The Settlement Conference will be held at 2300 Yonge Street in the Board's ADR room on the 25th Floor.

8. Any Settlement Proposal arising from the Settlement Conference shall be filed with the Board by **Tuesday February 8, 2011.**

9. The oral hearing will commence on **Tuesday February 15, 2011** in the Board's hearing rooms at 2300 Yonge Street, 25th Floor, Toronto, commencing at 9:30

am. In the event that a settlement agreement is filed with the Board, the presentation of the agreement will be made at the commencement of the oral hearing on **Tuesday February 15, 2011.**

All filings to the Board must quote file number EB-2010-0142, be made through the Board's web portal at www.errr.oeb.gov.on.ca, and consist of two paper copies and one electronic copy in searchable / unrestricted PDF format. Filings must clearly state the sender's name, postal address and telephone number, fax number and e-mail address. Please use the document naming conventions and document submission standards outlined in the RESS Document Guideline found at www.oeb.gov.on.ca. If the web portal is not available you may email your document to the address below. Those who do not have internet access are required to submit all filings on a CD in PDF format, along with two paper copies. Those who do not have computer access are required to file 7 paper copies.

**Address**

**The Ontario Energy Board:**
Post:
Ontario Energy Board
P.O. Box 2319
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4
Attention: Board Secretary

Filings: www.errr.oeb.gov.on.ca
E-mail: Boardsec@oeb.gov.on.ca

Tel: 1-888-632-6273 (toll free)
Fax: 416-440-7656

**ISSUED** at Toronto, December 13, 2010

**ONTARIO ENERGY BOARD**

*Original Signed By*

Kirsten Walli
Board Secretary

Ontario Energy Board

Commission de l'énergie de l'Ontario

Ontario

**EB-2010-0142**

**IN THE MATTER OF** the *Ontario Energy Board Act, 1998*, S. O. 1998, c. 15, Schedule B;

**AND IN THE MATTER OF** an application by Toronto Hydro-Electric System Limited for an order approving just and reasonable rates and other charges for electricity distribution to be effective May 1, 2011.

## PROCEDURAL ORDER NO. 5

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The Board issued a Notice of Application and Hearing dated September 15, 2010.

On October 18, 2010, Procedural Order No.1 was issued establishing, among other items, the dates for which interrogatories were to be filed with the Board and responded to by Toronto Hydro.

On November 11, 2010, the Board issued its Issues List Decision and Procedural Order No. 2. In it, the Board approved a Final Issues List and confirmed the schedule for filing interrogatories and responses to interrogatories as set out in Procedural Order No. 1.

On December 6, 2010, Toronto Hydro filed its responses to interrogatories from parties.

On December 13, 2010, the Board issued Procedural Order No. 3 outlining further steps in this proceeding.

On January 12, 2011, the Board issued Decision on Confidentiality and Procedural Order No. 4 which dealt with confidentiality issues raised by Toronto Hydro and the scope of the settlement conference.

On January 14, 2011, the Smart Sub-metering Working Group ("SSMWG"), an intervenor in the proceeding, filed a Notice of Motion (the "Motion") requesting, among other things, that the Board direct Toronto Hydro to provide full and complete answers to the interrogatories of the SSMWG as contained in Appendix "A" to the Motion.

The SSMWG also requested an order amending the timetable for all future procedural matters and the oral hearing in respect of issues arising out of the interrogatories of the SSMWG to allow the SSMWG such further time as is appropriate to receive THESL's answers to the subject interrogatories, to prepare for and participate in a Technical Conference, prepare and file evidence and attend and participate in an oral hearing in respect of such issues. The SSMWG requested an oral hearing of the Motion.

The Board has determined that it will hear the Motion orally.

The Board considers it necessary to make provision for the following matters related to this proceeding. The Board may issue further procedural orders from time to time.

**THE BOARD ORDERS THAT:**

1. The oral hearing of the Motion will commence at 9:30 am on **January 19, 2011** in the Board's hearing room at 2300 Yonge Street, Toronto.

All filings to the Board must quote file number EB-2010-0142, be made through the Board's web portal at www.errr.oeb.gov.on.ca, and consist of two paper copies and one electronic copy in searchable / unrestricted PDF format. Filings must clearly state the sender's name, postal address and telephone number, fax number and e-mail address. Please use the document naming conventions and document submission standards outlined in the RESS Document Guideline found at www.oeb.gov.on.ca. If the web portal is not available you may email your document to the address below. Those who

do not have internet access are required to submit all filings on a CD in PDF format, along with two paper copies. Those who do not have computer access are required to file 7 paper copies.

## Address

**The Ontario Energy Board:**
Post:
Ontario Energy Board
P.O. Box 2319
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4
Attention: Board Secretary

Filings: www.errr.oeb.gov.on.ca
E-mail: Boardsec@oeb.gov.on.ca

Tel: 1-888-632-6273 (toll free)
Fax: 416-440-7656

**ISSUED** at Toronto, January 18, 2011

**ONTARIO ENERGY BOARD**

*Original Signed By*

Kirsten Walli
Board Secretary

**TAB 3**

## 28. Interrogatories

28.01 In any proceeding, the Board may establish an interrogatory procedure to:

(a) clarify evidence filed by a party;

(b) simplify the issues;

(c) permit a full and satisfactory understanding of the matters to be considered; or

(d) expedite the proceeding.

28.02 Interrogatories shall:

(a) be directed to the party from whom the response is sought;

(b) be numbered consecutively, or as otherwise directed by the Board, in respect of each item of information requested, and should contain a specific reference to the evidence;

(c) be grouped together according to the issues to which they relate;

(d) contain specific requests for clarification of a party's evidence, documents or other information in the possession of the party and relevant to the proceeding;

(e) be filed and served as directed by the Board; and

(f) set out the date on which they are filed and served.

## 29. Responses to Interrogatories

29.01 Subject to **Rule 29.02**, where interrogatories have been directed and served on a party, that party shall:

(a) provide a full and adequate response to each interrogatory;

(b) group the responses together according to the issue to which they relate;

(c) repeat the question at the beginning of its response;

(d) respond to each interrogatory on a separate page or pages;

(e) number each response to correspond with each item of information requested or with the relevant exhibit or evidence;

(f) specify the intended witness, witnesses or witness panel who prepared the response, if applicable;

(g) file and serve the response as directed by the Board; and

(h) set out the date on which the response is filed and served.

29.02 A party who is unable or unwilling to provide a full and adequate response to an interrogatory shall file and serve a response:

(a) where the party contends that the interrogatory is not relevant, setting out specific reasons in support of that contention;

(b) where the party contends that the information necessary to provide an answer is not available or cannot be provided with reasonable effort, setting out the reasons for the unavailability of such information, as well as any alternative available information in support of the response; or

(c) otherwise explaining why such a response cannot be given.

A party may request that all or any part of a response to an interrogatory be held in confidence by the Board in accordance with **Rule 10**.

29.03 Where a party is not satisfied with the response provided, the party may bring a motion seeking direction from the Board.

29.04 Where a party fails to respond to an interrogatory made by Board staff, the matter may be referred to the Board.

## 30. Identification of Issues

30.01 The Board may identify issues that it will consider in a proceeding if, in the opinion of the Board:

TAB 4

Toronto Hydro-Electric System Limited
EB-2010-0233
Report
Filed: 2010 Dec 1
(27 pages)

# *COST OF SERVICE STUDY FOR INDIVIDUALLY METERED SUITES IN MULTI-UNIT RESIDENTIAL BUILDINGS*

***Submitted to***
***Toronto Hydro-Electric System Limited***
***November 29, 2010***

*BDR*
*34 King Street East*
*Suite 1000*
*Toronto, ON M5C 2X8*
*416-214-4848 phone*
*416-214-1643 fax*

**BDR**

## Table of Contents

# 1 REPORT SUMMARY

This study was undertaken by BDR NorthAmerica Inc., at the request of the Toronto Hydro-Electric System Limited ("THESL"). THESL was ordered by the OEB to file a Cost of Service study to determine the separate revenues and costs for suite-metered residential customers, who are presently served by THESL as part of its residential customer class.

BDR has now performed the study, based on 2009 cost and operating data, and 2009 consumption data from billing records. In the absence of a definition instituted by THESL and/or approved by the OEB, the suite-metered sub-class ("SMSC") was defined for purposes of the study as consisting of units in multi-unit residential buildings with more than six residential units, which are separately metered by THESL. The customers meeting this definition were identified from THESL's customer database, and their annual consumptions determined. From this population of nearly 120,000 customers, a random sample of 597 customers were selected and their hourly load shapes aggregated to produce a load shape representative of the SMSC load shape. Once applied to the consumption of the SMSC population and weather normalized, this load shape was subtracted from the weather normalized residential load shape to create a load shape for residential customers other than the SMSC. The demand statistics required for allocation of demand-related costs were computed based on these load shapes.

The OEB-approved cost allocation methodology and model were used in this study to make the results easily comparable with the study filed by THESL for its 2009 test year and for an updated base case.

The consulting team then reviewed each type of cost with THESL management or supervisory staff in various departments to determine what differences existed between SMSC and other residential customers in terms of either the assets or the business processes that serve them. It was determined that few significant differences exist in the area of customer service, but that there are significant differences in the assets providing services to the two types of residential customers.

The SMSC customers attract significantly higher costs for meter capital, meter-related expenses and meter reading, but it was discovered that these costs are more than offset by significantly lower costs associated with secondary infrastructure. Large multi-unit buildings are most frequently served at primary voltage and therefore have no secondary infrastructure. Wiring within the building is the property of the building owner or condominium corporation, and is not a cost to THESL. Based on information from THESL management, a determination was made of the number of smaller multi-unit residential buildings served through secondary infrastructure, and on that basis an estimate was made of the cost of secondary lines that should be allocated to the SMSC.

The cost allocation model was loaded with the data and run as a base case (with a single residential class) and as a case with a separate suite-metered class. The overall residential class showed a revenue-to-cost ratio of 90:100. When the class is separated, the suite-metered customers have a revenue-to-cost ratio of 120:100, while the non-suite-metered customers have a revenue-to-cost ratio of 86:100.

This study therefore indicates that suite-metered customers are paying their full cost of service, and more, and are not subsidized by other customers. Non-suite-metered residential customers and suite-metered customers are within the range of acceptable revenue to cost ratios identified by the OEB. Therefore, separation of the class might not result in immediate adjustments to the level of rates, but if an adjustment were to be made in the direction of unity, it would result in a rate decrease for SMSC customers and a rate increase for other residential customers.

It does not appear that separation of the residential class would have a significant impact on the allocation of costs to other customer classes.

## 2 CONTEXT OF THE STUDY

The Toronto Hydro-Electric System Limited ("THESL") is the electricity distribution subsidiary of Toronto Hydro Corporation serving nearly 700,000 customers in the City of Toronto, and is regulated by the Ontario Energy Board ("OEB" or "Board"). The OEB has the power to establish rate classes within THESLs operating area, and approves rates designed to recover revenue requirements from these classes.

Currently, THESL has seven primary rate classes:

- Residential,
- General Service less than 50kW (GS<50),
- General Service 50-999kW (GS 50-999),
- General Service 1000-4999kW (GS 1000-4999),
- Large Users (LU),
- Unmetered Scattered Load (USL), and
- Street lighting (SL).

The allocation of annual distribution revenue requirement to each class is based on an OEB-designed Cost Allocation Model, which uses various cost driver inputs to determine cost responsibility for each class.

In 2010, the Residential class consists of approximately 615,000 customers. The class is currently defined as:

> "Customers shall be residing in single dwelling units that consist of a detached house or one unit of a semi-detached, duplex, triplex or quadruplex

> house, with a residential zoning. **Separately metered dwellings within a town house complex or apartment building also qualify as residential customers**. Bulk metered residential buildings with up to six units also qualify as residential customers."

Historically, multi-unit residential buildings ("MURBs") have for the most part been bulk metered by Ontario electricity distributors, with their total loads qualifying for General Service rates. Recently, government and regulatory policy has encouraged the separate metering of each suite, so that customers become accountable for their own consumption and are thereby more likely to conserve and manage demands. The two mechanisms available to developers, condominium corporations or building owners are:

(a) Arrange with the licensed distributor[1] to meter the individual suites and common areas, and to provide all metering, meter reading, billing, collection, and customer services to each suite occupant. Under this option, the developer, condominium corporation or building owner is responsible only for the consumption of building common areas and facilities. The suite occupants are direct customers of the licensed distributor in all respects, in the same manner as any other residential customer.

(b) Become an "exempt distributor". In this case, the licensed distributor bulk meters the building and the developer, condominium corporation or building owner is the only customer of the licensed distributor for the premises. The exempt distributor will then contract with a licensed sub-metering service provider to provide sub-metering for each suite. The sub-metering service provider is responsible to meter the consumption, bill the suite occupants, and collect the revenues on behalf of the exempt distributor. The electricity consumption of common areas is funded through other mechanisms such as condominium fees. In this case, the licensed distributor has no direct relationship with the suite occupants and receives no information as to their levels of electricity consumption.

THESL charges the same regulated distribution rate for smart metering to unit-holders of condominium corporations as they do to ordinary residential customers.

In THESL's most recent rate hearing (to establish 2010 distribution rates)[2], an intervenor claimed that the rate that THESL is charging for condominium smart metering is not recovering the costs of these services. They argued that the cost of providing service to condominium corporations is greater than the cost of providing service to other residential consumers, and therefore that an unfair subsidy is being provided through the rate structure. One of the potential remedies suggested was to form a new rate classification for individually metered condominium units, separate from the existing residential rate class, with, presumably, a higher rate. The intervenor led evidence supporting its contention of higher costs to serve.

[1] In this case, the licensed distributor would be THESL.
[2] EB-2009-0139.

In its Decision, the OEB concluded that "no judgment can be made regarding cross-subsidization without a proper cost allocation study" and that "the results of a study completed by THESL will be informative to other utilities and to the Board as to how to advance utility rate structures on a province wide scale in response to the introduction of this competitive sub-metering business". [3]

The OEB ordered THESL to undertake a Cost of Service study for this potentially separate class of customers, and file it with the OEB. The study is to include an analysis of the implications of creating and maintaining a separate rate class for those customers served in this manner.

THESL retained BDR NorthAmerica Inc., a Toronto-based energy sector consulting firm with experience in cost allocation studies, and specifically in the OEB-approved cost allocation methodology and model for Ontario electricity distributors, to perform the required study. The work was carried out between August and November 2010. This report documents the methodology, results and conclusions of the study.

## 3 TERMINOLOGY

At issue is the distinction between residential premises that are units in multi-unit buildings, and residential premises of all other types. Various terminologies are in use to denote each of these groups. For consistency and simplicity in this report, we have chosen to adopt the terminology "Suite-Metered Customers" used by the OEB in its Decision in EB-2009-0139 to denote residential units in multi-unit residential buildings, for which THESL has installed a meter and provides all services directly. As a group, and without pre-judgment as to whether suite-metered customers should constitute a class separate from other residential customers, we will refer to them in this report as the Suite-Metered Sub-Class ("SMSC"). Membership in the SMSC for purposes of this study is discussed in Section 4.2.

For want of other established terminology, residential customers who are not suite-metered customers will be referred to as the Non-Suite-Metered Sub-Class, or the NSM Sub-Class ("NSMSC").

The terminology "residential customers" or "Residential Class" will refer to both the Suite-Metered Sub-Class and the NSM Sub-Class, i.e. the residential class as it exists today.

[3] EB-2009-0139, Decision dated April 9, 2010, page 30.

# 4 METHODOLOGY

## 4.1 *Year*

All data used in the study are 2009 historic data. Balances of accounts are from THESL's financial statements for 2009. Operating statistics, where used, are 2009 actual values, or estimates based on 2009. Load data was collected from billing records for 2009, and weather-normalized.

As a result, the data and results of the baseline cost allocation model run will be slightly different from that filed in EB-2009-0139, which presented a forecast test year.

## 4.2 *Class Definition and Identification of Suite-Metered Sub-Class Members*

The first challenge in the study was to define the suite-metered sub-class for purposes of the analysis and identify its members. No definition had previously been instituted by THESL, and its customer information database did not include any specific or individual field identifying a residential customer as a unit in a multi-unit residential building.

We therefore took as our starting point the existing definition of the residential class, which includes, as well as individual units in buildings of various sizes, "bulk metered residential buildings with up to six units". It appeared that the electricity service requirements of semi-detached dwellings and buildings of six or fewer units would more closely resemble those of a detached dwelling than of a larger multi-unit building with significant common areas and facilities.

We therefore sought to define the suite-metered sub-class as consisting of separately metered residential units in buildings with more than six residential units. Any common facilities and non-residential premises in such buildings would belong to the General Service Class, and would therefore be excluded from the suite-metered sub-class of the Residential Class.

THESL staff then prepared a query to the customer information database to identify the customers and produce a file with the annual consumption for 2009 for each customer in the class as defined. Consumption was annualized for each customer by a simple proration of the billed consumption. The data file was visually inspected, with particular attention to accounts with uncharacteristically large consumptions to ensure appropriate exclusion of common area accounts. Accounts identified as appropriate members of the SMSC, but for which there was zero consumption in one or more billing periods of the year, were retained in the population statistics. The population of the SMSC was thus

identified as consisting, in 2009, of 119,947 customers, averaging 389 kWh per customer per month of consumption on an actual (not weather-normalized) basis.

Table 4.1 compares the frequency distribution of monthly consumptions of the residential class and the suite-metered subclass.

**Table 4.1 – Comparison of Frequency Distribution of Number of Customers by Monthly Consumptions, Residential Class and Suite-Metered Sub-Class, 2009 Data**

| Average Monthly kWh | Residential Class | Suite-Metered Sub-Class | Residential - Net of Suite Metered |
|---|---|---|---|
| 0-600 kWh | 32.24% | 84.09% | 18.67% |
| 601-1,000 kWh | 30.41% | 10.80% | 35.54% |
| 1,001-1,500 kWh | 22.06% | 3.41% | 26.94% |
| 1,501-2,000 kWh | 8.39% | 1.10% | 10.30% |
| 2,001-2,500 kWh | 3.25% | 0.36% | 4.01% |
| 2,501-3,000 kWh | 1.48% | 0.13% | 1.83% |
| 3,001-4,000 kWh | 1.14% | 0.07% | 1.42% |
| 4,001-5,000 kWh | 0.40% | 0.02% | 0.50% |
| More than 5,000 kWh | 0.63% | 0.03% | 0.79% |
| Number of Customers | 578,358 | 119,947 | 458,411 |

It is noted that the frequency of low use (under 600 kWh per month) customers is much higher in the suite-metered sub-class than for the residential class as a whole. While the reasons have not been specifically studied, it is expected that some or all of the following factors may play a part:

- Space heating and cooling provided centrally for the building, rather than by appliances in the suite;
- Hot water provided centrally for the building, rather than by a water heater in the suite;
- Lower heating energy requirements as a result of smaller floor space and reduced heat loss in a suite;
- More efficient appliances (in the newer buildings).

## 4.3 *Load Data Analysis*

### 4.3.1 Requirement for Load Statistics in this Cost Allocation Study

It is well-recognized methodology in cost allocation studies that costs driven primarily by peak utilization are allocated based on a measure of demand. The methodology adopted by the OEB for electricity distribution, and embedded in the approved cost allocation model, requires that for each customer class, the following statistics be collected: 1CP, 4CP, 12CP, 1NCP, 4NCP and 12NCP. "CP" means coincident peak, which is the

demand of the class at the time when the sum of the load of all classes is highest (i.e. the "system[4] peak"). "NCP" means the maximum demand of the class, whenever it occurs. By definition, a class CP cannot exceed its NCP, and because different classes peak at different times, the sum of the NCPs of all customer classes will be greater than the system peak. The CP and NCP for each class are computed on a monthly basis for the year. 1NCP means the single maximum demand for the year; 4 NCP means the sum of the four greatest monthly maximum demands; and 12 NCP means the sum of the monthly maximum demand in each of 12 months of the year. Correspondingly, 1CP, 4CP and 12CP mean the class demand at the times of the annual system peak, the four highest monthly system peaks, and the twelve monthly system peaks respectively.

In previous cost allocation studies filed by THESL with the OEB, the CP and NCP statistics have been estimated for it by Hydro One. In preparation for this study, THESL requested and received from Hydro One hourly load shapes for each of the following classes:

- Residential
- General Service between 50 and 1000 kW, interval metered
- General Service between 50 and 1000 kW, non-interval metered
- General Service less than 50 kW
- General Service between 1000 and 5000 kW
- General Service greater than 5000 kW (Large Users)
- Street Lighting, and
- Unmetered Scattered Loads (USL).

These load shapes have been adopted for purposes of this study.

The load data analysis carried out by THESL and the BDR team for this study consisted of using the available hourly load data for suite-metered customers to produce a load shape for the suite-metered sub-class. The load shape of the non-suite-metered residential customers was obtained by subtracting the suite-metered sub-class load shape from the residential load shape. This approach eliminated any need for sampling and analysis of residential load shapes other than for suite-metered customers, or for reconciliation of the load shapes of two residential sub-classes to the load shape for the total class.

### 4.3.2 Sampling

It was initially anticipated that complete hourly data would be available for almost all customers in the suite-metered sub-class, but in the course of the analysis THESL staff confirmed to the consulting team that this was not the case for the year 2009, nor were

[4] For clarity, "system" refers to the system of the utility for which the cost allocation study is being done, so that the CP statistics were computed with respect to THESL's system peak, rather than the Ontario system peak.

systems in place at THESL to aggregate the hourly data for many thousands of customers to produce a sub-class load shape. As a result, a decision was made to proceed based on a random sample[5] of customers in the sub-class. The sample size was determined on the basis of the characteristic of kWh consumption. Since the kWh consumption of each member of the sub-class was known, the population standard deviation could be computed. Based on this statistic and a desired confidence level of .95, it was determined that a sample size of 600 customers would provide a confidence interval of plus/minus 80 kWh of the monthly mean consumption per customer.

On this basis, THESL staff selected a sample of 675 customers, to provide the flexibility to eliminate customers where there were large numbers of unexplained zero or non-read intervals in the data[6]. The result was that 78 customers were eliminated from the sample. There was no apparent pattern or common characteristic of the eliminated customers, and it is not believed that this approach biased the sample. The mean actual monthly consumption of the customers remaining in the sample was 417 kWh.

Table 4.2 compares the sample mean and frequency distribution to those of the population.

**Table 4.2 – Comparison of Frequency of Number of Customers, Suite-Metered Sub-Class Population and Sample**

| Average Monthly kWh | Sample | Suite-Metered Sub-Class |
|---|---|---|
| 0-600 kWh | 82.58% | 84.09% |
| 601-1,000 kWh | 12.73% | 10.80% |
| 1,001-1,500 kWh | 3.52% | 3.41% |
| 1,501-2,000 kWh | 1.01% | 1.10% |
| 2,001-2,500 kWh | 0.17% | 0.36% |
| 2,501-3,000 kWh | 0.00% | 0.13% |
| 3,001-4,000 kWh | 0.00% | 0.07% |
| 4,001-5,000 kWh | 0.00% | 0.02% |
| More than 5,000 kWh | 0.00% | 0.03% |
| Number of Customers | 597 | 119,947 |

[5] Random sampling means that each member of the population has the same probability of being selected for inclusion in the sample.

[6] This approach, rather than retaining the zero or non-reads, was adopted because, in discussion with THESL it was determined that error readings would be corrected by estimation in the normal process of billing a customer.

### 4.3.3 Constructing the Suite-Metered Load Shape

On an hour-by-hour basis, the loads of the sample customers were summed to produce an aggregate sample load shape. The sample consumption in each hour was then divided by the total annual consumption of the sample customers and multiplied by the total consumption of the SMSC population to produce a population load shape, the same "shape" as the sample.

Actual billing data was used for this analysis. Once a population load shape had been computed, it was returned to THESL staff, who normalized it for weather and provided the weather-normalized load shape to BDR. Normalization resulted in a sub-class load shape on the same basis as the load shape for the total residential class that had been provided by Hydro One (i.e. a weather-normalized load shape).

### 4.3.4 Computing the Non-Suite-Metered Load Shape

The weather-normalized suite-metered load shape was subtracted on an hour-by-hour basis from the total residential class load shape to compute the load shape for non-suite-metered customers. Table 4.3 compares key load statistics for the two sub-classes of residential customers, and Figures 4.1 through 4.4 compare daily load shapes graphically.

Figure 4.1 and Figure 4.2 illustrate the winter load shapes of the suite-metered and non-suite-metered subclasses. The graphs show the 24 hourly intervals of Wednesday, January 28, 2009, which was THESL's peak day for that calendar month, based on the normalized data. To create Figure 4.1, the hourly load for each sub-class has been divided by the number of customers so that each shape represents a theoretical "average" or "typical" customer in the sub-class, thereby eliminating the effects of number of customers on the scale of the graph. To create Figure 4.2, the load in each hour was divided by the total load for the year to obtain the percentages; this approach results in a comparable scale even though the level of consumption between the two sub-classes is different.

Figures 4.3 and 4.4 present the same analysis for the date of Thursday, July 16, 2009, THESL's peak day for that month, based on the normalized data.

**Table 4.3: Comparison of Load Statistics for Suite-Metered and Non-**

**Figure 4.2: Comparison of Sub-Class Load Shapes on a Percentage of Annual Load Basis for January Peak Day (EST)**

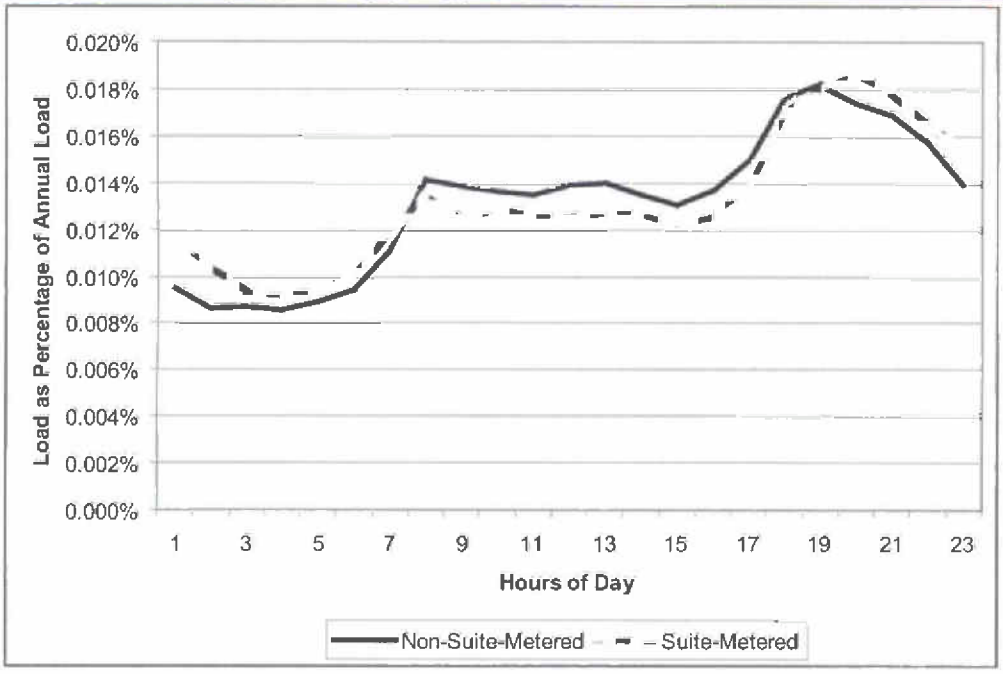



**Figure 4.3: Comparison of Sub-Class Load Shapes on a Per Customer Basis for July Peak Day (DST)**

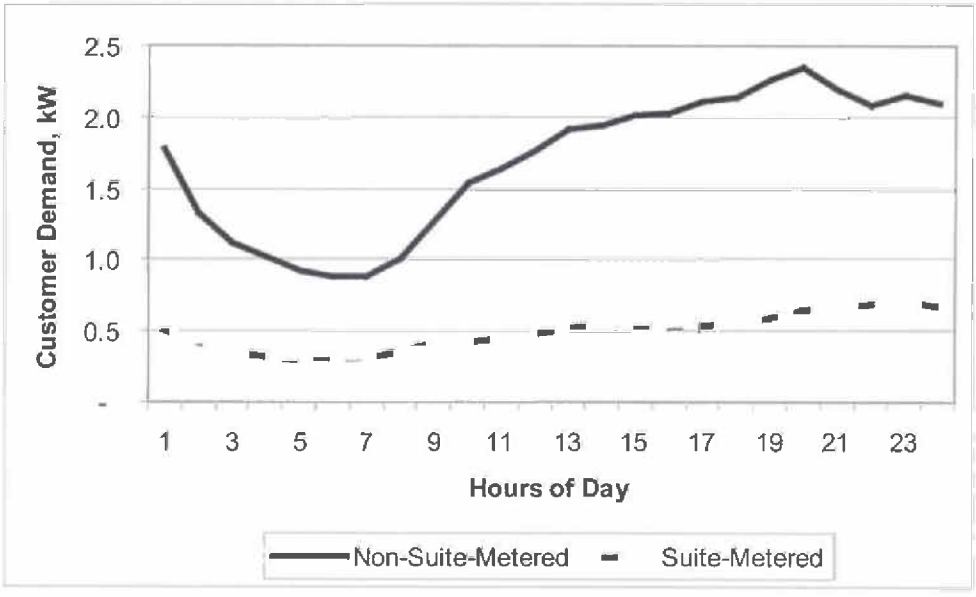
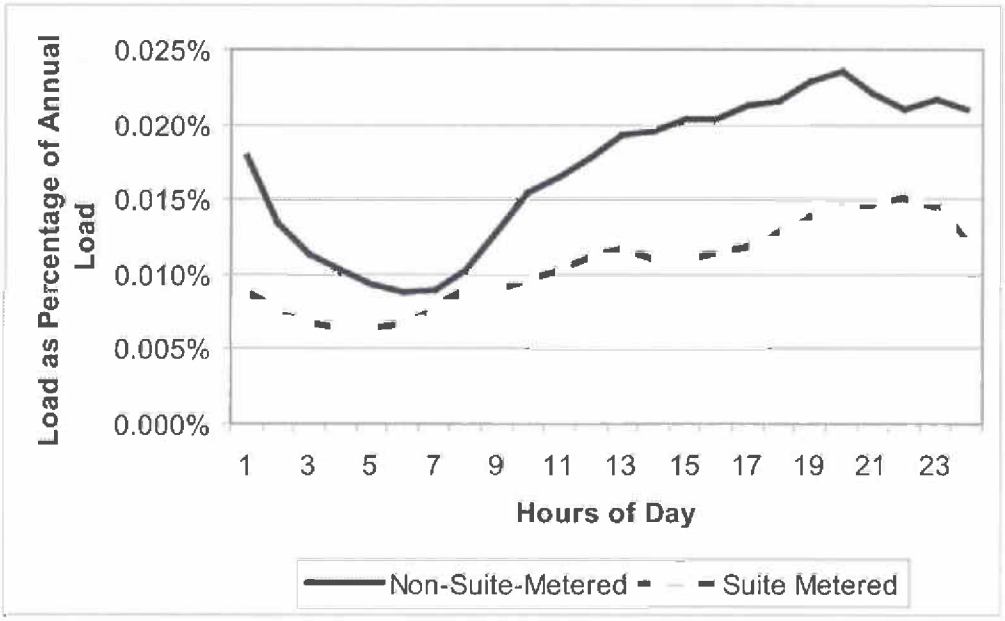


**Figure 4.4: Comparison of Sub-Class Load Shapes on a Percentage of Annual Load Basis for July Peak Day (DST)**




## 4.4 *Use of the OEB-Approved Cost Allocation Model*

As previously explained, THESL, like other Ontario LDCs, has based its existing cost allocation study on the methodology approved for electricity distributors by the OEB, and has used a model designed as part of an OEB stakeholder process. In performing this cost allocation study, BDR has used THESL's cost allocation model as filed in its previous cost of service application as the basis for all cost allocations, except as specified in this report. The purpose of so doing was to make the results of this study easily comparable with a "base case" in which the approved cost allocation study for the 2009 test year was updated with 2009 actual cost data to obtain revenue/cost ratios for a single residential class and all non-residential classes.

The model structure allows data from an LDC's accounts in the approved form of Trial Balance to be directly loaded into the model for analysis. THESL provided the actual 2009 Trial Balance figures and updated the model with revised demand and customer statistics for each of the existing customer classifications. The results of this update to the model, without addition of a separate SMSC, form the base case, in comparison with which a second model "run" with the SMSC as a separate class can be considered.

THESL also provided the actual 2009 revenue for the SMSC and NSMSC, the number of customers, the factors for the breakdown of the SMSC CP and NCP data into Primary and Secondary.

BDR then used the functionality of the model, which allows a new customer classification to easily be created. The following discussion addresses the specific treatment of the SMSC in the cost allocation modeling process. Numeric references where given are to Schedules within the cost allocation model.

## 4.5 *Cost Analysis*

### 4.5.1 Identification of Cost Issues

In performing a high quality cost allocation study, the issue arises of the treatment of differences in processes, procedures and distribution facilities between classes where the use of simple allocation factors (demand or number of customers) will not adequately reflect cost causation. For example, the OEB-approved methodology ensures that General Service customers served at primary voltage do not attract costs of secondary infrastructure to their class, and that unmetered connections do not attract an allocation of metering and meter reading costs.

The challenge in this study was to determine whether there are differences in the process, procedures, and distribution facilities to serve SMSC and NSMSC that affect the costs that should be allocated to them. Once such differences have been identified, the impact on cost has to be quantified, and then an appropriate treatment within the approved cost allocation model needs to be implemented.

As mentioned in Section 4.2, small multi-unit buildings with more than six units were included in the definition of SMSC. These types of buildings have distribution characteristics that are very similar to residential class single dwelling customers (such as fully detached homes), and not similar to high-rise buildings. Taking into account these differences within the defined sub-class presented additional challenges in the cost analysis.

The approach taken was to list the functions that are involved in serving any customer. The list formed a basis for discussion with THESL subject matter experts to identify the differences if any between service to SMSC and NSMSC. BDR has, with the concurrence of THESL, confined adjustments to the cost function where a clear difference exists in processes or facilities.

**Table 4.4 List of Functions Reviewed in the Study**

| Function | | Cost Level for Suite-Metered Compared with Non-Suite-Metered | Materiality |
|---|---|---|---|
| **Main** | **Sub** | **S=same; L=lower; H=Higher** | **L=Low; M=Medium; H= High** |
| Customer Service | Account set up | S | |
| | Connection | S | |
| | Billing | S | |
| | Inquiry | S | |
| | Bad debt | S | |
| | Disconnect | L | L |
| | Trouble Calls - no power | S | |
| Field Service | Dispatch - Field Service Trucks | L | M |
| | Dispatch - Trouble Crew | S | |
| Meter | Installation - Labour | S | |
| | Capital costs | H | M |
| | Meter reading | H | L |
| | Meter maintenance | H | L |
| Distribution | Planning | S | |
| | Primary Lines | S | |
| | Secondary lines - Capital | L | H |
| | Secondary lines - O&M | L | H |
| | Duct Banks | L | M |
| | Poles - Capital | L | H |
| | Poles - O&M | L | H |
| | Transformers Capital | L | M |

### 4.5.2 Analysis of Specific Costs

#### *4.5.2.1 Customer Service*

**Account Set Up** – Changes in occupancy are believed to be more frequent for rental premises than for owner-occupied premises; therefore there would be more move-in, move-out transactions for the LDC where a tenant has responsibility for the electricity bill. However, no reliable information is available for either SMSC or NSMSC to support making a distinction in the attribution of this cost; and the net effect on the revenue/cost ratio would be minimized because the Account Set Up Charge will largely cover the costs.

**Connection, Billing and Inquiry** – The connection cost mentioned here is only for the paper work portion; the installation of meters and the planning is discussed below. There are no identifiable differences between NSMSC and SMSC for these particular functions.

In summary, the amounts allocated to SMSC and the NSMSC in accounts 5305 Billing Supervision, 5315 Customer Billing, 5320 Collecting, 5325 Collection Charges are identical as shown in Table 4.5 below.

**Bad Debt** – It is possible that some tenants are more prone than owners to incur bad debts, but THESL has not collected statistics to support a conclusion one way or the other. Also, it is difficult to determine accurately how many SMSC are rentals and how many are owner-occupied. Therefore, it is assumed that there are no differences between SMSC and NSMSC as to the proportion of bad debt. The difference in allocation of bad debt expense is accounted for by the difference in distribution revenue per customer.

**Disconnect** – When LDC's have exhausted all avenues of collection, they may have to resort to disconnecting the customer. For houses in residential areas, the disconnection could occur at the pole, and a special crew will be sent out to perform the task. For SMSC, staff can simply disconnect at the meter panel within the building. There will be some difference in cost, but according to THESL staff, the frequency (and therefore materiality) of this cost is not high.

**Trouble Calls (phone calls received by dispatchers)** – THESL does not maintain caller statistics by type of dwelling. In a no power or lights out situation, an SMSC customer is likely to call the building superintendent rather than calling THESL, or would check whether hall lights are out before calling. However, it is possible the SMSC customer may call the number on their bill from the LDC. A NSMSC customer can take steps to determine whether the problem is specific to the premises or part of a

broader system outage by looking out the window to whether street lights or lights in neighbouring houses are out, but may still call the LDC to advise them or find out when the situation will be rectified. In conclusion, it is difficult to determine whether there is a reliable pattern of behaviour by sub-class that would impact costs in this category.

#### *4.5.2.2 Field Service*

When the dispatcher receives trouble calls from customers, they note the addresses and determine what the causes are.

**Trouble Crew** - If an outage is caused by problems at stations or transformers, then a wide area and various classes of customers will be affected. In this case, the dispatcher will send out a 'trouble crew'. To the degree that costs arise at shared facilities whose costs are determined by the usage of many customers in different classes, it was concluded that allocation on the basis of demand is the correct approach, and no special adjustment within the cost allocation model needs to be made.

**Field Service Trucks** – If the dispatcher determines that the problem is isolated, a Field Service Technician will be sent out to investigate the problem. The task could include checking the connection from the pole. In the case of the SMSC, no crew will be dispatched since it will be the building superintendent's responsibility to restore power to the residence.

In summary, the allocation to SMSC and NSMSC accounts 5070 Customer Premises Operation Labour and 5075 Material and Expenses, were the same on a per-customer basis as seen in Table 4.5.

#### *4.5.2.3 Meter*

During the discussion with THESL staff, it was noted that for some of the SMSC, a more expensive type of meter (Quadlogic) is being used and THESL staff have updated the meter capital cost in I7.1 in the Cost Allocation Model to reflect the higher costs. Meter-related costs for the SMSC include the meter-types used by THESL for suite-metered customers. The allocated cost per customer is $179 for the NSMSC compared to $297 for SMSC.

There is no quantifiable difference in the labour cost to install these meters at the SMSC premises, as compared with meter installations for NSMSC customers.

The allocated cost per customer for meter expense 5065 is $3.74 for NSMSC and $6.20 for SMSC.

## Table 4.5 Summary of Allocations by Account

| ALLOCATION BY RATE CLASSIFICATION | | | Total | Allocated | Unit cost per customer | | |
|---|---|---|---|---|---|---|---|
| Source O4 Cost allocation model | | | Number of Customers: | | 489492 | 119947 | |
| USoA Account # | Accounts | O1 Grouping | Residential Non-Suite-Metered | Residential - Suite Metered | Residential Non-Suite-Metered | Residential - Suite Metered | Ratio of Cost Per Customer, Suite-Metered to Non-Suite-Metered |
| 1808-2 | Buildings and Fixtures < 50 KV | dp | 9,895,343 | 957,467 | 20.2 | 8.0 | 39% |
| 1820-2 | Distribution Station Equipment - Normally Primary below 50 kV (Primary) | dp | 33,600,235 | 2,907,175 | 68.6 | 24.2 | 35% |
| 1830-4 | Poles, Towers and Fixtures - Primary | dp | 61,855,996 | 11,330,431 | 126.4 | 94.5 | 75% |
| 1830-5 | Poles, Towers and Fixtures - Secondary | *dp* | 90,286,101 | 3,052,465 | 184.4 | 25.4 | 14% |
| 1835-4 | Overhead Conductors and Devices - Primary | dp | 46,302,253 | 8,481,384 | 94.6 | 70.7 | 75% |
| 1835-5 | Overhead Conductors and Devices - Secondary | *dp* | 67,583,584 | 2,284,925 | 138.1 | 19.0 | 14% |
| 1840-4 | Underground Conduit - Primary | dp | 270,823,762 | 49,607,962 | 553.3 | 413.6 | 75% |
| 1840-5 | Underground Conduit - Secondary | *dp* | 158,615,922 | 5,362,615 | 324.0 | 44.7 | 14% |
| 1845-4 | Underground Conductors and Devices - Primary | dp | 122,744,808 | 22,483,699 | 250.8 | 187.4 | 75% |
| 1845-5 | Underground Conductors and Devices - Secondary | *dp* | 71,889,116 | 2,430,485 | 146.9 | 20.3 | 14% |
| 1850 | Line Transformers | dp | 268,207,377 | 20,484,518 | 547.9 | 170.8 | 31% |
| 1855 | Services | dp | 203,360,503 | 14,949,672 | 415.5 | 124.6 | 30% |
| 1860 | Meters | dp | 87,770,469 | 35,653,222 | 179.3 | 297.2 | 166% |
| 1995 | Contributions and Grants - Credit | co | - 103,626,670 | - 9,672,787 | - 211.7 | - 80.6 | 38% |
| 2105 | Accum. Amortization of Electric Utility Plant - Property, Plant, & Equipment | accum dep | - 881,441,173 | - 106,582,179 | - 1,800.7 | - 888.6 | 49% |
| 5065 | Meter Reading Expense | di | 1,829,749 | 743,258 | 3.7 | 6.2 | 166% |
| 5070 | Customer Premises - Operation Labour | di | 1,962,761 | 480,962 | 4.0 | 4.0 | |
| 5075 | Customer Premises - Materials and Expenses | di | 950,740 | 232,973 | 1.9 | 1.9 | |
| 5085 | Miscellaneous Distribution Expense | di | 1,290,522 | 127,079 | 2.6 | 1.1 | 40% |
| 5105 | Maintenance Supervision and Engineering | di | 1,689,337 | 166,351 | 3.5 | 1.4 | 40% |
| 5120 | Maintenance of Poles, Towers and Fixtures | di | 2,681 | 253 | 0.0 | 0.0 | 39% |
| 5125 | Maintenance of Overhead Conductors and Devices | di | 3,535,591 | 334,240 | 7.2 | 2.8 | 39% |
| 5150 | Maintenance of Underground Conductors and Devices | di | 4,529,522 | 579,803 | 9.3 | 4.8 | 52% |
| 5160 | Maintenance of Line Transformers | di | 70 | 5 | 0.0 | 0.0 | 31% |
| 5175 | Maintenance of Meters | cu | 2,116 | 860 | 0.0 | 0.0 | 166% |
| 5305 | Supervision | cu | 186,195 | 45,626 | 0.4 | 0.4 | 100% |
| 5310 | Meter Reading Expense | cu | 468,741 | 424,224 | 1.0 | 3.5 | 369% |
| 5315 | Customer Billing | cu | 4,924,304 | 1,206,670 | 10.1 | 10.1 | 100% |
| 5320 | Collecting | cu | 6,148,443 | 1,506,638 | 12.6 | 12.6 | 100% |
| 5335 | Bad Debt Expense (ratio of dist revenue) | cu | 3,592,559 | 714,397 | 7.3 | 6.0 | 123% |

The meter reading costs as calculated by the model was also higher for the SMSC at $3.54 per customer as compared with $0.96 for the NSMSC.

The model contains appropriate logic to attribute meters of each type and level of cost to the class in which they are used. No other adjustment needed to be made in the analysis.

Meter-related costs are the only type of costs identified in the study as significantly higher for SMSC than for NSMSC customers.

#### *4.5.2.4 Distribution*

**Planning** – THESL staff believes that while it takes more effort to plan for a multi-unit residential building than for a detached or semi-detached home, the per suite cost for SMSC related to planning as compared with a residential sub-division is approximately 50% less.

Since THESL staff estimate that the cost of planning for SMSC is about half of that of NSMSC, all the assets and depreciation costs were adjusted (planning costs are capitalized). Since the material costs will not change, only the staff time can be reduced. It is estimated that staff time makes up between 5-10% of the capital cost, so a value of 6% was used. As a result, the amount of the required adjustment was calculated as 3 % (50% of 6%) of all the capital assets. Finally, the resulting adjustment amount is further reduced by 30% which represents the proportion of SMSC customers who are similar to NSMSC in terms of their planning requirements[7].

Since capital planning costs are allocated based on CP or NCP rather than being separately identified and directly assigned, it is not possible to apply an adjustment in the input stages of modeling to reflect the differences in cost. Therefore the adjustment needs to be made after the allocation on the basis of CP or NCP to residential class as if SMSC is a sub-class of Residential. In order to keep this adjustment transparent, for purposes of this study the adjustment is made in Schedule O5 Details by Class and Accounts. Since the impact is only 0.9% (6% x 50% x 30%) or $350,000 of the capital amount that has been allocated to the SMSC of $39 million, the amount is not material in comparison with the reduction of the allocated secondary costs of over $64 million.

**Secondary Lines** - This is the most critical component in distinguishing the costs of service for the SMSC from the NSMSC. The distribution configuration for a large multi-unit residential building, whether bulk metered or suite metered from the LDC's point of view, is very different from the NSMSCs in that the multi-unit residential building is

[7] There are 3456 buildings in which the suites qualify under the definition established for the SMSC for this study (see Section 4.2). THESL staff determined that small buildings were more similar in planning requirements to a non-suite-metered residential customer than to a large multi-unit residential building. Based on total load, the number of buildings is 1030, or 30% of the total.

generally fed from the primary circuits. THESL supplies power to multi-residential buildings at high voltage (as would be the case for large commercial and institutional buildings), whereas for other residential customers the voltage is stepped down and the customer receives supply through secondary lines at lower voltage. As a result the cost of the secondary capital and maintenance do not apply to the large multi-unit buildings.

However, the smaller buildings included in the SMSC are similar in their requirements to single dwellings and to smaller General Service customers, and may be served by the secondary circuits.

To reflect this, a reduced component of secondary capital and maintenance expense was allocated to the SMSC, based on their NCP at various levels of supply. It is estimated that approximately 30% of the multi-unit buildings are of a load level that would be served by the secondary infrastructure.

The reductions in the allocated costs per customer are as follows: 1830-5 Poles Secondary: $159 approximately; 1835-5 Overhead Conductors and Devices: $119 approximately; 1840-5 Underground Conduit – Secondary: $280 approximately for a total reduction of around $64 million. A corresponding adjustment was made to Accumulated Depreciation. (See Table 4.5)

**Operating and Maintenance** –THESL staff responsible for these activities identified certain functions that would be reduced for the SMSC, as compared with the NSMSC. They are pole maintenance, and pole inspections. Since the operating and maintenance expenses follow the allocation of the assets, a reduction in asset allocation will result in the reduced allocation of operating expenses also. The major areas are: 5125 Maintenance of Overhead Conductors: $532,000 approximately; 5150 Maintenance of Underground Conductors: $530,000 approximately.

**Trouble Crews in the Field** – THESL staff believe that this cost may be lower for SMSC customers than for other residential customers on a per customer basis but there is no data on which a reduction could be supported. As a result, no change was made to the allocation basis in the model.

**Poles** – THESL staff believe that the cost of poles would be lower on a per customer or per kWh basis for SMSC customers than for other residential customers, but no data are currently available to support an estimate of the appropriate reduction. As a result, no reduction was made.

**Transformers** – The larger multi-unit residential buildings could have their own transformers or be fed from THESL-owned transformers. Residential rates do not reflect the issue of customer-owned transformers. If the building has a customer-owned transformer, a credit is applied to a General Service account associated with the building.

Since the NSMSC generally requires further transformation on the secondary lines they will attract an allocation of costs related to line transformers. To the degree that buildings with customers in the SMSC are served at primary voltage, they have been excluded from an allocation of line transformer costs. As a result there is a reduction in account 1850 Line Transformer allocation to the SMSC in the amount of $45 million dollars approximately.

Table 4.5 provides a summary of the allocation of costs by account.

#### *4.5.2.5* Directly Allocated Costs

THESL staff confirmed that certain administrative and marketing costs were incurred directly related to suite-metering. On an estimated basis, $400,000 was directly allocated to the SMSC.

# 5 RESULTS

## 5.1 *Scenario Analysis*

As described in Section 4, the quantitative analysis of this cost allocation study involved two scenarios. Both scenarios use 2009 actual cost data and 2009 actual load data, normalized for weather. The scenarios are as follows:

- The 2009 "base case": Involves updating the approved 2009 test year cost allocation study with actual cost and weather normalized load data for the year, but includes no changes to the customer classifications. The purpose of commencing with this scenario was to verify the reasonableness of allocations to all classes, and to establish the most recent revenue/cost ratio for the residential class, with which other scenarios can be compared; and
- A scenario treating suite-metered customers as an entirely separate class.

Table 5.1 compares the base case of a single residential class with a scenario in which a separate suite-metered class is created.

In the initial study plan, the issue was considered of whether the SMSC should be treated as a "class" or as a "sub-class". At the time of the OEB's stakeholder sessions that resulted in development of the cost allocation methodology and model for electricity distributors, there was extensive discussion of the issue of whether an identifiable group of electricity customers[8] should be treated as a separate class, and the ramifications of treatment as a class, rather than a "sub-class". The distinction is potentially important

[8] Unmetered Scattered Loads ("USL"), which are treated as a separate class by some Ontario LDCs and as a sub-class of the General Service under 50 kW by others.

because there will always be some element of diversity between groups of customers; if a new class is created, the NCP approach will result in the sharing of what was previously intra-class load diversity with other customer classes.

However, when the results of the treatment of the SMSC as a separate class were reviewed, it was seen that the two new classes in aggregate (the SMSC and the NSMSC) did not attract allocations of significantly more costs than did a single residential class. In fact the difference is less than 0.4%.[9] The separation of the residential class into two classes therefore does not appear to have a significant adverse impact on other customer classes. It was therefore concluded that no further analysis of the "sub-class" alternative was necessary.

The consulting team also considered whether it would be necessary to make sensitivity tests of the results, given that estimates were made of cost differences based on the judgment of THESL staff. However, overall it was determined that any cost differences between SMSC and NSMSC other than for metering, to the extent that such differences exist, involve *lower* costs of service for the SMSC customers. Since the results of the unadjusted new class case show a revenue to cost ratio well above unity, and well above the revenue to cost ratio for the residential class as a whole, it was concluded that such additional analysis would not qualitatively change the study results.

[9] See Table 5.1. The total of the allocated revenue requirements of the SMSC and the NSMSC in column 4 of the Table is, $230,881,235, whereas the allocated revenue requirement of the single residential class in column 1 is $230,062,408.

COST ALLOCATION STUDY
**2009 Actual Cost and 2009 Load Data, Weather Normalized**
**Toronto Hydro-Electric System Limited**
**Comparison of Key Cases**
**Monday, November 15, 2010**
**Sheet O1 Revenue to Cost Summary Worksheet - First Run**

| | | Base Case | New Suite-Metered Class, No Cost Adjustments | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| Rate Base Assets | | Total Residential | Residential Not Suite-Metered | Suite-Metered | Total of Suite-Metered and Non-Suite-Metered |
| crev | Distribution Revenue (sale) | $194,531,614 | $162,264,558 | $32,267,056 | $194,531,614 |
| mi | Miscellaneous Revenue (mi) | $12,629,440 | $10,568,164 | $2,060,118 | $12,628,281 |
| | **Total Revenue** | **$207,161,054** | **$172,832,722** | **$34,327,174** | **$207,159,896** |
| | **Expenses** | | | | |
| di | Distribution Costs (di) | $35,940,904 | $32,342,587 | $3,318,848 | $35,661,435 |
| cu | Customer Related Costs (cu) | $24,822,402 | $20,065,607 | $5,355,608 | $25,421,215 |
| ad | General and Administration (ad) | $27,680,831 | $23,901,187 | $3,694,832 | $27,596,019 |
| dep | Depreciation and Amortization (dep) | $74,728,991 | $66,400,373 | $8,532,604 | $74,932,977 |
| NPUT | PILs (INPUT) | $11,759,064 | $10,454,422 | $1,301,180 | $11,755,602 |
| INT | Interest | $31,507,623 | $28,011,923 | $3,486,425 | $31,498,348 |
| | **Total Expenses** | **$206,439,814** | **$181,176,098** | **$25,689,497** | **$206,865,596** |
| | **Direct Allocation** | **$0** | **$0** | **$400,000** | **$400,000** |
| NI | Allocated Net Income (NI) | $23,622,593 | $21,001,719 | $2,613,920 | $23,615,639 |
| | **Revenue Requirement (includes NI)** | $230,062,408 | $202,177,818 | $28,703,417 | $230,881,235 |
| | **Rate Base Calculation** | | | | |
| | **Net Assets** | | | | |
| dp | Distribution Plant - Gross | $1,693,162,606 | $1,508,650,227 | $182,032,098 | $1,690,682,325 |
| gp | General Plant - Gross | $244,652,437 | $218,013,511 | $26,226,495 | $244,240,006 |
| cum c | Accumulated Depreciation | ($992,977,182) | ($884,704,336) | ($106,972,924) | ($991,677,260) |
| co | Capital Contribution | ($114,542,239) | ($103,626,670) | ($9,672,787) | ($113,299,457) |
| | **Total Net Plant** | **$830,295,622** | **$738,332,732** | **$91,612,882** | **$829,945,614** |
| | **Directly Allocated Net Fixed Assets** | **$0** | **$0** | **$0** | **$0** |
| COP | Cost of Power (COP) | $407,001,525 | $364,056,515 | $44,602,229 | $408,658,744 |
| | OM&A Expenses | $88,444,137 | $76,309,381 | $12,369,288 | $88,678,669 |
| | Directly Allocated Expenses | $0 | | | |
| | *Subtotal* | ***$495,445,663*** | ***$440,365,896*** | ***$57,371,517*** | ***$497,337,413*** |
| | **Working Capital** | **$61,841,244** | **$54,966,219** | **$7,161,080** | **$62,127,299** |
| | **Total Rate Base** | **$892,136,866** | **$793,298,951** | **$98,773,962** | **$892,072,913** |
| | **Equity Component of Rate Base** | **$356,854,746** | **$317,319,580** | **$39,509,585** | **$356,829,165** |
| | **Net Income on Allocated Assets** | **$721,240** | **($8,343,377)** | **$8,237,677** | **($105,700)** |
| | **Net Income on Direct Allocation Assets** | **$0** | **$0** | **$0** | **$0** |
| | **Net Income** | **$721,240** | **($8,343,377)** | **$8,237,677** | **($105,700)** |
| | **RATIOS ANALYSIS** | | | | |
| | REVENUE TO EXPENSES % | 90.05% | 85.49% | 119.59% | 89.73% |
| | EXISTING REV - ALLOCATED COSTS | ($22,901,353) | ($29,345,096) | $5,623,757 | ($23,721,339) |
| | RETURN ON EQUITY RATE BASE | 0.20% | -2.63% | 20.85% | -0.03% |

## 5.2 *Conclusions as to Cross-Subsidization within the Residential Class*

In drawing conclusions from the analysis, BDR notes that, as with any cost allocation study, the results must be considered as indicative, rather than precise. Although the basics of cost allocation methodology are widely accepted, cost allocation has been described as more of an art than a science. This is because judgment is called for in methodology decisions and in estimation of values for which complete data do not exist. The OEB has recognized these issues by approving a range of revenue to cost ratios as acceptable for rate-setting, rather than requiring distributors to aggressively adjust the revenue levels of customer classes on the basis of the cost allocation study.

In that context, based on the analysis summarized in Table 5.1, the key facts are:

- The THESL residential class as a whole has a ratio of revenue to cost of about 90:100, based on 2009 rates and costs and the OEB approved cost allocation methodology. As a class, residential customers are under-contributing to the revenue requirement—that is, receiving a cross-subsidy from other customer classes.
- When divided into two classes, suite-metered and non-suite-metered, the suite-metered customers have a revenue to cost ratio of about 120:100, and non-suite-metered customers have a revenue to cost ratio of about 85:100.
- The analysis supports a conclusion that the costs to serve suite-metered customers are lower by comparison with revenue than for non-suite-metered residential customers. According to these results, suite-metered customers contribute about twenty percent more in revenue than the costs to serve them, in effect cross-subsidizing other residential customers.

Table 5.2 sets out a comparative revenue/cost ratio computation for suite-metered and non-suite-metered customers on an average per customer basis.

**Table 5.2: Comparison of Revenue/Cost Ratios of Suite-Metered and Non-Suite-Metered Sub-Classes on an Average Per Customer Basis**

| | Non-Suite Metered | Suite-Metered |
|---|---|---|
| **Total Revenue** | **$377** | **$286** |
| Distribution Expenses | $71 | $28 |
| Customer Related Expenses | $44 | $45 |
| General and Administration Expenses | $52 | $31 |
| Depreciation and Amortization | $145 | $71 |
| PILs | $23 | $11 |
| Interest | $61 | $29 |
| Net Income | $46 | $22 |
| Direct Allocation | | $3 |
| **Total Revenue Requirement** | **$441** | **$239** |
| **Ratio of Revenue to Revenue Requirement (Cost)** | **85%** | **120%** |

The analysis shows that the cost of customer service (call centre, billing, etc.) are the same for a customer in either group, but differences in the distribution configuration and business processes related to suite-metered customers result in relatively lower total costs. The overall lower cost level is the effect of a combination of some higher costs and some lower costs. For example, the allocated average per customer cost of meter-related assets is $179 for a non-suite-metered customer and $297 for a suite-metered customer. This is consistent with the fact that THESL has used more expensive metering equipment for suite-metered customers. However, for the reasons explained in Section 4, suite-metered customers attract a lower cost related to secondaries. The average per customer allocation of overhead secondaries is $324 for a non-suite-metered customer, and $45 for a suite-metered customer. The allocation of assets drives the allocation of distribution operating and maintenance expenses, a portion of administrative and general expenses, depreciation and amortization, payments-in-lieu of tax, and the costs of capital (interest and return on equity).

## 5.3 *Conclusions as to Customer Classification and Rates*

This study indicates that suite-metered customers are paying their full cost of service, and more.

One of the potential remedies suggested was to form a new rate classification for individually metered condominium units, separate from the existing residential rate class. It appears that if this were to be done, at present the revenue/cost ratio for the non-suite-

metered residential customers is within the band that the OEB has approved and would therefore not require an immediate rate adjustment, and the ratio for the suite-metered customers is not sufficiently far above the band that a rate adjustment would be significant, either to that class or to other classes. However, should an adjustment be made, either as a result of a refinement to the OEB's policy or on approval of a proposal by THESL to that effect, the result would be an increase in rates to non-suite-metered customers, and a rate reduction to suite-metered customers.

On the basis of our analysis, separation of the SMSC from the residential class does not result in a significant increase in the total costs allocated to the SMSC and the NSMSC (less than 0.4%), and therefore, correspondingly, does not confer a significant benefit on other customer classifications. As a result, BDR suggests that if the OEB were to approve a rate treatment for the SMSC as a sub-class of residential—i.e. the residential rate with some form of credit or adjustment—such credit or adjustment could be computed after cost allocation modeling, or as an addition to the cost allocation model, following determination of the SMSC revenue requirement through the normal process of modeling as a "class".

TAB 5

Ontario Energy Board

Commission de l'énergie de l'Ontario

Ontario

**EB-2007-0680**

**IN THE MATTER OF** the *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15, (Schedule B);

**AND IN THE MATTER OF** an application by Toronto Hydro-Electric System Limited for an order approving or fixing just and reasonable rates and other charges for the distribution of electricity to be effective May 1, 2008, May 1, 2009, and May 1, 2010.

**BEFORE:** Paul Sommerville
Presiding Member

Paul Vlahos
Member

David Balsillie
Member

# DECISION

**May 15, 2008**

completed in the test year period, and the Applicant is leasing facilities and relocating staff over the period. While the Board sees the need for the Applicant to address its underinvestment in IT assets, it is not convinced that the Applicant's proposed IT projects are fully justified during this period of operational reorganization and change.

As in all other areas of proposed spending increases, the Board looks to the Company's historical spending norms as a guide. The apparent underinvestment in this area over the recent past ought not to be used as a springboard for sharply increased spending now. The Company must, to some extent, live with its prioritization over the recent past; and customers are entitled to protection from lumpy spending plans that could have been, and should have been, avoided if appropriate measures had been taken earlier. This is as true of this aspect of the Company's proposal as it is for the sustaining capital and controllable operating expense aspects.

Consistent with its overall finding, the Board is approving amounts only for the two test years of 2008 and 2009. The Board finds that the Applicant's plan for upgrading and modernizing its IT infrastructure and investment in its IT systems must take a long-view approach, must be balanced and must be consistent with the Utility's size and its organic growth as well as customer growth. The Board therefore orders that there will be a 10% increase per annum in the IT capital budget in the next two test years, as follows: 2008 - $23.0 Million and 2009 - $25.3 Million. With $23.0 Million in 2008, the Applicant will be in a position to commence the majority of its proposed projects, judiciously manage its program overall and maintain significant progress in this business area.

## 3.3 Meters

The Company's expenditures for metering fall into the following three categories:

- Wholesale meter installations;
- Smart meter installations to convert previously bulk-metered condominiums; and
- Smart meter installations to meet the Ontario Government's requirement.

The table below sets out the expenditures associated with each category for years 2008 and 2009.

**Table 2**
**Metering CAPEX**

| | | 2008 | 2009 |
|---|---|---|---|
| **Conventional Metering**[5] | Wholesale Meters | $9,564,000 | $10,839,000 |
| | Smart Meter conversion of bulk-metered Condominiums | $3,400,000 | $5,700,000 |
| | **Total** | **$12,964,000** | **$16,539,000** |
| **Smart Metering**[6] | | **$36,207,000** | **$34,567,000** |

### Wholesale Metering

Wholesale meter installations are for the purpose of replacing meters previously installed and owned by Hydro One Networks. As the seal dates of the meters owned by Hydro One Networks expire, these meters are replaced by meters installed and owned by the distributor, in compliance with requirements of the IESO.

### Board Findings

No party took issue with the Company's proposed expenditures in this category. This is an IESO mandatory meter replacement program, and there is no discretion to be exercised by Toronto Hydro. The Board finds the Company's forecasts of expenditures for 2008 and 2009 reasonable and approves them.

### Smart Meters for Condominiums

The Company's proposed expenditures in this category relate to installing smart meters for condominiums, an alternative to smart sub-metering for which there are alternative providers. These smart meter conversions establish the condominium owners as customers of Toronto Hydro as the regulated monopoly distributor rather than as customers of an alternative smart sub-meter provider.

[5] Exhibit D1, Tab 8, Schedule 5, Table 1
[6] Exhibit D1, Tab 8, Schedule 5, Table 1 (updated)

## Board Findings

On January 8, 2008, the Board issued a Notice of Proposal to amend the Distribution System Code and to issue a Smart Sub-Metering Code. While the Board has not yet formally adopted the change to the DSC and the new code, the Company's proposed involvement in this conversion initiative is consistent with the proposed section 5.1.9 of the DSC. The Board approves the Company's expenditure forecasts for this activity for purposes of setting rates for 2008 and 2009.

Board staff questioned whether sub-metering customers in condominiums who cause higher metering costs should be paying higher rates through a balancing contribution or through the creation a separate rate class, which would give effect to an allocation of costs appropriate to this category of customer. VECC on the other hand argued that as conversion is government driven the costs should be allocated to all customers.

It is true that there can be many elements of distribution costs that are not driven uniformly by sub groups of a given rate classification. At this time, for the purposes of this Decision, the Board will not consider differentiation in metering costs to be a pivotal consideration in entertaining the separation of the existing residential class or to direct the institution of contributions, capital or otherwise.

This is an issue that requires consideration in a more generic proceeding, with appropriate notice to effected parties, directed towards rate design, and cost allocation

### Smart Meters Mandated by Government

Toronto Hydro is one of the named distributors that were authorized by Ontario Regulation 427/06 to implement the Government's objective of the installation of 800,000 smart meters by the end of 2007. The Company began installations in 2006 and has continued since then.

The Company proposed that, going forward (i.e. for the test years period and beyond), its investments in smart meters be considered part of its core business, and therefore form part of its rate base. As such, there would be no need for rate adders and deferral/variance accounts. The Company also sought to include in the rate base expenditures associated with the 2007 year.

Below the Board deals with these issues, as well as the regulatory treatment of the costs of the meters that are replaced by smart meters.

Smart Meter Capital Expenditures for 2008 and 2009

As noted, the Company estimated its capital expenditures for smart meters in this category at $36.2 Million for 2008 and $34.6 Million for 2009.

The Board determined[7] there were fourteen cost categories in relation to minimum functionality. These categories were set out in Appendix A to that Decision. The Board also stated that costs beyond minimum functionality can be recovered as part of distribution rates in an individual utility's next rate case, if supported, and named some of those categories of costs.

The Company provided a breakdown of the minimum and beyond minimum functionality categories[8]. The amounts for years 2007 to 2009 are shown in the table below

**Table 3**
**Smart Meter Costs**

| | 2007 | 2008 | 2009 |
|---|---|---|---|
| Minimum Functionality | $33,178,000 | $30,756,000 | $30,112,000 |
| Beyond Minimum Functionality | $10,491,000 | $5,451,000 | $4,455,000 |
| Total | | **$36,207,000** | **$34,567,000** |

## Board Findings

The Board notes that the parties did not challenge the budgeted amounts specifically; rather, their submissions dealt with the need to track these forecasts through variance accounts.

On the basis of the record adduced, the Board approves the proposed capital expenditures amounts; however, the Board does not approve the Company's proposed regulatory treatment associated with these investments. This matter is discussed below under "Regulatory Treatment of Smart Meters".

[7] *Combined Smart Meter Decision EB-2007-0063,* August 8, 2007
[8] Exhibit R1/Tab 1/Schedule 9.1 b)

**Regulatory Treatment of Smart Meters**

In the Combined Smart Meter Decision the Board approved the Company's Smart Meters expenditures for the calendar year 2006 that were in accordance with the legislated minimum functionality[9]. The Company was authorized in that Decision to incorporate these 2006 expenditures in rate base in a subsequent rate application.

In the Decision on a motion by Toronto Hydro to vary certain aspects of the Smart Meter Decision, made September 21, 2007 (EB-2007-0747), the Board approved Toronto Hydro's request for a rate rider, effective for the period November 1, 2007 to April 30, 2008, to clear the 2006 Smart Meter Deferral Account credit balance and to set a rate adder to fund the 2007 expenditures.

As previously noted, in this application the Company proposes that as of 2008, smart meters should be considered part of its core business and therefore should be included in rate base. As such, there would be no further need for rate adders and no need for deferral or variance accounts associated with smart meters. The Company also sought to include in rate base expenditures associated with the 2007 year; the variances recorded in smart meter capital expenditure variance account 1555; and smart meter operating expenses variance account 1556.

Board staff noted that, consistent with the Smart Meter Decision, the Company can incorporate the 2006 expenditures in rate base. Board Staff also noted that the 2007 expenditures have not been reviewed and approved by the Board. Board staff further noted that the Smart Meter Decision was silent on how future capital expenditures would be treated.

CCC, SEC and VECC noted the adjustments to the Company's forecasts of capital expenditures and the correction of errors relating to depreciation and argued that as the Company's ability to forecast accurately has not been established, it would be premature to include the smart meter expenditures in rate base. CCC argued that it is fundamentally important that shareholders and ratepayers be kept whole with respect to this government-led initiative. VECC argued that until the premature retirement and replacement of meters by smart meters is completed in 2010, smart meters are not a core utility function; they should be considered a government initiative and the costs

[9] The Board also approved investments for some interval meter conversions for GS>50 kW customers.

should be tracked and dealt with separately. SEC argued that there is considerable likelihood that actual expenditures will differ considerably from those forecast.

VECC argued that the appropriate treatment is to continue with variance accounts and rate riders. VECC disagreed with the clearance of any balances in the accounts until they have been subjected to a prudence review, at a minimum by Board staff. VECC argued that a prudence review is required for the beyond minimum functionality costs and therefore these should be tracked in a variance account, even if they are allowed in rate base. VECC also argued that the Company's forecast of expenditures for sub-metering is not reliable and that a variance account should be established to track the costs and revenues associated with sub-metering.

**Board Findings**

On the basis of the Board's findings in the Smart Meter Decision, the Board accepts that the capital expenditure on smart meters until the end of 2006 can be reflected in rate base. Those expenditures were previously reviewed and approved by the Board.

With respect to the 2007 expenditures, the Board notes that the Company had filed forecasts as part of its original application[10]. It updated that forecast on November 30, 2007, and subsequently provided the actual 2007 values[11] .

The 2007 values were broken down in the categories of minimum and beyond minimum functionality. The Board agrees with the Company that parties had opportunities to test the prudence of these expenditures. The Board has no basis to reject the 2007 expenditures on the strength of any argument by the parties. The Board finds that the Company's evidence in this regard is sufficient for the Board to accept the expenditures for 2007 as reasonable and include them in rate base.

Having said that, it is important to note that as the "beyond minimum functionality" expenditures for 2007 have not been subjected to a detailed review in this proceeding, our acceptance of them should not be considered to have any particular precedential value in the consideration of such expenditures by other utilities, or this utility, in a future rates proceeding. The Board further finds that the balances recorded in smart meter capital expenditures account 1555 be included in rate base; however, the balances

[10] Exhibit D1/Tab 8/Schedule 5
[11] Undertaking T5.1 (Confidential) and Exhibit T1/ Tab 5/ Schedule 1 (Confidential)

recorded in smart meter operating expenses account 1556 shall be expensed in the 2008 rate year.

While the Board has accepted the Company's capital expenditure forecasts related to smart meters for 2008 and 2009, the Board shares the concerns expressed by parties with respect to the Company's proposed regulatory treatment.

The forecast capital expenditures are quite large ($36.2 Million for 2008, $34.6 Million for 2009), and they are to take place over two test years. While the Board accepts that the Company is now in a better position to forecast its costs associated with smart meters, the Board is of the view that there is still considerable risk that the Company's forecasts may be substantially off the mark, resulting in significant over- or under-recovery. The issue is not necessarily that smart meter installation expenditures may not materialize; rather, the concern is the potential of timing differences in the actual expenditures from those forecasts. Timing differences will always exist, however, neither the Utility nor ratepayers should benefit or be burdened by an initiative that is temporal in nature and can be reasonably viewed as a cost pass-through. Treating smart meter expenditures for rate making purposes like any other core distribution activity is premature. The Board sees no harm in permitting the current regime to continue as it offers protection for both the Company and ratepayers from the vagaries of missed forecasts. As the installation program progresses and once the Board has reviewed and approved actual expenditures, bringing these expenditures into rate base can be considered again.

The Board therefore does not accept the Company's proposal to include the forecast capital expenditures in rate base for the 2008 and 2009 test years. The current regime where these expenditures are funded through a smart meter adder shall continue, as shall the variance accounts mechanisms currently in place to enable true-ups.

This leaves the issue of what should be the appropriate rate adder to fund the forecast expenditures. For certain other distributors who were not named by the government to implement an early smart meter program, upon application for enhanced funding, the Board has increased the adder to $1.00/per month per metered customer to recognise the pending ramping up of expenditures on smart meters for these distributors. The Applicant is a named distributor under government regulation and its rate adder of $0.68/month per metered customer was revised quite recently, in the fall of 2007. As shown in the table above, the Applicant's estimated spending on smart meters will

continue at somewhat lower levels for 2008 and 2009. Therefore, the Board finds that the Applicant's current rate adder is reasonable and shall continue.

**Regulatory Treatment of Stranded Meters**

As smart meters are replacing existing meters, there are stranded costs. In the Smart Meter Decision, the Board determined that the stranded costs associated with existing meters should stay in rate base. The Company's revenue requirement in the current application reflects that treatment.

Alternative treatments were proposed, such as transferring the net book value to a deferral account and drawing down the balance over a certain time period or leaving it in rate base but depreciating these stranded assets quicker, depending on rate impacts. CCC encouraged the Board to develop a policy that would apply to all distributors

**Board Findings**

The Board does not have a policy with respect to the retirement of the stranded meters. The record in this proceeding has not produced sufficient evidence of the value of these assets in the 2008 and 2009 test years. If better information were made available, it would have assisted the Board in its assessment of the parties' recommendations. As such information is not available, the Board has decided the Smart Meter Decision shall apply in this case. Having said this, the Board notes that the bulk of the stranded assets will still be in rate base at the end of the 2009 test year. At that time, in the absence of any Board policy, the issue may be brought forward by any party as part of a future Toronto Hydro rates proceeding.

**Regulatory Treatment of Vehicles for Personal Use**

Board staff raised the issue whether the $200,000 for leased vehicles for executive personnel should be kept in rate base rather than expensed.

**Board Findings**

There is no generally accepted method whether costs associated with leased vehicles for executive personnel should be capitalized or expensed for ratemaking purposes,

**TAB 6 A**

Ontario Energy Board

Commission de l' énergie de l'Ontario

Ontario

**EB-2008-0244**

**IN THE MATTER OF** the *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15, (Schedule B);

**AND IN THE MATTER OF** an application by PowerStream Inc. for an order approving just and reasonable rates and other charges for electricity distribution to be effective May 1, 2009.

**BEFORE:** Gordon Kaiser
Presiding Member and Vice Chair

Paul Vlahos
Member

Cathy Spoel
Member

**MAJORITY DECISION**
**July 27, 2009**

*This is a Majority Decision by Members Paul Vlahos and Cathy Spoel. The Minority Decision by Vice Chair Gordon Kaiser follows the Majority Decision.*

## Background

On June 03, 2009, the Ontario Energy Board approved the terms and conditions of the Settlement Proposal dated May 19, 2009 in connection with PowerStream's application to approve just and reasonable rates for electricity distribution effective May 1, 2009. PowerStream and the intervenors settled all issues with the exception of one.

The one outstanding issue, raised by the Smart Sub-Metering Working Group, a group of seven Board-licenced companies offering smart sub-metering services to condominiums (the "SSMWG"), is whether and to what extent PowerStream should be permitted to include in distribution rates the costs and revenues associated with its condominium suite metering activities.

A one-day oral hearing was held on June 15, 2009 and written arguments were submitted by parties.

For the reasons set out below the Board approves the forecast revenues and costs of the condominium suite metering activities reflected in the 2009 revenue requirement that results from the settlement agreement.

## The Issue and Relief Sought

Historically, condominium buildings have typically been treated as commercial customers with a bulk meter. The units are not individually metered and the utility has one customer, the condominium corporation.

Condominium suite metering, as offered by PowerStream, involves installing a separate meter for each condominium unit, and billing each unit owner as a residential customer; the condominium corporation is billed for the common areas. There is no bulk master meter required and there is no sub-metering taking place. The rates are regulated. As is common for residential customers, PowerStream does not charge for the cost of the meters; these are included in the costs allocated to the residential class as a whole. The cost of the condominium meter (Quadlogic) is considerably more expensive (about $680) than the standard meter for an individual single home (about $250). On the revenue side, PowerStream replaces one commercial customer with a larger number of residential customers, generating higher revenue because of the rate classification under which it bills for the same load previously billed for the bulk meter.

Smart sub-metering, as offered by members of the SSMWG, happens "behind" the bulk meter. Members of the SSMWG install the smart meters for the condominium units. The condominium corporation continues to be a commercial customer of PowerStream. Smart sub-metering allows for the allocation of the condominium corporation's bill among the various unit owners, presumably in relation to their consumption of electricity. The rates are not regulated.

Because no contribution is required by PowerStream for the higher cost of the meter for condominium customers, the SSMWG alleges that there is a cost subsidy for these customers by the rest of PowerStream's ratepayers and that this harms the competitive market and harms the SSMWG members.

The relief sought by the SSMWG is that the condominium activity should be performed by an affiliate of PowerStream. In the alternative, if in the utility, the condominium activity should be treated as a stand-alone program, on a fully-costed basis. Under the stand-alone categorization, revenues and costs of the condominium suite program would be segregated from the rest of the distribution business. In the event the program is less profitable than the distribution business on a fully-costed basis, revenue would be imputed thereby reducing the revenue requirement and rates for the rest of the ratepayers.

**Should the Program be offered through an Affiliate?**

The SSMWG accepted that under the existing legislative and regulatory framework, utilities are required, when asked, to install smart meters in condominiums but argued that it is open to the Board to require that the condominium activity should be undertaken through an affiliate.

PowerStream, Board staff and the intervenors argued that the legislative and regulatory framework clearly suggest that a utility such as PowerStream not only has the ability to carry out these activities directly through the utility as opposed to a separate subsidiary, but in fact it is required to do so. PowerStream argued that if the activity was carried out through a separate subsidiary, which is not by definition a distributor, a utility would not be meeting its requirements under the *Electricity Act*, the Regulations and the Distribution System Code.

Section 71 (1) of the *Ontario Energy Board Act, 1998* (the "Act") states that distributors cannot carry on any business activity other than the distributing of electricity, except through an affiliate. However, section 71 (2) of the Act provides an exception to the general rule. Section 71 (2) states that a distributor may provide services in accordance with section 29.1 of the *Electricity Act, 1998* that would assist the government of Ontario in meeting its objectives in relation to electricity conservation.

Ontario Regulation 442/07, promulgated on August 1, 2007, allows licensed distributors to install smart meters in existing condominiums when the board of directors of the condominium corporation approves the installation of smart meters.

The Board's Distribution System Code was recently amended by adding section 5.1.9 which reads as follows:

> When requested by either:
> (a) the board of directors of a condominium corporation; or
> (b) the developer of a building, in any stage of construction, on land for which a declaration and description is proposed or intended to be registered pursuant to section 2 of the Condominium Act, 1998,
>
> a distributor **shall install** smart metering that meets the functional specification of Ontario Regulation 425/06 – *Criteria and Requirements for Meters and Metering Equipment, Systems and Technology* (made under the Electricity Act).(Emphasis added).

On the basis of the existing legislative and regulatory framework, the Board accepts that it is appropriate for PowerStream to continue to carry out its condominium activities as it has and proposes to continue.

**Should the Program be Stand-Alone?**

The alternative relief sought by SSMWG is for the Board to treat PowerStream's condominium suite activity as a stand-alone program, with the ratemaking framework as described above.

The legislative framework does not specify the ratemaking treatment of the condominium suite metering activity by distributors. The Board accepts that there may be a legitimate concern by the SSMWG if PowerStream and the SSMWG companies

competed in the same market and if there is an undue cost subsidy of PowerStream's condominium suite metering activities. The Board deals with these two matters below.

Before doing so, the Board points out that treating an activity on stand-alone basis is not necessarily a remedy to allegations of anti-competitive behaviour and predatory pricing, the matters of concern for the SSMWG. Under the stand-alone ratemaking model, the Board's role is limited to imputing revenue, when warranted, to ensure that there is no cost subsidy for the suite metering business by the rest of the ratepayers. The Board would not regulate the pricing and offerings of the program. These would be at the discretion of the utility.

**Do PowerStream and the SSMWG companies compete in the same market?**

As noted above, suite metering, as offered by PowerStream, involves installing a separate meter for each condominium unit, and billing each unit owner as a residential customer; the condominium corporation is billed for the common areas. There is no bulk meter.

Also as noted above, sub-metering, as offered by members of the SSMWG, happens "behind" the distributor's bulk meter.

An existing condominium wishing to be smart metered or a developer of a new condominium building has the choice of choosing suite metering with PowerStream or sub-metering with another company, such as one of the SSMWG member companies. So, the metering market is contestable. The fact that PowerStream is allowed to carry this activity as part of its distribution business does not take away from the fact that the metering of condominium units is a contestable market. To the extent that there is a cost subsidy as the SSMWG alleges, and if material, the SSMWG may be legitimately concerned.

**Is There a Cost Subsidy?**

The SSMWG argued that, as PowerStream used a more expensive Quadlogic meter rather than the standard smart meters used for single unit residential customers, there is a cost subsidy or there is likely a cost subsidy since there is no customer contribution for the higher cost of the Quadlogic meter.

PowerStream on the other hand argued that the utility has an obligation to provide service that meets the applicable standards and the standard smart meter for technical reasons could only be used in about 5% of the units. Moreover, all market participants use the same Quadlogic meter for the same reasons - it is the most effective equipment to meet the requirements of condominium units. The Board accepts PowerStream's rationale for using the higher cost Quadlogic meter. The Board notes that members of the SSMWG use the same meter for its technical and other advantages in the condominium sub-metering market.

As a number of interveners note, metering costs (a capital cost) may be higher but operating costs are likely lower. PowerStream was unable to provide precise operating costs as it was not previously required to segregate costs for the condominium activity in any fashion. On the basis of the information produced, most parties argued that there is no cost subsidy but other parties conceded that there may be a cost subsidy. There was however general agreement that the information adduced was not sufficient to conclude confidently that there is a subsidy, and in which direction.

The Board agrees with that assessment. The SSMWG has not, in this case, convinced the Board that there is a cost subsidy to condominium unit customers by the other residential ratepayers and, if there is, that it is material.

On the findings and reasons above, the Majority Panel is not prepared to grant the relief requested by the SSMWG.

**Which Way Forward?**

The metering capital cost differentiation issue for condominium customers was first raised by Board staff in the Toronto Hydro proceeding (EB 2007-0680). (The SSMWG was not a participant in the Toronto Hydro proceeding). In that proceeding, that Board Panel stated as follows:

> *At this time, for the purposes of this Decision, the Board will not consider differentiation in metering costs to be a pivotal consideration in entertaining the separation of the existing residential class or to direct the institution of contributions, capital or otherwise.*
>
> *This is an issue that requires consideration in a more generic proceeding with appropriate notice to effected parties, directed towards rate design and cost allocation. (Decision of the Board dated May 15, 2008, EB 2007-0680 – page 20)*

The SSMWG intends to raise its issue in other rates proceedings. The Board's view is that consideration of the issue on a utility-specific basis going forward is not the best approach for two reasons. First, there are substantial differences in the rates and operating costs from one utility to the next. The conclusions drawn in one case will be of little if any value in the resolution of this matter. Second, this is clearly a matter of Board policy. The shaping of Board policy will of course need to consider this issue in the context of a number of other policy issues before the Board. In that regard, the Board will now have two decisions from rate proceedings as it considers this matter. In the Majority Panel's view, it would be advisable for the Board to take a generic approach in addressing this matter.

**PowerStream's Conditions of Service and Contracts**

The SSMWG argued that PowerStream's Conditions of Service and contracts (filed in the form of a Terms of Reference Letter in SSMWG Schedule 3-1) , are unclear and misleading and do not indicate that a multi-unit building has the option of bulk metering. On cross-examination the witness for PowerStream denied this was the meaning or intent of the Conditions of Service and offered to amend the Conditions of Service to clarify the wording. (TR pg 165).

On the issue of contract exclusivity, there were also some questions raised as to the clarity of provisions in the PowerStream contracts regarding the freedom of the condominium corporation to exit a contract for another service provider. Again the PowerStream witnesses indicated that the condominium corporation could choose another service provider and that there are no barriers to exit. (TR pg 77)

The Board directs that PowerStream amend its Conditions of Service and related contracts going forward in a manner that clearly reflects the intent described by the PowerStream witnesses in this hearing. PowerStream shall file, for convenience, the amended sections of the Conditions of Service and related Terms of Reference Letters or other contracts as part of its draft rate order.

**Rate Base**

In accepting the revenue requirement reflected in the Settlement Proposal earlier in this decision, the Board considered the argument advanced by SEC that non-revenue producing condominium suite meters should not be forming part of rate base. The Board does not accept that revenue-generation is the test for including an asset in rate base. The test is used or useful. SEC's suggestion is not consistent with the long-standing regulatory practices in this regard. Notably, as article 410 of the Board's Accounting Procedures Handbook points out, assets will be included in rate base if they have the "capacity" to contribute to future cash flows and earn income. PowerStream's asset recognition approach to condominiums is the same as that for conventional subdivisions where installations can pre-date connection and revenue producing by a considerable time period. There is no supportable basis to treat the condominium suite metering assets distinctly.

**Implementation of Rates**

Pursuant to the Settlement Proposal that was approved by the Board the new rates are to be effective May 1, 2009 and implemented August 1, 2009.

Given the date of this Decision, an August 1, 2009 implementation date is no longer possible. The Board authorizes PowerStream to implement the new rates September 1, 2009.

The results of the Settlement Proposal together with the Board's findings outlined in this Decision are to be reflected in a Draft Rate Order. The Board expects PowerStream to file detailed supporting material, including all relevant calculations showing the impact of the implementation of the Settlement Proposal and this Decision on its proposed revenue requirement, the allocation of the approved revenue requirement to the classes and the determination of the final rates, including bill impacts. Supporting

documentation shall include, but not be limited to, filing a completed version of the Revenue Requirement Work Form excel spreadsheet, which can be found on the Board's website. PowerStream should also show detailed calculations of any revisions to its low voltage rate adders, retail transmission service rates and variance account rate riders reflecting the Settlement Proposal and this Decision.

A final Rate Order will be issued after the following steps have been completed.

1. PowerStream shall file with the Board, and shall also forward to the intervenors, a Draft Rate Order attaching a proposed Tariff of Rates and Charges and other filings reflecting the Board's findings in this Decision, within 14 days of the date of this Decision.

2. Intervenors shall file any comments on the Draft Rate Order with the Board and forward to PowerStream within 7 days of the date of filing of the Draft Rate Order.

3. PowerStream shall file with the Board and forward to intervenors responses to any comments on its Draft Rate Order within 7 days of the date of receipt of intervenor submissions.

**Costs Awards**

The Board may grant cost awards to eligible stakeholders pursuant to its power under section 30 of the *Ontario Energy Board Act, 1998*. The Board will determine eligibility for costs in accordance with its Practice Direction on Cost Awards. When determining the amount of the cost awards, the Board will apply the principles set out in section 5 of the Board's Practice Direction on Cost Awards. The maximum hourly rates set out in the Board's Cost Awards Tariff will also be applied.

PowerStream and CCC requested that costs of this proceeding should be assessed against the SSMWG on the basis that this was not the appropriate forum to raise that issue. Having accepted the SSMWG's issue for consideration in this proceeding, the Board does not find it appropriate to assess costs against the SSMWG.

A cost awards decision will be issued after the following steps have been completed.

1. Intervenors found eligible for cost awards shall file with the Board, and forward to PowerStream, their respective cost claims within 30 days from the date of this Decision.

2. PowerStream shall file with the Board and forward to intervenors any objections to the claimed costs within 44 days from the date of this Decision.

3. Intervenors shall file with the Board and forward to PowerStream any responses to any objections for cost claims within 51 days of the date of this Decision.

PowerStream shall pay the Board's costs incidental to this proceeding upon receipt of the Board's invoice.

**DATED** at Toronto, July 27, 2009

**ONTARIO ENERGY BOARD**

*Original Signed By*

Paul Vlahos
Member

*Original Signed By*

Cathy Spoel
Member

## MINORITY DECISION

I have had the benefit of reading the reasons of the majority. I agree that PowerStream should be granted the rate relief requested but would add two conditions. The first is that PowerStream file a study that identifies the costs and revenues of its condominium smart meter service. The second is that the contracts between PowerStream and the condominium corporation relating to this service be amended to indicate that the contracts can be terminated on 90 days notice without penalty.

## Background

On June 3, 2009, the Ontario Energy Board approved the terms and conditions of the Settlement Proposal filed by PowerStream Inc. in connection with PowerStream's application to approve just and reasonable rates for electricity distribution effective May 1, 2009.

The Applicant and the intervenors settled all issues with the exception of one. The one outstanding issue is whether and to what extent PowerStream should be permitted to recover in rates the operating and capital costs of its smart metering activities in condominiums. That issue is the subject of this decision.

PowerStream's request is supported by Board staff and all intervenors with one exception. The opposing intervenor is the Smart Sub-Metering Working Group (the "Working Group"). The Working Group consists of eight licensed smart submetering companies that compete with PowerStream in providing Smart Meters to condominium residents.

It is accepted that the market for this service is competitive. All nine companies appear to supply essentially the same service using similar, if not identical equipment.

The Working Group argues that the costs PowerStream is seeking to recover should not be recovered in rates. Instead, they argue that PowerStream should deliver these services through a separate subsidiary or alternatively through the utility but by using a non utility account which means that expenses are not recovered in rates.

## The Regulatory Framework

As a general rule, the Board requires utilities to carry out competitive activities through a separate subsidiary. There are two reasons for this approach. First, there is a concern that the utility will subsidize the competitive activities from revenues received from monopoly services. This works to the disadvantage of ratepayers of monopoly services. Second, it may provide a utility with an unfair competitive advantage in the marketplace if monopoly revenues are used to subsidize the competitive services.

In the case of conservation activities such as smart metering, however special provisions apply. The relevant exemption is set out in section 71 (2) of the *Ontario Energy Board Act, 1998.*

> **Restriction on business activity**
>
> **71.** (1) Subject to subsection 70 (9) and subsection (2) of this section, a transmitter or distributor shall not, except through one or more affiliates, carry on any business activity other than transmitting or distributing electricity. 2004, c. 23, Sched. B, s. 12.
>
> **Exception**
>
> (2) Subject to section 80 and such rules as may be prescribed by the regulations, a transmitter or distributor may provide services in accordance with section 29.1 of the *Electricity Act, 1998* that would assist the Government of Ontario in achieving its goals in electricity conservation, including services related to,
>
> (a) the promotion of electricity conservation and the efficient use of electricity;
>
> (b) electricity load management; or
>
> (c) the promotion of cleaner energy sources, including alternative energy sources and renewable energy sources. 2004, c. 23, Sched. B, s. 12

PowerStream and most intervenors argued that these sections clearly indicate that a utility such as PowerStream has the ability to carry out these activities directly through the utility as opposed to a separate subsidiary. I accept this interpretation.

This leaves open the alternative relief sought by the Working Group which is that the activities could be carried out through the utility but through a non-utility account which means that the expenses cannot be recovered in rates.

**Anti Competitive Conduct**

The Working Group is concerned that if utilities are allowed to carry out these activities through the regulated entity they will be able to subsidize competitive services by monopoly revenues and eliminate competitors.

While the Legislation states that utilities can carry out these activities through the regulated entity, there is no indication that the Legislature intended to promote or condone anti-competitive conduct. I believe that the intent of the legislation was to

promote competitive markets with a large number of suppliers in order to best promote the rapid introduction of this technology. Put differently, utilities were allowed to enter the market directly to promote competition, not lessen it.

The concern of the Working Group is understandable, but is there any evidence of anti-competitive conduct in this case?

The evidence is inconclusive. On the one hand, the Working Group relies upon the differences in capital cost. They argue for example that the cost of the Quadlogic meter used by PowerStream is significantly more expensive than the meter used for most residential customers. That may be, but as PowerStream argues the utility has an obligation to provide service that meets the applicable standards and the standard meter for technical reasons could only be used in about 5% of the units. Moreover, the competitors all use the same meter for the same reasons - it is the most effective equipment to meet the requirements of condominium units.

In addition, as a number of intervenors note, capital costs are just part of the equation. In the case of operating costs, PowerStream is unable to provide a precise allocation. The utility is not able to differentiate the operating costs applicable to condominium units as opposed to other residential units. As a result, the Board is unable to determine whether there has been cross subsidization or any anti-competitive impact.

To be clear, PowerStream is not being accused of predatory pricing. This is not a situation where PowerStream is designing a special rate with a view to eliminating competition. PowerStream is simply applying the existing approved residential rate of $13.23 per month to the residents of the condominium units. This is the rate monopoly customers with smart meters currently pay.

PowerStream and many of the intervenors argue that the residential class is a broad class and there are invariably subsidies flowing between various members of that class. In other words, the Board usually ignores subsidies between members of such a broad rate class. But that principle, with respect, applies to monopoly services.

This is a competitive service and the usual protection for competitors (that utilities provide competitive services through a separate affiliate) is not available given the specific statutory exemption. In the circumstances, it is important that the Board be able to determine if revenues are covering costs.

One solution is to require the utility to segregate the costs and revenues of this particular service. With the proper cost allocation, the Board and the parties will be able to determine if revenues are covering costs. Or put differently, are competitive services being subsidized by monopoly revenues?

Some intervenors argue that if the Board wishes to adopt this approach it should be done in a generic proceeding sometime in the future. The intervenors point to the recent Toronto Hydro decision where the Board adopted that approach in this exact situation. There, the Board stated at page 20:

> *At this time, for the purposes of this Decision, the Board will not consider differentiation in metering costs to be a pivotal consideration in entertaining the separation of the existing residential class or to direct the institution of contributions, capital or otherwise*
>
> *This is an issue that requires consideration in a more generic proceeding with appropriate notice to effected parties, directed towards rate design and cost allocation. (Decision of the Board dated May 15, 2008, EB-2007-0680)*

A generic decision is often the preferred solution but it cannot be an excuse for delay. This is the second time the Board has faced this issue. Moreover, it is not clear that this is necessarily a generic issue. All Ontario utilities will not be providing this service. And, we have heard that other utilities intend to carry out this activity through a separate subsidiary.

This is an important service. Installation of smart meters in individual condominium units offers significant gains in energy conservation. The Legislature has signaled the advantage of competing suppliers and specifically allowed regulated utilities to engage in the service directly. Implicit in this direction is a belief that competing suppliers will promote price competition and improve service quality.

It is also significant that this is a new market with new competitors. It would be unfortunate (and contrary to the public interest) if competitors were disadvantaged or even eliminated in the early days of this market. Repeating what the Board stated in Toronto Hydro is not, in my view, a satisfactory approach.

I accept that utilities such as PowerStream should be entitled to recover the cost of this competitive service in rates and should not be required to conduct the business through a separate subsidiary.

However, as a condition of granting this relief to PowerStream, I would require PowerStream to file within four months, a cost allocation methodology for this new service with estimates of the costs and revenues incurred to date in a manner that will allow the Board and the parties to determine whether revenues are covering costs. The Working Group will then be able to deal with this matter in PowerStream's rate application next year or through a motion for alternative relief in the event the facts warrant further action.

This process will not affect the rate recovery ordered by this decision. The Board has found that PowerStream may recover all of the costs of its condominium smart meters. Those rates are effective May 1, 2009 and run to May 1, 2010.

It may be that revenues are covering costs and there is no basis for any further action let alone a generic proceeding. It's likely that the costs and revenues of this service are similar for all utilities. All utilities have similar residential rates and the cost of installing smart meters in condominiums is not likely to differ from utility to utility in a material fashion. The evidence in this proceeding that both the utility and competitors use virtually identical equipment.

I do not believe that the condition I would attach to the rate order in any way compromises a generic initiative in the event the Board decides to pursue it. In a generic proceeding this information will be required in any event. If the Board elects not to implement a generic proceeding, the competitors will at least have the information necessary to argue the issue in a meaningful fashion.

In my view the competitors are entitled to have their argument heard. It cannot be heard in any meaningful fashion without an accurate accounting of costs and revenues relating to this service. This information is within the complete control of the utility and to date the utility has elected not to provide it.

This is not simply a question of fairness to private interests. There is also an important public interest aspect. The goal here is to encourage conservation. The seven competitors include one of the Province's largest gas distribution utilities, a useful addition to the conservation initiative in electricity markets. There can be little doubt that the entire legislative scheme with respect to this issue is designed to promote increased investment in this activity. I doubt that any of these companies, much less the gas distributors, will make a long-term commitment to this market unless they are confident there will be a level playing field.

The conservation agenda is important to the Board and the Government. Confusion and delay regarding regulatory rules is not helpful. The required cost allocation will ensure that the necessary fact-finding aspect of this issue moves forward on a timely basis.

**Contract Exclusivity**

The contracts used by PowerStream were placed before the Board. The Working Group argued that on their face the contracts grant PowerStream exclusivity. In other words, once the condominium had entered into a PowerStream agreement they are not free to shift to a competing vendor and the utility has locked up the market.

While the contracts are less than clear on their face, the testimony of the PowerStream witnesses clearly indicates the condominium corporation can choose to exit the contract at any time for another service provider. There are no exit fees and PowerStream, in the event the condominium chooses to terminate the contract, would simply remove the individual sub-metering equipment and deploy it elsewhere. The Board believes however that PowerStream should clarify its contract to clearly indicate the basis on which a condominium corporation can terminate service.

A monopoly utility has inherent advantages in a competitive market such as this. The PowerStream brand itself is a powerful advantage. These are long-term contracts in a newly emerging market. It is not in the public interest to allow a dominant supplier to

lock up the market with long-term exclusive agreements. The PowerStream contract should be amended to clearly state that customers can terminate the contract on 90 days notice without penalty.

The utility agrees that this is the intent of the existing agreement. It is important that customers clearly understand the contract terms. They should not be required to read transcripts or regulations. There is no question that the Board has authority to require amendments to contract terms where those contracts are integral to rate regulated services[1].

**DATED** at Toronto, July 27, 2009

**ONTARIO ENERGY BOARD**

*Original Signed By*

Gordon Kaiser
Presiding Member and Vice-Chair

[1] Re The Interim Contract Carriage Arrangements of Consumers Gas Company Ltd., Northern and Central Gas Corporation, and Union Gas Limited, E.B.R.O. 410, 411, 412, (April 4, 1986) at page 182.

**TAB 6 B**

# Settlement Proposal

## May 29, 2009

## IV. SETTLEMENT CATEGORIES

Each issue dealt with in this Settlement Proposal has been completely settled subject to the resolution by the Board of the suite metering issue, discussed below in Section VII. With this exception, there are no partially settled or unsettled issues.

## V. PARAMETERS OF SETTLEMENT PROPOSAL

The Settlement Proposal has been prepared by PowerStream in consultation with CCC, Energy Probe, SEC, SSMWG and VECC in accordance with Rule 32 of the Board's *Rules of Practice and Procedure* and the Board's *Settlement Conference Guidelines*. Board Staff also participated in the Settlement Conference, as contemplated by the Board's *Settlement Conference Guidelines* (p. 5), but Board Staff is not a party to this Settlement Proposal. PowerStream and the parties nevertheless consulted with Board Staff during the preparation of this Settlement Proposal.

The Settlement Proposal describes the agreements reached on the issues. The description of each issue assumes that all of the parties participated in the negotiation of the issue.

The Settlement Proposal provides a direct link between each settled issue and the supporting evidence in the record to date. There are Schedules to the Agreement which provide further support. The intervenors agree that the Schedules were prepared by Powerstream, based on calculations and data that have not been the subject of any external review or testing, and those Schedules form part of and are an essential component of this Settlement Proposal. The parties have relied on the accuracy of the Schedules in agreeing to the settlement of the issues set forth herein.

The parties are of the view that the evidence provided is sufficient to support the Settlement Proposal in relation to each such issue.

According to the *Settlement Conference Guidelines* (p. 3), the parties must consider whether a settlement proposal should include an appropriate adjustment mechanism for any settled issue that may be affected by external factors. PowerStream and the other parties consider that no settled issue, except for Issue 6.1 (Cost of Capital/Debt), requires a specific adjustment mechanism. The settlement of Issue 6.1 references the proposed adjustment mechanism. In addition, the settlement on each of the issues is subject to adjustment for the impacts of the Board's determination on the suite metering issue, described below in Section VII.

The parties have settled the issues as a package and none of the parts of this Settlement Proposal is severable. If the Board does not accept the Settlement Proposal, in its entirety, then there is no Settlement Proposal (unless the parties agree that any part(s) of the Settlement Proposal that the Board does accept may continue as a valid Settlement Proposal without inclusion of any part(s) that the Board does not accept).

None of the parties can withdraw from the Settlement Proposal except in accordance with Rule 32.05 of the Board's *Rules of Practice and Procedure*. Unless stated otherwise, the

**Table 6: Impact on the Distribution Portion of Bill for Typical Customer (Excluding Refund of Regulatory Liabilities)**

| Class | Consumption per customer, kwh | Demand per customer, kw | Typical Bill - Distribution charge | |
|---|---|---|---|---|
| | | | $ Change | % Change |
| Residential | 1,000 | - | $ 0.44 | 1.7% |
| GS<50 | 2,000 | - | $ 0.10 | 0.2% |
| GS>50 | 80,000 | 250 | $ 75.24 | 8.4% |
| Large Use | 2,800,000 | 7,350 | $ (8,391.45) | -45.2% |
| USL | 500 | - | $ (1.56) | -7.8% |
| Sentinel Lighting | 180 | 1 | $ 1.59 | 31.4% |
| Street Lighting | 882,119 | 2,639 | $ 2,977.69 | 4.7% |

Tables 2 through 6 above have been prepared by Powerstream and have not been the subject of any review or testing. The intervenors have accepted these calculations, and relied on the correctness of these Tables in entering into this Agreement and recommending that the Board approve the settlement of issues as set forth herein.

## VII. UNSETTLED SUB-ISSUE

Included in many of the general issues in this proceeding are impacts of PowerStream's individual suite metering activities. SSMWG has taken the position that the revenue requirement impacts of those activities should not be included in rates in the Test Year. Powerstream believes that they should. Other parties have not, as yet, taken any position on this issue.

The parties agree that the evidence on this matter, and resulting submissions, should be put to the Board for a determination. In such hearing, it is agreed that all parties may participate, and the settlement by the parties of the issues as set forth in this Settlement Proposal shall have no effect on their ability to participate in that hearing, or on the positions they take on the suite metering issue or any part of it.

The costs associated with suite metering activities are included in rate base, OM&A, and potentially other consequential aspects of the calculation of revenue requirement, and the figures set forth in this Settlement Proposal include those amounts as filed by Powerstream. In the event that, after a hearing on this issue, the Board determines that all or any portion of those costs should not be included in revenue requirement, the amounts for each component of revenue requirement that may be affected will be adjusted to reflect the Board's decision, and the lower adjusted figures shall be deemed to be the figures agreed to by the parties.

The settlement of all issues in this proceeding is therefore subject to any adjustments that arise from the Board's decision on suite metering. Where, throughout this document, issues relating to revenue requirement and its components are listed as settled, the phrase "subject to the Board's determination of the revenue requirement impacts of suite metering" shall be read in.

## VIII. CONCLUSION

The parties are of the view that this Settlement Proposal will protect the interests of consumers with respect to prices and the adequacy, reliability and quality of electricity service, promote economic efficiency and cost effectiveness in the distribution of electricity, and maintain the financial viability of PowerStream. The parties believe that the distribution rates established in accordance with the terms and conditions of the Settlement Proposal are "just and reasonable" and will permit PowerStream to make the investments that are required in order to serve its customers, protect the integrity of its distribution system, maintain and improve the quality of its service and meet all compliance requirements in 2009.

## 8.6 Are the proposed Regulatory Asset (Deferral and Variance Account) rate riders appropriate?

- ***Complete Settlement:*** PowerStream has recalculated the regulatory asset rate riders proposed in its application to reflect the Board's current "billing determinant" methodology. The revised rate riders are set out in Schedule C of this Settlement Proposal. The parties accept, as appropriate, the revised rate riders.

- ***Evidence:*** The evidence on this issue includes the following:

  Exhibit E1-1-1, E1-1-2, I-1-2

## 8.7 Is the Smart Meter rate adder change appropriate?

- ***Complete Settlement*: The parties agree that the Smart Meter Actual Cost Recovery rate adder should be recalculated as shown below** in Table 8.7. No change is required in the calculation of Smart Meter Future Cost Recovery rate rider. Both riders have been calculated on the basis of a twelve month recovery period.

**Table 8.7 Smart Meter Rate Adder**

| Monthly Rate Rider | Per Application | Settlement Proposal |
|---|---|---|
| Future Cost Recovery | $ 1.04 | $ 1.04 |
| Actual Cost Recovery | $ (0.19) | $ 0.28 |
| **Total** | **$ 0.85** | **$ 1.32** |

The Smart Meter Actual Cost Recovery rate rider has been updated to reflect the calculation made by Board Staff that was provided to the parties at the Settlement Conference. Board Staff's calculation was reviewed by the parties at the Settlement Conference and found to be acceptable. Board Staff's calculation is attached as Schedule G of this Settlement Proposal.

Board Staff's calculation has taken the Actual Cost Recovery worksheet as filed by PowerStream and converted this to a multi-year revenue requirement calculation that properly reflects the timing of when the Smart Meter assets are being added to rate base and included in rates. The sheet originally filed by PowerStream in its Application was taken from Appendix E of the Smart Meter Combined Proceeding (EB-2007-0063). PowerStream did not calculate the revenue requirement on these assets for 2008 and the carrying costs for the period January 1, 2008 to April 30, 2009. The Board Staff calculation has included these items.

- ***Evidence:*** The evidence on this issue includes the following:

  Exhibit I-3-1, I-3-2, I-3-3

  Board Staff Interrogatories #16, 17, 18, 38, 70

  VECC Interrogatories #54, 55A

  CCC Interrogatories # 32, 33, 34

TAB 7 A

Ontario Energy Board

Commission de l'énergie de l'Ontario

Ontario

**EB-2009-0139**

**IN THE MATTER OF** the *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15, (Schedule B);

**AND IN THE MATTER OF** an application by Toronto Hydro-Electric System Limited for an order approving just and reasonable rates and other charges for electricity distribution to be effective May 1, 2010.

**BEFORE:** Howard Wetston
Chair & Presiding Member

Gordon Kaiser
Vice Chair & Member

Ken Quesnelle
Member

# DECISION

## April 9, 2010

# 4. SUITE METERING ISSUES

## Background

The Smart Sub-Metering Working Group (the "Working Group"), an association of companies[43], has intervened in this proceeding and claims that the rate that THESL is charging for condominium smart metering is not recovering the costs of these services. They argue that the cost of providing service to condominium corporations is greater than the cost of providing service to residential consumers. THESL charges the same rate for smart metering to condominium corporations and their unit-holders as they do to ordinary residential customers.

The members of the Working Group compete with THESL in the provision of these services. They argue that THESL is subsidizing these services and as a result has an unfair competitive advantage in the marketplace. Given this dispute, the following issue in the Settlement Agreement was set out as an unresolved issue;

- Is THESL's cost allocation in respect of residential customers residing in individually metered multi-unit residential buildings ("suite metered customers") appropriate?

THESL claims that this market is not competitive, at least with respect to the service aspect as opposed to the equipment aspect of the service. That argument was also raised by THESL in the proceeding related to *Notice of Intention to Make an Order for Compliance against Toronto Hydro – Electric System Limited*, EB-2009-0308 (January 27, 2010). ("the Toronto Enforcement case"). There the Board found that the market was clearly competitive in both the service and equipment aspects.

[43] These companies are Carma Industries Inc., Enbridge Electric Connections Inc., Hydro Connection Inc., Intellimeter Canada Inc., Provident Energy Management Inc., Stratacon Inc., and Wyse Meter Solutions.

THESL also argues that there is no evidence that competition will in fact promote conservation which is one of the objectives that the Board must now consider in its decisions. This argument was also rejected by the Board in the *Toronto Enforcement*[44] case in the following terms:

> Installation of smart meters in individual condominium units offers significant gains in energy conservation. The Legislature has signalled the advantage of competing suppliers and specifically allowed regulated utilities to engage in the service directly. Implicit in this direction is a belief that competing suppliers will promote price competition and improve service quality.
>
> It is also significant that this is a new market with new competitors. It would be unfortunate (and contrary to the public interest) if competitors were disadvantaged or even eliminated in the early days of this market.[45]

The Working Group called as a witness Philip Hanser, an economist with the Brattle Group, who provided evidence regarding the degree of cross-subsidization (Exhibit K6). The conclusion of this evidence was that since THESL charges the same rate for smart metering to condominium corporations and their unit-holders as they do to ordinary residential customers, "whether viewed from an incremental standpoint for 2010 or viewed cumulatively, it appears that THESL is not recovering sufficient revenues from its suite metered customers to offset the increased capital and OM&A expenditures associated with the installation and operation of the suite meters." [46]

THESL and two of the intervenors, CCC and VECC, argue that the evidence is insufficient and cannot be the basis for a conclusion that there is cross-subsidization.

THESL submitted that the Working Group had failed to produce any meaningful evidence to support its proposition that THESL is cross-subsidizing its suite metered customers. THESL also stated that the proper treatment of cost allocation for smart sub-metering requires a generic proceeding. THESL cited both the Board's May 15, 2008 Decision on its previous cost of service application and the Decision of the Majority Panel of the Board in its July 27, 2009 Decision in respect of Powerstream's 2009 cost-of-service rates, in which the Working Group raised similar issues. THESL stated that in

[44] *Notice of Intention to Make an Order for Compliance against Toronto Hydro – Electric System Limited*, EB-2009-0308 (January 27, 2010).
[45] Powerstream Inc. EB-2008-0244, July 27, 2009, pp.14-15
[46] Prefiled Evidence of the Smart Sub-Metering Working Group, Filed December 15, 2009, p 10

both these decisions, the Board agreed to take a generic approach in addressing this matter as it was an issue of Board policy.

THESL observed that the issue raised by the Working Group is such an important public policy issue that the Ontario legislature is currently debating Bill 235, its proposed *Energy Consumer Protection Act, 2009*[47] to directly address specific concerns related to the regulation of suite metering activities. THESL submitted that the Board should maintain its existing position that the issues raised by Working Group are best addressed in a generic proceeding involving the appropriate stakeholders once the relevant framework is established by the Ministry, particularly given the policy uncertainties raised by the Bill 235 debate.

The Working Group argued that a generic proceeding was not necessary. This was because Mr. Hanser's evidence had confirmed the existence of a cross subsidy.

The Working Group submitted that THESL had failed to demonstrate that its rates for suite metering were just and reasonable. THESL had done nothing to demonstrate that its suite metering program was not being cross-subsidized by other ratepayers. Under the circumstances, the Working Group argued the Board had three options. First, it should exclude the program unless and until a fully allocated cost (FAC) study had been completed that justified associated costs and convincingly demonstrated that there is no cross subsidization. Second, the Board could decide that THESL's suite metering program be transferred to an affiliate, thereby removing the need to address the cross-subsidization issue. Thirdly, THESL could be required to create a new rate class for smart metering services to residential multi-unit buildings.

The Working Group submitted that the appropriate remedy in this case would be for the Board to adopt the first of these options that is to exclude the program unless and until a FAC study has been completed. The Working Group further suggested that this could be combined with its proposed second remedy and that THESL could continue with its Suite Metering Program, but through an affiliate.

VECC, CCC and SEC also made submissions on this matter.

[47] Government Bill 235, An Act to enable the Energy Consumer Protection Act, 2009 and to amend other acts is currently in Second Reading and has been referred to Committee for review and consideration.

VECC stated that on the basis of the evidence filed, the issue as to whether THESL's cost allocation is appropriate with respect to suite metered customers cannot be answered. Where the Working Group evidence is concerned, VECC argued that it could at most conclude that there may be a cross subsidy. VECC submitted that this evidence was flawed because Mr. Hanser was double counting some costs which he had attributed to smart metering. VECC expressed the belief that there was a real possibility that the suite metered customer may in fact be over contributing, relative to the costs that would be appropriately assigned to them in a cost allocation study, rather than under contributing as posited by the Working Group and, as such, the Board should not act until a cost allocation study is undertaken.

CCC agreed with VECC that insufficient evidence had been produced in this proceeding to conclude that there was a cross subsidy and submitted that the Board should approve THESL's metering costs. CCC submitted that the Board should hold a generic proceeding following the finalization of the new rules regarding suite metering that will be determined through the new *Energy Consumer Protection Act, 2009.*

SEC submitted that smart sub-metering is contestable and the applicant should not be allowed to use its preferred status to influence the market for this contestable service.

In its reply submission, THESL responded that the remedies proposed by the Working Group, which it characterized as one-sided and self-serving, were clearly designed for no other purpose than the economic advantage of its members. THESL noted that in the *PowerStream* decision of July 27, 2009[48] the Board had already rejected the concept of the separate subsidiary. With respect to the proposal for a separate rate class, THESL responded this should only be considered in the context of an extensive generic cost allocation proceeding.

**Board Findings**

This is not the first time that this issue has come before the Board. It was first addressed in THESL's last rate case[49] and then in the Powerstream case one year later[50]. In both cases the Board deferred the matter to a generic proceeding. This is now

[48] *Decision with Reasons*, EB-2008-0294 (July 27, 2009).
[49] *Decision of the Board*, EB-2007-0680 (May 15, 2008).
[50] *Decision with Reasons*, EB-2008-0294 (July 27, 2009).

the third time that the matter has arisen in a rate case. For the reasons that follow the Board finds that THESL should undertake a cost allocation study related to its provision of suite metering services. The study shall include an analysis of the implications of creating and maintaining a separate rate class for those customers served in this manner. The Board is of the opinion that the potential for cross-subsidization is ongoing and that there may be merit in the establishment of a separate rate class for multi unit-residential customers that are served directly by THESL through its suite metering provision. This should be filed as part of the next cost of service application, which THESL intends to file later this year, but in any event no later than six months from the date of this Decision.

The Board is not convinced the evidence of Mr. Hanser established cross-subsidization of suite metering by residential customers, as argued by the Working Group. In making this finding, the Board is mindful of the limitations of Mr. Hanser's study, as acknowledged by Mr. Hanser himself, given the Working Group's inability to obtain from THESL all the information he considered relevant to his study. Accordingly, the Board will not adopt the remedy proposed by the Working Group and require THESL to exclude the suite metering program until a cost allocation study has been completed. However, the Board has been convinced that there is a pressing need for THESL to file such a cost allocation study in order for this matter to be properly addressed.

The regulatory structure of the *Energy Consumer Protection Act, 2009*[51] ("ECPA"), which is currently before the Legislature, leads the Board to conclude that the Government wishes to promote a competitive market to encourage the rapid expansion of this service. Restrictive conditions of service are one possible barrier to that development. The Board has addressed this issue in the Toronto Compliance proceeding. Potential cross-subsidization is another issue the Board must consider.

The Board believes that continual delay is not useful. It is significant that the Board recently completed an extensive compliance proceeding against THESL[52] which, amongst other things, required THESL to alter its Conditions of Service and to make it clear that condominium developers and unit-holders are able to choose between

[51] Government Bill 235, An Act to enable the Energy Consumer Protection Act, 2009 and to amend other acts.
[52] *Notice of Intention to Make an Order for Compliance against Toronto Hydro – Electric System Limited*, EB-2009-0308 (January 27, 2010).

THESL as a suite metering supplier and a smart sub-metering regime that includes competing suppliers for these services. In other words, the Board has clearly stated that a utility does not hold a monopoly for individual metering in multi-unit buildings. It would defeat the purpose of that exercise to allow cross-subsidization, (if it exists), to exert a negative impact on competition.

The Board also notes that this case concerns the City of Toronto which likely accounts for the majority of condominiums in Ontario. Therefore, a cost allocation study examining the specifics of THESL's experience is warranted. The Board also believes that the results of a study completed by THESL will be informative to other utilities and to the Board as to how to advance utility rate structures on a province wide scale in response to the introduction of this competitive sub-metering business.

In summary, no judgment can be made regarding cross-subsidization without a proper cost allocation study. That information will be important regardless of how the policy initiatives relating to this activity unfold in this province.

The Board accepts that the Government intended this to be a competitive market and believed that competition would result in better service quality at lower prices. The clear objective of this legislative framework is to create a regime that will promote the rapid introduction of this technology. If individual condo units are responsible for the costs of the electricity they consume, greater conservation would inevitably result than under the current situation where there is absolutely no incentive to conserve because total costs are simply divided between all unit-holders.

**TAB 7 B**

Ontario Energy Board

Commission de l'énergie de l'Ontario

Ontario

**EB-2009-0139**

**IN THE MATTER OF** the *Ontario Energy Board Act, 1998*, S. O. 1998, c. 15, Schedule B;

**AND IN THE MATTER OF** an application by Toronto Hydro-Electric System Limited for an order approving just and reasonable rates and other charges for electricity distribution to be effective May 1, 2010.

# ISSUES LIST DECISION
# and
# PROCEDURAL ORDER NO. 2

Toronto Hydro-Electric System Limited ("Toronto Hydro", the "Company" or the "Applicant") filed an application, dated August 28, 2009, with the Ontario Energy Board under section 78 of the *Ontario Energy Board Act, S.O. 1998*, c.15, Schedule B, seeking approval for changes to the rates that Toronto Hydro charges for electricity distribution, to be effective May 1, 2010.

The Board issued a Notice of Application and Hearing dated September 16, 2009. In Procedural Order No.1, issued on October 19, 2009, the Board approved 10 intervention requests.

## Issues List Decision

Procedural Order No. 1 contained a draft issues list. Submissions on the draft issues list were received from the following parties:

Vulnerable Energy Consumers Coalition ("VECC")
Association of Major Power Consumers in Ontario ("AMPCO")
Consumers Council of Canada ("CCC")
Pollution Probe ("PP")
School Energy Coalition ("SEC")
Canadian Union of Public Employees, Local One ("CUPE One")
Building Owners and Managers Association of the Greater Toronto Area ("BOMA")
Smart Sub-metering Working Group ("SSWG")

Toronto Hydro provided two submissions, dated October 26, 2009 and October 30, 2009, respectively.

The Board has considered all submissions in establishing a final issues list which is attached as Appendix A. The parties were generally satisfied with the draft issues list, however several changes and clarifications were requested. These are reviewed below along with the Board's rationale in addressing each of these requests.

### 1. GENERAL

1.1 Has Toronto Hydro responded appropriately to all relevant Board directions from previous proceedings?

1.2 Are Toronto Hydro's economic and business planning assumptions for 2010 appropriate?

1.3 Is service quality, based on the OEB specified performance indicators, acceptable?

1.4 Is the overall increase in the 2010 revenue requirement reasonable given the impact on consumers?

between the approved levels of capital contributions to Hydro One and the actual contribution levels in USOA 1508 appropriate?"

## 7. COST ALLOCATION and RATE DESIGN

7.1 Is Toronto Hydro's cost allocation appropriate?

7.2 Are the proposed revenue to cost ratios for each class appropriate?

7.3 Are the fixed-variable splits for each class appropriate?

7.4 Are the proposed Retail Transmission Service rates appropriate?

7.5 Are the proposed Distribution Loss Factors appropriate?

There were no specific comments received regarding this section.

## 8. SMART METERS

8.1 Is the 2010 smart meter O&M and Capital budget appropriate?

8.2 Are the amounts for Smart Meter related variance accounts appropriate?

8.3 Is Toronto Hydro's regulatory treatment of Smart Meter costs appropriate including the smart meter funding adders proposed for 2010?

Toronto Hydro argued that this entire section should be removed because it is not seeking approval of either a smart meter budget, or to clear any smart meter-related costs tracked in variance or deferral accounts.
The Board accepts this change. The Board finds that if parties have questions or concerns related to the smart meter evidence which Toronto Hydro has filed in the present application, these are subsumed under other issues already on the Issues List.

## 9. SMART GRID PLAN

9.1 Does Toronto Hydro's Smart Grid Plan meet the Board's filing guidelines and the objectives set out in the Green Energy and Green Economy Act, 2009?

**TAB 7 C**

# INTRODUCTION

## SCOPE OF APPLICATION

With this Application, Toronto Hydro-Electric System Limited ("THESL") seeks approval from the Ontario Energy Board ("OEB or Board") for revenue requirements, corresponding rates, and other specified items of relief for the rate year commencing May 1, 2010 and ending April 30, 2011.

THESL and certain of its affiliates have also filed with the Board applications under Board file numbers EB-2009-0180 to EB-2009-0183 inclusive. These applications (the "Streetlighting Applications") are necessary to effect the transfer of operations and assets associated with streetlighting from THESL's retail affiliate to another affiliate for which a distribution licence is sought. That affiliate would then be merged with THESL, with the resulting company carrying on business as THESL.

The cost, rate, and other consequences of the Streetlighting Applications have not been reflected in this Application. Should the Board complete its determinations of the Streetlighting Applications by a date that would permit an update to this Application to be made reflecting the Board's decisions, THESL will perform such an update. Otherwise THESL will seek alternative implementation arrangements.

## THE NEED FOR A COST OF SERVICE REBASING APPLICATION

It is necessary for THESL to apply to the OEB on a cost of service basis for the 2010 rate year because that is the only approach that will accommodate THESL's need for annual rebasing. Three major factors drive the need for annual rebasing. These are:

a) Material increases in ratebase and corresponding capital-related costs as THESL continues to renew and enhance its distribution system;
b) Costs related to workforce renewal and other operations; and

treatment. These items are summarized below. The Application also contains proposals for the disposition or continuation of the balances in the routine deferral and variance accounts that THESL uses.

**Smart Meters**

In 2008 and 2009, THESL has continued to play a leading role in the realization of the Province's goal to see smart meters installed for all low volume customers in Ontario. As of June 30, 2009, THESL had installed 611,000 residential and small general service smart meters; THESL expects its smart meter rollout to be substantially complete by the end of 2010 for residential customers, and by mid-2011 for small general service customers.

In its EB-2007-0680 Decision the Board directed that smart meter costs for 2008 and through to program completion be deferred, together with associated revenue derived from the smart meter rate adder, which the Board set at its previous level of $0.68 per customer per 30 days. The Board granted the inclusion of smart meter capital expenditures up to the end of 2007 in 2008 opening ratebase.

THESL will therefore continue to defer smart meter expenditures and revenues in 2010 and upon completion of its smart meter rollout will apply to the Board for clearance of that deferral account in accordance with methodology established by the Board and confirmed in its EB-2008-0138 Decision of December 11, 2008. Accordingly, the opening balance of ratebase in 2010 excludes the effects of 2008 and 2009 smart meter capital expenditures.

**Capital Contributions to Hydro One Networks Inc. ("HONI")**

Evidence concerning the HONI transmission system projects affecting the Toronto Hydro load area is found at Exhibit D2, Tab 1, Schedule 1. Several projects are identified there;

of amounts related to gains on sale, of $18.7 million.

**Base Distribution Revenue Requirement**

As a consequence of its proposals for the service revenue requirement and revenue offsets, THESL's proposed base distribution revenue requirement is $528.7 million.

## RELIEF REQUESTED

With this Application, THESL seeks express approval by the Board of the following items:

a) A 2010 service revenue requirement of $547.5 million;
b) 2010 revenue offsets of $18.7 million, exclusive of any amounts related to Gains on Sale of Surplus Properties;
c) A 2010 base distribution revenue requirement of $528.7 million;
d) The forecast of billing determinants as set out at Exhibit K1;
e) Electricity distribution rates and charges as proposed sufficient to recover the base distribution revenue requirement assigned to each customer class, after giving effect to the cost allocation and rate design proposals set out herein;
f) The ongoing deferral in the 2010 test year of costs, revenues, and revenue requirements related to Smart Metering undertaken in 2008, 2009, and 2010, for the purpose of excluding these amounts from the 2010 service revenue requirement and instead reserving these amounts for future disposition;
g) The plan for disposition of deferral and variance account balances as detailed at Exhibit J1, Tab 1, Schedule 2 together with the consequential rate riders and their proposed effective periods;
h) The plan for recording the variance between actual capital contributions made to Hydro One Networks Inc in 2010, and the forecast proposed amount of $2.8 million set out at Exhibit J1, Tab 1, Schedule 2, for future disposition; and
i) Other items or amounts that may be specifically requested by THESL in the

1) THESL has applied generally accepted ratemaking principles to guide the development of distribution rates;
2) THESL has designed rates that collect the annual revenue requirement, continue to incrementally implement the changes suggested by the cost allocation study, and provide for a stable progression of customer rates;
3) there are no impacts to any of the customer classes or consumption level subgroups that are so significant as to warrant the deferral of any adjustments being requested by THESL; and
4) such further and other grounds as may be set out in Exhibit M1, Tab 1, Schedule 1 and other areas of this Application.

**AUTHORIZATION**

This Application is authorized by Pankaj Sardana, Vice-President, Treasury, Rates and Regulatory Affairs.

**RELIEF SOUGHT**

With this Application, THESL seeks express approval by the Board of the following items:

a) A 2010 service revenue requirement of $547.5 million;
b) 2010 revenue offsets of $18.7 million, exclusive of any amounts related to Gains on Sale of Surplus Properties;
c) A 2010 base distribution revenue requirement of $528.7 million;
d) The forecast of billing determinants as set out at Exhibit K1;
e) Electricity distribution rates and charges as proposed sufficient to recover the base distribution revenue requirement assigned to each customer class, after giving effect to the cost allocation and rate design proposals set out herein;
f) The ongoing deferral in the 2010 test year of costs, revenues, and revenue requirements related to Smart Metering undertaken in 2008, 2009, and 2010, for

Toronto Hydro-Electric System Limited
EB-2009-0139
Exhibit C1, Tab 5, Schedule 1
ORIGINAL
(338 pages)

toronto hydro
electric system

# CONDITIONS OF SERVICE

## REVISION #8

## Effective Date: February 27, 2009

*The latest revisions to the Conditions of Service are highlighted in red.*
*Comments to these revisions can be emailed to:* ConditionsofService@torontohydro.com

Customers without e-mail access can fax inquiries to 416.542.2630, Attn: Jim Trgachef, or submit through regular mail to:
**Standards & Policy Planning Department**
**Toronto Hydro-Electric System Limited**
**500 Commissioners Street**
**Toronto, Ontario**
**M4M 3N7**

**To contact Toronto Hydro call (416) 542-8000 or e-mail at:** ConditionsofService@torontohydro.com

# Section 2 – DISTRIBUTION ACTIVITIES (GENERAL)

- Maintain an unobstructed working space in front of equipment, free from, or protected against, the adverse effects of moving machinery, vibration, dust, moisture or fumes

Where Toronto Hydro deems self-contained meters to be in a hazardous location, the Customer shall provide a meter cabinet or protective housing.

Any compartments, cabinets, boxes, sockets, or other workspace provided for the installation of Toronto Hydro's metering equipment shall be for the exclusive use of Toronto Hydro. No equipment, other than that provided and installed by Toronto Hydro, may be installed in any part of the Toronto Hydro metering workspace.

#### 2.3.7.1.1 Metering Requirements for Multi-Unit Sites and Condominium Corporations

In an effort to promote conservation Toronto Hydro will provide electronic or conventional smart suite metering for each unit of a new Multi-unit site, or a condominium at no direct charge to the Customer. If the Customer chooses to pursue an Alternative Bid for the installation of suite metering and uses services of a qualified contractor, the Customer is required to:

(i) select and hire a qualified contractor;
(ii) ensure all contestable work is done in accordance with Toronto Hydro's technical standards and specifications: and
(iii) assume full responsibility for the installation and warranty all aspects for a period of 2 years from date of commissioning.

Where the Customer transfers the metering facilities installed under the alternative bid option to Toronto Hydro and provided Toronto Hydro has inspected and approved the facilities installed, Toronto Hydro shall pay the Customer a transfer price. The transfer price shall be the lower of the cost to the Customer to install the metering facilities or Toronto Hydro's burden cost to install the metering facilities.

For existing condominium corporations that fall under the Condominium Act, 1998, and Ontario Regulation 442/07, the Condominium Corporation wishing to install smart suite metering systems, shall make arrangements with Toronto Hydro. In each case, the Customer will comply with the detailed technical requirements set forth at:
http://www.torontohydro.com/electricsystem/business/suite_meters.html

**Metering**

THESL provides its customers with meters through which electricity passes before reaching a distribution board or service panel that directs the electricity to end use circuits on the customer's premises. The meters are used to measure electricity consumption. THESL owns the meters and is responsible for their maintenance and accuracy. THESL is also responsible for funding meter installations at the point where electricity is transferred from HONI to THESL. The budgeted costs exclude metering activities covered by the Smart Metering program. Metering details are provided at Exhibit D1, Tab 8, Schedule 7.

**Smart Metering**

In EB-2007-0680, THESL proposed to include the capital cost for the Smart Meter ("SM") program for 2008, 2009 and 2010 in rate base. The Board in its Decision in that case rejected THESL's proposal and instead directed that cost recovery for smart meter investments for 2008 and 2009 continue to be funded by the existing rate adder. Accordingly, THESL has not included smart meter costs for 2010 in this application, and instead continues to fund the revenue requirement for 2010 smart meter investments through the existing rate adder.

Residential meter installations continue to be the priority for the THESL smart meter installation plan through 2009 and 2010. THESL intends to have smart meters installed for all residential customers by year end 2010. The THESL plan also includes an increasing emphasis on installing smart meters for commercial customers. Installation of commercial meters is expected to be completed in 2011. Table 1 summarizes the forecasted installations for 2008, 2009, 2010 and 2011.

**Table 1: Forecast Smart Meter Installations**

| Units | Prior Years | 2008 | 2009 | 2010 | 2011 | Totals |
|---|---|---|---|---|---|---|
| Residential and General Service < 50 kW | 397,409 | 154,711 | 59,500 | 61,057 | 20,000 | 692,677 |
| General Service 50 to 200 kW | 800 | 1,116 | 3,000 | 4,507 | 1,900 | 9,416 |
| General Service >200 kW | 2,600 | 1,000 | 1,400 | 1,400 | 600 | 7,000 |
| Total Smart Meter units | 400,809 | 156,827 | 63,900 | 66,964 | 22,500 | 711,000 |

In 2006, THESL started development of various information technology systems necessary to support smart meters and Time-of-Use ("TOU") billing. The systems include "back-office" support for installation and lifecycle management of smart meters, remote data collection as well as the integration of smart meter information with billing, customer information and the provincial Meter Data Management/Repository ("MDM/R") processes.

The information technology focus in 2008 concentrated more on TOU billing preparations, web presentation of smart meter information to customers, and preparations for integration with the MDM/R. THESL worked collaboratively with its primary smart meter vendor to expand and integrate back office efforts with vendor product development. THESL currently collects hourly interval data daily from 405,000 meters, over a three-hour span. The collected data includes cumulative register reads, which THESL uses for routine bimonthly billing pending TOU rate implementation.

Release of a preliminary strategy for development of a Wide Area Network ("WAN") communications infrastructure that will communicate with and collect data from smart meters is imminent. The new strategy will reduce long-term operational costs, improve

**Table 2: Summary of Capital Budget ($millions)**

| | 2008 Historical | 2009 Bridge | 2010 Test |
|---|---|---|---|
| OPERATIONAL INVESTMENTS | | | |
| Sustaining Capital | | | |
| Underground Direct Buried | 23.8 | 48.3 | 70.3 |
| Underground Rehabilitation | 38.2 | 33.7 | 36.3 |
| Overhead | 19.3 | 15.7 | 22.0 |
| Network | 4.7 | 4.8 | 5.7 |
| Transformer Station | 8.5 | 7.2 | 15.9 |
| Municipal Substation Investment | 8.3 | 6.3 | 6.8 |
| **Total Sustaining Capital** | **102.9** | **116.0** | **157.0** |
| Reactive Work | 19.3 | 13.8 | 22.5 |
| Customer Connections | 42.8 | 37.4 | 32.5 |
| Customer Capital Contribution | (32.7) | (21.0) | (24.4) |
| Asset Management | (4.9) | 1.0 | 2.8 |
| Engineering Capital | 26.4 | 27.0 | 31.2 |
| AFUDC | 2.0 | 2.6 | 4.4 |
| Other | 1.0 | 1.0 | - |
| **Total Operations** | **156.8** | **177.8** | **226.0** |
| GENERAL PLANT | | | |
| Fleet &Equipment Services | 7.9 | 9.9 | 11.4 |
| Facilities | 3.4 | 8.4 | 12.6 |
| Other | 0.3 | 2.0 | 4.4 |
| **Total GENERAL PLANT** | **11.6** | **20.3** | **28.4** |
| CUSTOMER SERVICES | | | |
| Wholesale Metering | 0 | 0.5 | 10.9 |
| Suite Metering | 0 | 1.8 | 2.4 |
| Other | 13.2 | 0.2 | 0.6 |
| **Total CUSTOMER SERVICES** | **13.2** | **2.5** | **13.9** |
| | | | |

# OPERATIONAL INVESTMENTS

## METERING

THESL provides its customers with meters through which electricity passes before reaching a distribution board or service panel that directs the electricity to end-use circuits on the customer's premises. The meters are used to measure electricity consumption. THESL owns the meters and is responsible for their maintenance and accuracy in accordance with Measurement Canada requirements. THESL is also responsible for funding meter installations at the point where electricity is transferred from Hydro One Networks Inc. ("HONI") to THESL, and ensuring they are compliant with Independent Electricity System Operator ("IESO") requirements.

Table 1 summarizes the total requirements for metering capital investments for 2008, 2009 and the 2010 test year:

**Table 1: Metering Capital Investments Summary ($ millions)**

| | 2008 Actual | 2009 Bridge | 2010 Test |
|---|---|---|---|
| Metering | 13.2 | 2.5 | 13.9 |

The costs in Table 1 exclude costs associated with the Smart Metering program, except for the 2008 Actual costs of $13.2 million, which include $5.6 million of Smart Metering program costs which had not been transferred to a Regulatory Assets account at the time the THESL 2008 financial statements were filed. For comparison purposes, the 2008 Actual would be $7.6 million without the Smart Metering Costs.

### Wholesale Metering

Wholesale meter installation upgrades, the largest component in the metering capital plan, are required by the Ontario Wholesale Electricity Market rules administered by the

IESO. The rationale for the wholesale meter installation upgrades is to increase the accuracy of the meter measurements and registration. The existing meter points were not necessarily installed for revenue billing purposes, so some associated equipment is not approved for its current application. Given the large revenue amount generated by these meter points, the IESO developed a set of market rule requirements intended to provide the highest level of confidence possible in the metered values. The upgraded meters also provide additional complex measurements on a more timely and reliable basis, which allows the IESO to better operate the hourly wholesale pricing market.

The majority of the work at the wholesale metering installations is contracted to HONI because the equipment is located within HONI facilities. The fluctuations in the capital spend from 2008 to 2009 and 2010 are due to HONI's schedule to complete the installations, and the timing of requests for these installations made by THESL.

For THESL, the wholesale meter installation upgrades can be divided into two categories. There are two primary transmission circuits that pass through Toronto – a north circuit and a south circuit. Meter points on the north circuit can be more easily upgraded by relocating the meter point elsewhere in the station. After the upgrades, there will be a total of 74 meter points in this group. As of the end of 2008, 34 of these meter points had been fully upgraded, based on formal proposals provided by HONI which include replacement of current and potential transformers, new metering cabinets, modification to bus support structures, and new communication lines. The remaining 40 meter points are scheduled to be upgraded by the end of 2011. In 2010, $6.9 million has been included for this work.

The upgrades on the south circuit are more complex and costly. A total of 149 meter points at 23 transformer stations will be required to meet IESO specifications. As an alternative, THESL had proposed to install metering equipment at specific locations on

the transmission lines that supply these stations. However, as detailed planning for this proposal took place among HONI, IESO and THESL, the risks and costs of this alternative escalated. THESL has now concluded that upgrading the meter points at individual stations is required. The estimated cost of these upgrades is $20.0 million of which $4.0 million will be spent in 2010.

**Suite Metering**

Another portion of the metering capital is for individual suite metering in condominiums. Many condominiums are currently "bulk-metered", with only one billing meter installed to measure electricity usage. Individual unit consumption is estimated and allocated through mechanisms such as square foot area, and collected through property management fees. By having THESL install individual meters for each suite, unit owners will become THESL customers and pay for actual metered electricity consumption. In consideration of anticipated requests for THESL to provide such services in both new and existing condominium buildings, the forecasted capital spend is $2.4 million in 2010 for a total of 5,400 individual suite meter installations. THESL has contracted a metering equipment and installation services supplier through an RFP process to provide individual suite metering.

**Other Metering Capital**

The remaining capital budget involves the replacement of interval meters currently installed at approximately 2,500 of THESL's largest customers' facilities, and meter test shop equipment. The existing meters need to be replaced for full compliance with the requirements of the Smart Meter initiative, and for ongoing compliance with Measurement Canada regulations. Since these accounts already have interval meters, which by definition are considered to be Smart Meters, this project is not considered to be part of the Smart Meter initiative. The budgeted cost for this work for 2010 is $0.4 million.

# INFORMATION TECHNOLOGY PROGRAM DESCRIPTIONS
# OPERATIONAL INVESTMENTS

## OPERATIONAL DATA STORE

### Program Overview

The Operational Data Store ("ODS") project extends the capabilities of the information systems being built for smart meter implementation. Business benefits accruing from this project include operational effectiveness through improved information management, decision support and streamlined business processes in the following areas and functions:

- Meter Reading and Billing Types;
- Complex Billing;
- Net System Load Shape ("NSLS");
- Wholesale Settlement;
- Outage integration support;
- Business Intelligence, Data Mining and Theft of Power; and
- Customer Meter Data Presentment.

### Program Benefits

The following objectives are expected to be realized after the full scope of this three-year program has been delivered:

- Support THESL's Smart Meter Initiative obligations to implement smart meters for all its customers;
- Continue the automation of systems needed for the new and modified business processes to implement and sustain THESL's Smart Meter Initiative; and
- Create a unified set of business processes for all metering classes and customer loads.

**Progress to-date**

By the end of 2009, the ODS program will have accomplished the deliverables outlined below:

1) Implemented system changes to support the meter read process for registered reads;
2) Upgraded the Energy Internet Protocol ("EIP") software to version 5.3 and subsequently implemented EIP version 5.5 SP3 into production;
3) Completed required system configurations to support TOU billing (i.e., Full-Synch ("F-Synch") and Incremental Synch ("I-Synch") implementation);
4) Completed all requirements, design and build activities for the upgraded version of ODS, which will provide:
   - Enhanced functionality;
   - Multi-channel support for Metering Automated Software ("MAS");
   - SmartSynch provisioning;
   - Resolution of some known outstanding defects;
   - Propagation of meter attribute changes to MAS; and
   - Support for new meters and com types.
5) Quadlogic integration (Suite Metering)
   - Investigate additional Automated Meter Integration ("AMI") to support condos;
   - Begin uploading meter read data into ODS; and
   - Billing for Condo customers through Smart Meter ODS.

**2010 Program Plan**

In 2010, IT&S plans to deliver the following capabilities:

- Finalize and complete testing and implementation of the EIP version 6.3 or higher;
- Complete integration for Suite Metering; and

THESL is not seeking clearance of balances in the following accounts:

- Accounts 1555 and 1556 – Smart Meter Accounts. THESL currently records Smart Meter Capex and Opex expenditures to these accounts. THESL intends to seek clearance of these accounts once the Smart Meter Installation Program has been completed, according to the OEB's guidance.

- Accounts 1565 and 1566 – CDM Expenditures and Recoveries. A very small amount ($6,947) remains in these accounts, which recorded Third Tranche CDM spending and recoveries. THESL will not be applying to clear these accounts.

- Account 1508 – Other Regulatory Assets. This account has a balance of ($0.1 million) as of December 31, 2008. The details of this account are as follows:

    - $2.6 million LRAM balance relating to CDM programs delivered in 2007 and 2008. The 2007 LRAM balance is the subject of a current Application in process with the Board (EB-2008-0401).
    - $0.6 million SSM balance relating to CDM programs delivered in 2007. The balance is the subject of a current Application in process with the Board (EB-2008-0401).
    - LRAM and SSM, expired rate riders, excess recoveries from customers in the amounts of ($1.2 million) and ($2.0 million), respectively. The amounts have been approved in EB-2009-0069 for disposition to customers effective May 1, 2009.
    - 2006 Smart Meters, expired rate riders, excess refund to customers of $0.4 million. The amount has been approved in EB-2009-0069 for disposition to customers effective May 1, 2009.
    - 2007 Smart Meter deferral account balance at December 31, 2008 of ($0.5 million). The credit balance is the result of the excess of 2007 Smart

# LOADS, CUSTOMERS AND REVENUE

The purpose of this evidence is to present the Company's load, customer and distribution revenue forecast for the test year. The detailed load forecasts by rate class are shown at Exhibit K1, Tab 3, Schedules 1 to 3. Forecasts of customers by rate class are shown in Exhibit K, Tab 4, Schedules 1 to 2. Forecast of distribution revenues by rate class are shown at Exhibit K, Tab 6, Schedules 1 to 3.

Table 1 below provides a summary of the loads, revenues, and customer forecasts. The revenue forecast is calculated based on proposed distribution rates, excluding commodity, and excluding rate riders.

**Table 1: Total Load, Revenues and Customers**

| Year | Total GWh | Total MVA | Total Distribution Revenue ($M) | Total Customers |
|---|---|---|---|---|
| 2006 Actual | 26,765 | 43,748 | $441.2 | 679,249 |
| 2007 Actual | 26,394 | 43,462 | $438.7 | 681,062 |
| 2008 Actual | 26,214 | 43,201 | $482.4 | 685,282 |
| 2009 Bridge | 26,056 | 43,454 | $491.8 | 691,400 |
| 2010 Test | 25,755 | 42,949 | $540.5 | 697,702 |

Notes:

1. Total GWh are purchased GWh, and are weather normalized to Test Year heating and cooling assumptions.
2. Total kVA are weather normalized kVA
3. Distribution Revenue is weather normalized and does not include adjustment for Transformer allowance.
4. Total Customers are as of year-end and exclude streetlighting and unmetered load connections.

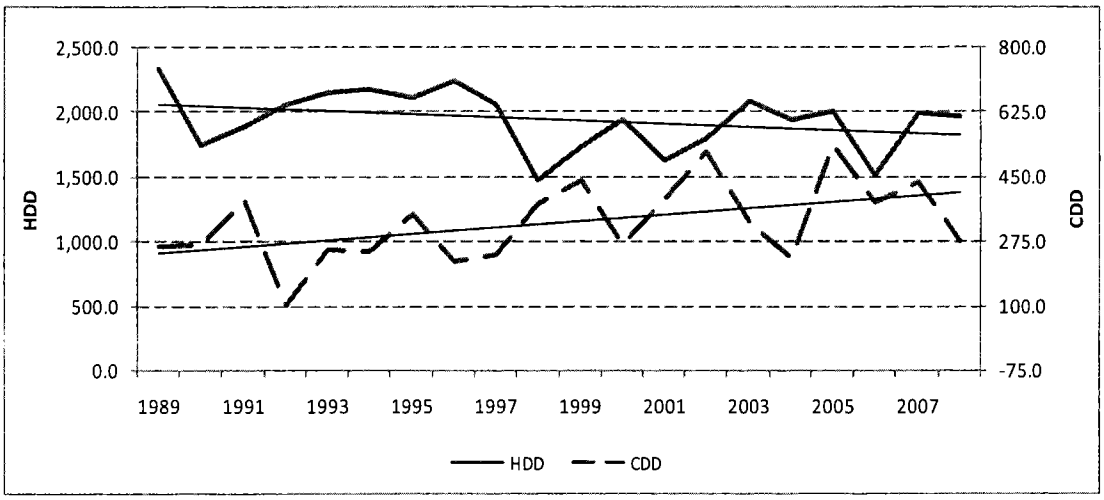



**Figure 3: Historic CDD and HDD**

### Peak Demand Forecast

The forecast of peak demand by customer class, which is used to determine revenue for those customers billed on a demand basis, is established using historical relationships between energy and demand.

### CDM Impact on kWh and kW Forecast

The load forecast as described above does not explicitly take into account any load impacts arising from CDM programs undertaken by THESL. However, the inclusion of the time trend variables does capture the impacts of conservation – both natural conservation and CDM program conservation. No additional adjustments for CDM are thus required.

### Customer Forecast

Customer additions in the company's operating area have been fairly flat over recent history, with about 3,500 to 4,500 new customers (excluding Unmetered loads and streetlighting) added annually. The forecast of new customers is primarily based on extrapolation models for each rate class.

The forecast of customers for the residential sector in 2009 through 2010 includes an estimate for new individually-metered condominium suites, as well as the conversion of some condominiums from bulk-metered to individual suite-metering. The following table provides the detail on the number of new suite metered customers expected over the 2009/2010 period. These numbers are included in the total residential customer forecast.

**Table 5: Individually-Metered Suites**

| Year | Individually-Metered Suites (cumulative) |
|---|---|
| 2007 Actual | 1,563 |
| 2008 Actual | 2,705 |
| 2009 | 4,964 |
| 2010 | 8,564 |

The detailed forecast of customers by rate class is found in Exhibit K1, Tab 4, Schedule 1.

2010 COST ALLOCATION INFORMATION FILING

**Toronto Hydro-Electric System Limited**

**Aug 14 2009**

## Sheet I7.1 Meter Capital Worksheet - First Run

| | | Residential | | | GS <50 | | | GS>50<999 NON RIMS | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| | | Number of | Weighted | Weighted | Number of | Weighted | Weighted | Number of | Weighted | Weighted |
| Allocation Percentage Weighted Factor | | | | 70.24% | | | 10% | | | 13% |
| Cost Relative to Residential Average Cost | | | | 1.00 | | | 1.29 | | | 11.84 |
| Total | | 614,841 | 108,432,627 | 176 | 65,747 | 14,911,949 | 227 | 9,457 | 19,748,816 | 2,088 |
| **Meter Types** | **Cost per Meter (Installed)** | | | | | | | | | |
| Single Phase 200 Amp - Urban | 50 | 17,532 | 876604 | | 14,328 | 716383.7 | | | 0 | |
| Network Meter (Costs to be updated) | 150 | - | 0 | | 12,823 | 1923450 | | | 0 | |
| Three-phase - No demand | 210 | - | 0 | | 0 | 0 | | | 0 | |
| Smart Meters | 225 | 7,500 | 1687500 | | 0 | 0 | | | 0 | |
| Demand without IT (usually three-phase) | 500 | - | 0 | | 2000 | 1000000 | | 69 | 34685.86387 | |
| Demand with IT | 2,100 | | 0 | | 1,000 | 2,100,000 | | 9,388 | 19,714,130 | |
| Demand with IT and Interval Capability - Secondary | 2,300 | | 0 | | | 0 | | | 0 | |
| Demand with IT and Interval Capability - Primary | 10,000 | | 0 | | | 0 | | | 0 | |
| Demand with IT and Interval Capability -Special (WMP) | 40,000 | | 0 | | | 0 | | | 0 | |
| LDC Specific 1 | 158.75 | 558,534 | 88667272.5 | | 26,596 | 4222115 | | | 0 | |
| LDC Specific 2 | 550 | 31,275 | 17201250 | | 9,000 | 4950000 | | | 0 | |
| LDC Specific 3 | 550 | | 0 | | | 0 | | | 0 | |

TAB 7 D

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

**INTERROGATORY 1:**

**Reference(s): Exhibit K1, Table 1, Schedule 1, page 10, Table 5**

THESL includes the actual individually-metered suite numbers for 2007 and 2008, and forecasts for 2009 and 2010 for new individually-metered condominium suites, and condominiums converted from bulk metered to individually-suite metered units (Table 5).

a) Please provide a breakdown between the number of new versus converted condominium suite meters installed in each of the years identified in Table 5.

b) Does THESL offer suite metering to commercial properties? If so, does Table 5 include any meters installed in commercial applications, and if so, how many in each year?

c) Of the 4,964 individually-metered suites (cumulative) forecast for the end of 2009, what percentage or number are forecast to be revenue generating at the end of 2010? Does THESL adjust its revenue forecasts to reflect the fact that some of the forecast metered suites will not be revenue producing in 2010?

d) If the answer to (d) above is No, are there individually-metered suites which are not included in any of the individual year and cumulative numbers in Table 5because they are not forecast to be in service in any of the subject years?

e) When does THESL count a newly constructed (i.e., not a conversion from a bulk meter) individually metered suite as a customer? Does this occur when the meter is installed, upon registration of the condominium's declaration, upon occupancy or at some other time?

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

**RESPONSE:**

a)

Individually-Metered Suites (cumulative)

| Year | New Buildings | Conversions - Bulk to Individual |
|---|---|---|
| 2007 Actual | 1409 | 154 |
| 2008 Actual | 1995 | 710 |
| 2009 | 3373 | 1591 |
| 2010 | 5554 | 3010 |

b) THESL does offer suite metering to commercial properties. Table 5 includes 25 meters that are installed at retail suite meter locations.

c) All of the 4,964 individually-metered suites forecast for the end of 2009 are expected to be generating revenue before year-end 2010. THESL bases its revenue forecasts on the number of customers expected to be consuming electricity, not the number of new meters expected to be installed.

d) Yes. Each year shown in Table 5 includes some meters that were installed in the previous year but not placed into service during the year of installation.

e) THESL typically reports a suite metered customer as a new customer at the time of the first reading of the meter, which occurs shortly after occupancy and the creation of an accompanying new THESL account.

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

**INTERROGATORY 3:**

**Reference(s): Exhibit D1, Tab 3, Schedule 1, page 3**

THESL forecasts an increase in distribution expenses of $21 million in 2009, in comparison to 2008 Historical. The pre-filed evidence states: "The increase is primarily due to higher operations costs due to an expanding workforce and an increase in external vendor costs related to suite metering."

Please provide:

a) The actual external vendor costs relating to the Suite Metering Program for the years 2008 and 2009 (to date), the forecast external vendor cost in 2009 and 2010, broken down between payments on account of OM&A and payments on account of capital (e.g. costs to purchase and install suite meters)

b) In each of the above years, please advise of the actual number of suite meters installed or forecast (whether operational or not) for which payment was made to the external vendor.

c) Please confirm that the external vendor used for the suite metering program is Trilliant.

d) Please advise how the customers of Trilliant, a licensed sub-metering company, have been treated? Have these customers been transferred to THESL and if so, are they part of the suite metering customer count at Exhibit K1, Tab 1, S1, p. 10, Table 5? How many customers were transferred and what are financial details of the transfer?

**RESPONSE:**

a) External vendor costs paid from 2008 to 2010 for the purchase and installation of suite meters are as follows:

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

| | External Capital Costs ($ millions) |
|---|---|
| Paid in 2008 | 2.1 |
| Paid in 2009 | 1.4 |
| Forecast for 2009 | 0.5 |
| Forecast for 2010 | 2.4 |

b) In 2008, payment was made for 4,505 suite meters. To date in 2009, payment has been made or approved for 4,905 suite meters.

c) Trilliant is the external vendor used for suite meter installations.

d) THESL has no knowledge of Trilliant's relationship with its present or former customers. No Trilliant customers have been transferred to THESL. Three condominiums that were formerly sub-metered by Trilliant are now individually-metered by THESL, after going through our normal contracting process. In each case, THESL considers the condominium to be a conversion from bulk to individual metering, with each unit owner established as a new THESL customer.

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

**INTERROGATORY 5:**

**Reference(s):** **Exhibit D1, Tab 8, Schedule 7, page 3**
**Exhibit K1, Tab 1, Schedule 1, page 10, Table 5**
**Exhibit F1, Tab 7, Schedule 1, page 6**
**Exhibit F1, Tab 7, Schedule 2, pages 3, 4**

THESL forecasts individually-suite metering 5,400 individual units (new and converted buildings), yet at Table 5, it calculates an addition of only 3,600 units in 2010. THESL states that the majority of the work relating to the installation, commissioning and maintenance of condominium suite meters is performed by an external contractor.

a) What is the actual number of metered units used by THESL for the purposes of developing its OM&A forecasts for 2010?

b) What is the total amount in the OM&A forecast for 2010 that relates to individual suite metering?

c) What are the fully allocated internal costs (excluding payments to third party vendors) that THESL forecasts it will incur in 2010 for suite metering?

d) Please calculate the fully allocated internal costs (excluding forecast payments to third party vendors) that THESL forecasts it will incur in 2010 for suite metering. Please confirm that all costs are calculated on a fully allocated basis and that such costs include: (a) software licence and maintenance costs; (b) network and communications management system O&M; (c) technical and non-technical training; (d) third party vendor negotiations, communications and management costs; (e) advertising, promotional, government relations costs; (f) regulatory costs; (g) all other implementation and ongoing operational costs; and (f) depreciation.

e) What are the rates of depreciation that THESL uses in respect of the Suite Metering Program?

Witness Panel(s): 3, 4 and 5

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

**RESPONSE:**

a) The THESL 2010 OM&A forecast is based on 8,564 units.

b) The 2010 OM&A forecast cost is $0.3 million.

c) THESL has not yet done a fully-allocated cost study. The requested information is not available, and can't be calculated in the available time.

d) THESL has not yet done a fully allocated cost study. The requested information is not available, and can't be calculated in the available time.

e) THESL has used a depreciation rate of 6.7% for the 2008 actual, 2009 forecast and 2010 budget calculations.

# SMART METER INSTALLATION AND SERVICE AGREEMENT

**THIS AGREEMENT** is made this _____day of _____, 200___ (the "Effective Date")

**BETWEEN:**

**Toronto Hydro-Electric System Limited**

a corporation incorporated under the laws of the Province of Ontario

(hereinafter called "**Toronto Hydro**")

and

_____

a corporation incorporated under the laws of Ontario

or a condominium corporation registered with the provisions of the *Condominium Act* of Ontario, as applicable

(hereinafter called the "**Customer**")

**RECITALS.**

1. Toronto Hydro is in the business of supplying, installing and servicing smart meter systems to multi-residential buildings;
2. Customer is the owner of, or the condominium corporation in respect of, the multi-residential building(s) located at _____ (collectively, as applicable, hereinafter referred to as the "**Building**");
3. Customer wishes to retain Toronto Hydro to design, supply, install and service a smart meter systems for the Building upon the terms and conditions set forth herein;

**NOW THEREFORE,** in consideration of the mutual covenants contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

**1. INTERPRETATION.**

1.1 All capitalized terms in this Agreement shall have the meaning as defined in Schedule 5;

1.2 All dollar amounts in this Agreement are expressed in Canadian dollars, unless otherwise stated; and

1.3 The recitals hereto shall form an integral part of this Agreement as if specifically restated herein.

**2. SCHEDULES.** The following schedules are attached to and form part of this Agreement:

(i) SCHEDULE 1 –Supply and Installation of Smart Meter System

(ii) SCHEDULE 2 – Smart Meter Services

(iii) SCHEDULE 3 – Additional Cost Items

(iv) SCHEDULE 4 – Assignment and Assumption Agreement

(v) SCHEDULE 5 – Defined Terms

In the event of a conflict between the terms of any schedule and the terms of this Agreement, the terms of this Agreement shall govern.

**3. APPOINTMENT OF TORONTO HYDRO.** The Customer appoints Toronto Hydro to design, supply and install the smart meter system described in schedule 1 (the "**Smart Meter System**") at the Building and to provide the services relating to the smart meter system as described in Schedule 2 (the "**Services**") during the term, upon the terms and conditions of this Agreement.

**4. TERM.**

4.1 Subject to any termination rights herein, this Agreement shall be for an initial term of three (3) years, starting on the Effective Date (the "**Initial Term**").

4.2 Unless the Customer or Toronto Hydro provides written notice to the other party at least ninety (90) days before the end of the Initial Term that it has elected not to renew the Term of this Agreement, this Agreement shall automatically renew in respect of the provision of Services for an additional three (3) year period (such renewal period referred to as the "**Renewal Term**"). The same terms and conditions contained herein shall apply during the Renewal Term, save and except as amended in writing by the parties. The Initial Term and the Renewal Term, if any, shall hereinafter together be referred to as the "**Term**".

**5. SUPPLY AND INSTALLATION.**

5.1 Subject to Section 5.2 and Schedule 3, Toronto Hydro shall design, supply and install the Smart Meter System at the Building as described in Schedule 1 (the "**Work**") at no cost to the Customer.

5.2 Any equipment or material to be supplied or work to be performed by Toronto Hydro in addition to the Work shall be at such additional cost to the Customer as may be specified in Schedule 3 to this Agreement ("**Additional Cost Items**").

5.3 Toronto Hydro shall invoice Customer for all Additional Cost Items and Customer shall make payment to Toronto Hydro not later than thirty (30) days following receipt of the invoice. All amounts not received from the Customer when due shall bear interest at the lesser of (i) 2% per month; or (ii) the maximum allowed by Applicable laws, from the due date to and including the date of payment in full.

**6. SMART METER SERVICES.**

6.1 After completion of the Work and for the remainder of the Term, Toronto Hydro shall provide the Services at the Building as described in Schedule 2.

6.2 The Services shall be performed by Toronto Hydro at no cost to the Customer.

**7. REPRESENTATIONS, WARRANTIES AND COVENANTS.**

7.1 The Customer represents, warrants to and covenants with Toronto Hydro that:

## SCHEDULE 1
## SUPPLY AND INSTALLATION OF SMART METER SYSTEM

### (i) Supply of Smart Meter System

Toronto Hydro will provide at no cost to the Customer:

- one (1) smart meter per residential or retail suite in the Building;
- one (1) meter point for the common area or "house" electrical load; and
- one meter (1) point to measure the total load of the Building.

If more than one (1) smart meter is required for any residential or retail suite in the Building, such smart meters will be supplied and installed at a cost to the Customer to be agreed and documented in Schedule 3 to this Agreement.

### (ii) Components of Smart Meter System

The main components of the Smart Meter System to be installed at the Building consist of the following:

- Quadlogic Mini Closet, MC5 for all voltages configurations.
- Quadlogic Scan Transponder, ST5 (data collector and communications device).
- Quadlogic Socket Meter, S – 20 socket base meters for all voltage and current configurations.
- Instrument Transformers, 2DARL-201 or equivalent,
- Instrument Transformer interface box(es).
- A Local Area Network for meter reading data communications, that utilizes the existing electrical distribution system in the building for data transmission.

### (iii) Installation of Smart Meter System

The installation activities to be performed by Toronto Hydro at no cost to the Customer consist of the following:

- design of the Smart Meter System;
- construction of the Smart Meter System;
- testing, sealing and registration of smart meters with Measurement Canada;
- project management of the installation of the Smart Meter System, including required safety inspections;
- inspection and approval of Smart Meter System by the Electrical Safety Authority; and
- commissioning of the Smart Meter System.

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

**INTERROGATORY 7:**

**Reference(s): none**

Please provide a copy of all offers, contracts, agreements, undertakings, or other documents which THESL requests that condominium developers and/or condominium corporations execute, or any terms and conditions which THESL deems to be in effect where a developer or condominium corporation agrees that THESL may undertake suite metering in a building.

**RESPONSE:**

Please see documents provided:

1. Smart Meter Installation and Service Agreement Template (Appendix A)
2. Offer to Connect Template for bulk or suite metered building (Appendix B)

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

**INTERROGATORY 11:**

**Reference(s): Exhibit D1, Tab 7, Schedule 1, page 19, Table 2**
**Exhibit K1, Tab 1, Schedule 1, page 10, Table 5**

THESL indicates, at Table 5, an installation of 2,705 (actuals) individually-metered suites (cumulative) at the end of 2008. Table 2, being the summary of THESL's capital budget, indicates Nil for suite metering for 2008.

a) Please explain the above apparent inconsistency;

b) Please advise of the total capital cost to acquire and install (including any third party vendor costs) the 2,705 suite meters installed by the end of 2008.

c) Has THESL closed to rate base any of these capital costs and/or is it seeking approval to close to rate base these costs in 2010?

**RESPONSE:**

a) In Table 2, the suite metering costs of $2.1 million are included in the "Other" line, as part of the $13.2 million total.

b) The 2,705 customers listed in Exhibit K1, Tab 1, Schedule 1, page 10, Table 5, indicate the number of active revenue producing accounts cumulative for 2007 and 2008. The cost to install the meters at the revenue producing accounts was $1.15 million.

c) THESL forecasts that $5.3 million of capital costs will be closed to rate base by year-end 2010. Approval will be sought to close additional costs to rate base as installations are completed and work orders closed.

Witness Panel(s): 3 and 5

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

**INTERROGATORY 12:**

**Reference(s): Exhibit D1, Tab 7, Schedule 1, page 19**

THESL's summary of capital budget includes a budget of $1.8 million for 2009, and $2.4 million in 2010 for its Suite Metering Program. Please advise of the average capital cost to acquire and install suite meters in each of 2009 and 2010 for each of: (a) new condominiums; and (b) bulk metered condominiums being converted to individual suite metering. What are the forecast numbers for each type? Please advise if there are any additional costs which THESL may contemplate capitalizing in respect of these meters in subsequent years.

**RESPONSE:**

The average acquisition costs and forecasted installations are:

| | Average Acquisition and Installation Costs | | | |
|---|---|---|---|---|
| | New Condominiums | | Conversions to Individual Metering | |
| | Number of Units | Cost | Number of Units | Cost |
| 2009 Actual | 2454 | $453 | 535 | $453 |
| 2009 Forecast | 394 | $368 | 883 | $350 |
| 2010 Forecast | 4536 | $440 | 864 | $440 |

THESL does not contemplate capitalizing additional costs in respective years beyond those which will be capitalized upon the completion of work.

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

information currently available. For the integrated electronic smart metering costs, what is the average cost per suite forecast for 2010.

**RESPONSE:**

a) THESL has not prepared an update to the plan.

b) THESL is contemplating the installation of individual metering for Residential Tenancy Act buildings, but has not included any costs or work volume forecasts, pending further regulatory direction. THESL is not seeking to recover any costs.

c)

i) THESL believes that there are close to 300,000 candidates for conversion to suite metering. However, the draft plan incorrectly identified the units as condominium units; rental units were included in the estimate.

ii) The costs for bulk metering and individual smart meters are still accurate. The current cost for integrated electronic smart metering is approximately $440 per suite.

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

**INTERROGATORY 16:**

**Reference(s):** **D1/T8/S3-1, p.3**
**D1/T8/S3-2**

THESL's Conditions of Service state, at Clause 2.3.7.1.1, that it will provide electronic or conventional smart suite metering for each unit of a new multi-unit site, or condominium, at no direct charge to the customer. Please advise:

a) Whether THESL provides electronic suite metering in bulk metered condominium conversion projects at no cost to the condominium corporation and/or unit owners;
b) Does THESL undertake an economic evaluation pursuant to the Distribution System Code in respect of bulk metered buildings looking to be individually suite metered? Does THESL adjust its revenue forecast in respect of such buildings to account for the expected decrease in load due to the conservation impact of the building being suite metered?
c) In respect of new condominiums, does THESL exclude the costs to acquire and install suite meters in its economic evaluations undertaken pursuant to the Distribution System Code?
d) If the answer to (b) is Yes, if the acquisition and installation costs of suite meters had been included in the economic evaluations, are there any developers or condominium corporations that would have been required to make a capital contribution in aid of construction?

**RESPONSE:**

a) Yes.

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

b) No. Once a customer has signed an Offer to Connect, Toronto Hydro does not perform another economic evaluation for any conversions. We do not adjust our revenue forecast.

c) Yes. In our economic evaluation Toronto Hydro excludes the costs to install suite meters.

d) Not applicable as the answer to (b) was no.

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

**INTERROGATORY 19:**

**Reference(s):** **Exhibit D1, Tab 8, Schedule 3-1, page 3**
**Exhibit D1, Tab 8, Schedule 3-2**

Please confirm that no costs (OM & A and capital) associated with the suite metering program have been allocated to or form part of any of the costs incurred or forecast by THESL in respect of its Smart Meter Program?

**RESPONSE:**

No suite meter costs have been allocated to the smart meter program.

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

**INTERROGATORY 20:**

**Reference(s): L1/T2/S1, p. 11**

Please identify each of the four meter types referenced under Column 1"Residential"in this Exhibit. Please advise which meter type relates to the meters used for THESL's Suite Metering Program. If the suite meters are included under the "LDC Specific 2"meter type, please explain the total number of meters included at 31,275.

**RESPONSE:**

The quantity of 17,532 refers to single-phase conventional meters. The quantity of 7,500 refers to smart meters that were installed as part of an initial pilot program. The quantity of 558,534 refers to smart meters that were installed as part of THESL's smart meter implementation plan. The 31,275 includes four meter types:

- Collectors that have been installed as part of the smart meter program;
- Transformer-type meters that are installed at large houses;
- Polyphase meters installed at large residential or small commercial accounts; and
- Suite meters, which make up approximately 9,000 of the indicated total.

**TAB 7 E**

# EB-2009-0139

# TORONTO HYDRO-ELECTRIC SYSTEM LIMITED

# SETTLEMENT AGREEMENT

# January 22, 2010

THESL by the IESO and/or Hydro One are excluded from this calculation, and to qualify for this treatment the cost of the subject items must be determinative of distribution revenue requirement (including capital and distribution expenses). THESL will apply to clear the balance in the variance account as a credit to customers at the next opportunity for a rate change after the account balance information becomes available.

3) Clear all deferral and variance accounts as proposed by THESL in Exhibit J1, Tab 1, Schedule 2, Table 2, over two rate years (2010 and 2011), instead of three as originally proposed, in order to mitigate some of the expected increase in rates arising out of the Application.

4) File an updated Asset Condition Assessment Report for the next cost of service rate filing, anticipated to be made in connection with rates effective May 1, 2011.

Attached hereto as Appendix B are schedules comparing Revenue Requirement and bill impacts as reflected in the original Application filed in August, as the result of the proposed settlement based on a $507M revenue requirement, and reflecting the settlement agreement adjusted for estimates of cost of capital based on the Board's recently released Cost of Capital policy.

**Unsettled Issues**

The parties were able to settle all of the issues except for the following contested issues. These issues are either not resolved or only partially resolved as part of this settlement proposal. Each contested issue described below are considered subsets of the Board Approved Final Issues List attached as Appendix A, as described by the parties that are opposing settlement on the specific issues:

(i) cost of capital and related PILs impact (issues 3.7, 5.1 and 5.2);
(ii) has Toronto Hydro responded appropriately to all of the Board's relevant directions with respect to distributed generation from previous proceedings (issue 1.1);
(iii) are Toronto Hydro's proposed capital expenditures to facilitate distributed generation appropriate (issues 4.1 and 4.2);
(iv) does Toronto Hydro's Asset Condition Assessment information and Investment Planning Process adequately address the condition of the distribution system assets and support the OM&A and Capital Expenditures for 2010 (issue 4.4); and
(v) the proper rate design for multiple unit residential "suite metered" customers (issues 7.1 and 7.2).

The parties agree that failure to achieve settlement on the above-noted issues should not otherwise displace the settlement described in this settlement proposal. The parties agree that all unsettled issues will be dealt with during the oral phase of this proceeding.

**Individual Suite Metering (Issues 7.1 and 7.2)**

Included in many of the general issues in this proceeding are impacts of THESL's individual suite metering activities. SSMWG has taken the position that the revenue requirement impacts

of those activities should not be included in rates in the Test Year. THESL believes that they should. Other parties have not, as yet, taken any position on this issue.

The parties agree that the evidence on this matter, and resulting submissions, should be put to the Board for a determination. In such hearing, it is agreed that all parties may participate, and the settlement by the parties of the issues as set forth in this settlement proposal shall have no effect on their ability to participate in that hearing, or on the positions they take on the suite metering issue or any part of it.

The costs associated with suite metering activities are included in rate base, OM&A, and potentially other consequential aspects of the calculation of revenue requirement, and the figures set forth in this settlement proposal include those amounts as filed by THESL. In the event that, after a hearing on this issue, the Board determines that all or any portion of those costs should not be included in the revenue requirement, the amounts for each component of revenue requirement that may be affected will be adjusted to reflect the Board's decision, and the lower adjusted figures shall be deemed to be the figures agreed to by the parties. Correspondingly, any consequential revenue reductions and lower revenues will be deemed to be the figures agreed to by the parties.

The settlement of all issues in this proceeding is therefore subject to any adjustments that arise from the Board's decision on suite metering. Where, throughout this document, issues relating to revenue requirement and its components are listed as settled, the phrase "subject to the Board's determination of the revenue requirement impacts of suite metering" shall be read in.

**Cost of Capital (Issues 3.7, 5.1 and 5.2)**

The agreed-upon revenue requirement of $507 million for the Test Year is based on the as-filed cost of capital parameters which were in place at the time the Application was filed. THESL reiterates its proposal to adjust those parameters on the basis of the Board's recent policy report on Cost of Capital dated December 11, 2009 in a manner consistent with its pre-filed evidence, which would if accepted have an impact on the figures set forth in this settlement proposal. The amount and appropriateness of these adjustments are not agreed to by the parties. Appendix B to this settlement proposal sets out the revenue requirement impact of these adjustments.

The settlement of all issues in this proceeding is therefore subject to any adjustments that arise from the Board's decision on cost of capital. Where, throughout this document, issues relating to revenue requirement and its components are listed as settled, the phrase "subject to the Board's determination of the revenue requirement impacts of cost of capital" shall be read in.

**Distributed Generation (Issues 1.1, 4.1, 4.2 and 4.4)**

Issues relating to combined heat and power and distributed generation have not been settled, but the scope of the issues has been focused as set forth under those headings below. The resolution of the DG issue may impact rate base, revenue requirement and other monetary issues.

The parties agree that the evidence on this matter, and resulting submissions, should be put to the Board for a determination. The settlement of all issues in this proceeding is therefore subject to

**TAB 8 A**

# OPERATIONAL INVESTMENTS

## METERING

THESL provides its customers with meters through which electricity passes before the electricity is directed to end-use circuits on the customer's premises. The meters are used to measure electricity consumption. THESL owns the meters and is responsible for their maintenance and accuracy in accordance with standards set by Measurement Canada.

THESL is also responsible for funding wholesale meter installation upgrades at the points where electricity is transferred from Hydro One Networks Inc. ("HONI") to THESL to ensure they are compliant with the Ontario Wholesale Electricity Market Rules administered by the Independent Electricity System Operator ("IESO").

Table 1 summarizes the total requirements for metering capital investments for 2008, 2009, 2010 and 2011.

**Table 1: Metering Capital Investments Summary ($ millions)**

| | 2008 Actual | 2009 Actual | 2010 Bridge | 2011 Test |
|---|---|---|---|---|
| Smart Metering | 5.6 | 2.6 | - | 12.6 |
| Wholesale Metering | 4.4 | (0.5) | 6.9 | 4.9 |
| Suite Metering | 2.7 | 3.3 | 2.4 | 2.6 |
| Other Distribution Meters | 0.5 | 0.3 | 0.6 | 0.5 |
| Metering Total | 13.2 | 5.6 | 9.9 | 20.6 |

written proposals from HONI. The written proposals include replacement of current and potential transformers, installation of new metering cabinets, modification to bus support structures, and new communication lines. The fluctuations in the capital spend from 2008 to 2011 are due to HONI's resource availability to complete the installations, and the timing of requests for these installations made by THESL.

Before the wholesale meter installation upgrades began, there were a total of 106 metering points at 35 stations that measured the electricity purchased by THESL from the Provincial transmission grid. One of the IESO requirements is to split any meter installations that measured load from more than one delivery point. When all the required upgrades are completed, there will be 223 meter installations at the same 35 stations.

As of the end of 2009, 40 of these meter installations had been fully upgraded to meet the IESO requirements, and the work on the remaining is scheduled to continue until 2022.

**Suite Metering**

Another portion of the metering capital is for individual suite metering in condominiums. Many condominiums are currently "bulk-metered", with only one billing meter installed to measure electricity usage. Individual unit consumption is estimated and allocated through mechanisms such as square foot area, and collected through property management fees. By having THESL install individual meters for each suite, unit owners will become THESL customers and pay for actual-metered electricity consumption.

In consideration of anticipated requests for THESL to provide such services in both new and existing condominium buildings, the forecasted capital spend is $2.6 million in 2011. THESL has contracted a metering equipment and installation services supplier through an RFP process to provide individual suite metering. Table 2 shows the number of suite

meter installations completed by year.

**Table 2: Suite Meter Installations Completed**

| Number of Suites | 2008 Actual | 2009 Actual | 2010 Forecast | 2011 Forecast |
|---|---|---|---|---|
| New | 2,887 | 4,044 | 4,050 | 3,715 |
| Retrofits | 1,002 | 1,490 | 1,350 | 1,500 |
| Total | 3,889 | 5,534 | 5,400 | 5,215 |

Note: there is normally a lag between the date of installation and the date when the suite holder becomes a customer.

**Other Distribution Metering Capital**

The remaining capital budget involves the replacement of interval meters currently installed at approximately 2,500 of THESL's largest customers' facilities, and test equipment used both in the meter test shop and by field crews. The existing meters need to be replaced for ongoing compliance with Measurement Canada regulations. Since these accounts already have interval meters, this ongoing work is not considered to be part of the Smart Meter initiative. The budgeted cost for this work for 2011 is $0.5 million.

**TAB 8 B**

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

**INTERROGATORY 2:**

**Reference(s): D1/T3/S2, p.6**

a) Please provide a breakdown of what part of the $58M increase in service and meter assets forecast for the 2009 to 2011 period relates to "implementing suite metering in bulk-metered condominiums".

b) Please advise of the amounts related to its suite metering program that THESL has closed to rate base or the amount for which THESL seeks approval to close to rate base for 2008 and 2009 and 2010 (if any) by year.

c) Please advise how THESL has forecast its capital spend for its suite meter programs for 2010.

**RESPONSE:**

a) $1.6 million of the $58 million relates to "implementing suite metering in bulk-metered condominiums".

b) $0.7 million and $1.4 million were closed to rate base for the suite metering program in 2008 and 2009 respectively. THESL forecasts that $4.5 million will be closed to rate base in 2010.

c) THESL has fixed unit pricing for suite meter material and resource costs through 2011. The capital spending forecast is based on the application of the fixed pricing to the projected number of new installations. The number of new installations is based on:

   i) The number of signed agreements at buildings where construction was scheduled for 2010 completion;

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

ii) Projections made by Trilliant (the third party that manages many of THESL's suite meter projects) of how many new buildings could require metering services in future months and years;

iii) Planned new construction that had been planned or scheduled through THESL's Customer Connections and Maintenance Department; and

iv) Anticipated conversions of existing bulk-metered buildings to individual metering.

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

**INTERROGATORY 4:**

**Reference(s): D1/T8/S7, p. 5, Table 2**

THESL includes the actual suite meter installations for 2008 and 2009, and forecasts for 2010 and 2011 for new individually-metered condominium suites, and multi-residential buildings converted from bulk metered to individually-suite metered units (Table 2).

a) Does THESL offer suite metering to commercial properties? If so, does Table 2 include any meters installed in commercial applications, and if so, how many in each year?

b) Of the 5,400 individually-metered suite meter installations forecast for the end of 2010, what percentage or number are forecast to be revenue generating at the end of 2011? Does THESL adjust its revenue forecasts to reflect the fact that some of the forecast metered suites will not be revenue producing in 2011?

c) When does THESL count a newly constructed (i.e. not a conversion from a bulk meter) individually metered suite as a customer? Does this occur when the meter is installed, upon registration of the condominium's declaration, upon occupancy or at some other time?

d) Please compare the actual/forecast number of suite meter installations for 2009 and 2010 to the forecasts in THESL's 2010 rate case, and provide explanations for any variances.

**RESPONSE:**

a) THESL offers individual metering both to commercial properties, and to commercial accounts that would reside in primarily residential properties. Table 2 includes 78 commercial meters installed in 2008, 85 commercial meters installed in 2009, and 14

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

meters installed to date in 2010, with one commercial project active and expected to be completed in 2010.

b) THESL forecasts all of its 2010 suite meter installations to be revenue generating by year end 2011. THESL does not adjust revenue forecasts to reflect that some metered suites will not be revenue producing in 2010.

c) THESL typically reports a suite metered customer as a new customer at the time of the first reading of the meter, which occurs shortly after occupancy and the creation of an accompanying new THESL account.

d)

| | 2010 Rate Filing | Actual/Forecast | Variance |
|---|---|---|---|
| 2009 | 4964 | 5534 | 570 |
| 2010 | 5400 | 5400 | 0 |

The 2009 variance is the result of some unexpected installations that were completed at condominiums where a late year decision was made to convert to individual metering.

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

**INTERROGATORY 6:**

**Reference(s):** **K1/T1/S1, pp.9-10**

**K1/T4/S1**

Please provide a breakdown of the actual/forecast number of customers in the residential sector as set out in Table 1 at K1/T4/S1 to show the number of THESL's suite metered customers, divided between new buildings and conversions (retrofits).

**RESPONSE:**

| A | B | C | D=A+B+C |
|---|---|---|---|
| Suite-metered customers (active accounts, cumulative mid-year): retrofits | Suite-metered customers (active accounts, cumulative mid-year): new buildings | Residential customers excluding suite metered customers (mid-year) | **2011 Test year mid-year number of residential customers** |
| 3,178 | 16,316 | 603,912 | **623,406** |

Notes:

1) Columns A and B: suite-metered customers (activated conversions/installations) under THESL Suite Metering Program.
2) Column C includes conventional residential customers (houses) and other individually metered customers in multi-suite buildings
3) Column D exhibits the number of total residential customers forecast as shown in Table 1 at Exhibit K1, Tab 4, Schedule 1.

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

**INTERROGATORY 8:**

**Reference(s): none**

Please provide a copy of all offers, contracts, agreements, undertakings, or other documents which THESL requests that condominium developers and/or condominium corporations execute, or any terms and conditions which THESL deems to be in effect where a developer or condominium corporation agrees that THESL may undertake suite metering in a building.

**RESPONSE:**

Please see documents provided as Appendix A to this Schedule:

1) Suite Meter Customer Agreement – Retrofit (v07,Aug9.10) Template
2) Suite Meter Customer Agreement (v11,Aug9.10) Template

# SUITE METER INSTALLATION AND SERVICE AGREEMENT FOR NEW CONDOMINIUM DEVELOPMENTS

**THIS SUITE METER INSTALLATION AND SERVICE AGREEMENT FOR NEW CONDOMINIUM DEVELOPMENTS** (the "**Agreement**") is made effective this _____ day of _____, 20__ (the "**Effective Date**")

**BETWEEN:**

**Toronto Hydro-Electric System Limited**

a corporation incorporated under the laws of Ontario

(hereinafter called "**Toronto Hydro**")

and

_____

a corporation incorporated under the laws of Ontario

(hereinafter called the "**Developer**")

**RECITALS.**

1. Toronto Hydro is in the business of supplying, installing and maintaining suite meter systems to multi-residential buildings;
2. Developer is the builder and owner of the multi-residential building(s) located at _____ (collectively, as applicable, hereinafter referred to as the "**Building**");
3. Developer wishes to retain Toronto Hydro to supply, install and maintain a suite meter system and provide suite meter services for the Building upon the terms and conditions set forth herein;

**NOW THEREFORE,** in consideration of the mutual covenants contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

## 1. INTERPRETATION

1.1 All capitalized terms in this Agreement shall have the meaning as defined in Schedule 5;

1.2 All dollar amounts in this Agreement are expressed in Canadian dollars, unless otherwise stated; and

1.3 The recitals hereto shall form an integral part of this Agreement as if specifically restated herein.

## 2. SCHEDULES

The following schedules and appendices are attached to and form part of this Agreement:

(i) SCHEDULE 1 –Supply and Installation of Suite Meter System

(ii) SCHEDULE 2 – Suite Meter Services

(iii) SCHEDULE 3 – Additional Cost Items

(iv) SCHEDULE 4 – Assignment and Assumption Agreement

(v) SCHEDULE 5 – Defined Terms

In the event of a conflict between the terms of any schedule and the terms of this Agreement, the terms of this Agreement shall govern.

## 3. SUPPLY AND INSTALLATION OF THE SUITE METER SYSTEM

3.1 The Developer appoints Toronto Hydro to supply and install the suite meter system described in Schedule 1 (the "**Suite Meter System**") at the Building and provide the corresponding suite meter services as described in Schedule 2 (the "**Suite Meter Services**") throughout the Term all in accordance with the terms and conditions of this Agreement.

3.2 Toronto Hydro shall provide the Suite Meter System and the Suite Meter Services at no cost to the Developer, save and except for any on-site upgrades required to accommodate the installation of the Suite Meter System as specified in Schedule 3 to this Agreement ("**Additional Cost Items**"). Toronto Hydro shall invoice Developer for the Additional Cost Items, if any, and Developer shall make payment to Toronto Hydro not later than thirty (30) days following receipt of the invoice. All amounts not received from the Developer when due shall bear interest at the lesser of (i) 2% per month; or (ii) the maximum allowed by Applicable Laws, from the due date to and including the date of payment in full.

## 4. OWNERSHIP AND ACCESS

4.1 Notwithstanding the installation or attachment of the Suite Meter System in and to the Building, all components of the Suite Meter System shall remain the property of Toronto Hydro and no part of the Suite Meter System shall become the property of the Developer.

4.2 During the Term and for a period of six (6) months after the expiry or termination of the Term, the Developer will provide Toronto Hydro with access to the Suite Meter System located in the Building as reasonably required by Toronto Hydro to allow Toronto Hydro to fulfill its obligations under this Agreement including, without limitation, to allow for: (i) the installation, inspection and maintenance of the Suite Meter System; (ii) the removal of the Suite Meter System pursuant to Section 8.1; (iii) to provide the Suite Meter Services; and (iv) the performance of any necessary services related to an emergency pertaining to the Suite Meter System.

## 5. ELECTRICITY ACCOUNT

5.1 The parties agree and acknowledge that following the installation of the Suite Meter System:

(a) and upon registration of the condominium corporation for the Building under the *Condominium Act, 1998*, Toronto Hydro shall establish each residential and retail condominium unit owner in the Building as a separate and individual Toronto Hydro electricity distribution customer and residential or commercial rate account holder, as applicable; and

(b) the Developer shall not be responsible for the payment of the electricity account of the individually metered residential or commercial account holder referred to in (a) above but shall remain the account holder for the current general service account at the Building and for any unsold condominium units following registration of the condominium for the Building under the *Condominium Act, 1998*, and shall continue to make

## SCHEDULE 1
## SUPPLY AND INSTALLATION OF SUITE METER SYSTEM

### (i) Supply of Suite Meter System

Toronto Hydro will provide at no cost to the Developer:

- one (1) suite meter per residential or retail suite in the Building;
- one (1) meter point for the common area or "house" electrical load; and
- one meter (1) point to measure the total load of the Building.

If more than one (1) suite meter is required for any residential or retail suite in the Building, such suite meters will be supplied and installed at the expense of the Developer in accordance with the amount documented in Schedule 3 to this Agreement.

### (ii) Components of the Suite Meter System

The main components of the Suite Meter System to be installed by Toronto Hydro at the Building will consist of the following:

- Quadlogic Mini Closet, MC5 for all voltages configurations;
- Quadlogic Scan Transponder, ST5 (data collector and communications device);
- Quadlogic Socket Meter, S – 20 socket base meters for all voltage and current configurations;
- Instrument Transformers, 2DARL-201 or equivalent;
- Instrument Transformer interface box(es); and.
- a Local Area Network for meter reading data communications that utilizes the existing electrical distribution system in the building for data transmission.

The Suite Meter System shall be based on Toronto Hydro's single line layout. Any variations from this layout may result in Additional Cost Items, which Additional Cost Items shall be listed in Schedule 3.

### (iii) Installation of the Suite Meter System

The installation activities to be performed by Toronto Hydro at no cost to the Developer consist of the following:

- supply and installation of the Suite Meter System;
- testing, sealing and registration of suite meters with Measurement Canada;
- recertification of the Suite Meter System, as required;
- project management of the installation of the Suite Meter System, including required safety inspections;
- inspection and approval of Suite Meter System by the Electrical Safety Authority; and
- commissioning of the Suite Meter System.

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

**INTERROGATORY 7 – SECOND ROUND:**

**Reference(s):** *Cost of Service Study for Individually Metered Suites in Multi-Unit Residential Buildings*, prepared by BDR, dated November 29, 2010 (the "Cost of Service Study")

On page 6, of the Cost of Service Study it states that: "The population of the SMSC was thus identified as consisting, in 2009, of 119,947 customers,..." Please confirm the number of customers in this group for 2009 that are suite metered as a result of THESL's suite metering program.

**RESPONSE:**

Table 2 on page 5 of Exhibit D1, Tab 8, Schedule 7 shows total installations in 2008 and 2009 of 3,889 and 5,534 respectively, for a total of 9,423. As noted in the footnote to the table, there is normally a lag between installation and the date the suite holder becomes a customer. However, this number reasonably represents the number of customers suite-metered in 2009 as a result of THESL's suite metering program.

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

**INTERROGATORY 9 – SECOND ROUND:**

**Reference(s):** *Cost of Service Study for Individually Metered Suites in Multi-Unit Residential Buildings*, prepared by BDR, dated November 29, 2010 (the "Cost of Service Study")

THESL's pre-filed evidence indicates that 5,534 suite meters were installed in 2009 (D1, T8, S7, page 5, Table 2) and that the suite metering program had a capital budget (actual) of $3.3 million (D1, T7, S1, Table 2). This works out to a cost of $596.32 per meter ($3.3 million divided by 5,534). Please explain how the $297 cost used in the Cost of Service Study is appropriate.

**RESPONSE:**

The $3.3 million capital budget will not correlate directly to the number of installed units. Since most of the jobs take part in at least two calendar years, and many buildings have occupancies that start in one year but finish the next, there is no direct matching of an annual cost to an annual install rate. Costs that are included in the $3.3 million that are not directly attributable to the number of installed meters include:

- Installation costs that would be incurred to install meters purchased in the previous year, as part of a previous budget
- Consignment stock, that sits at Trilliant for use in short notice requirements
- Meters purchased that may not be installed until the following year (THESL installation schedules are dependent on builder/contractor schedules, and often get deferred if construction falls behind schedule).

Notwithstanding the above, the per-meter value calculated above is also categorically not directly comparable to the value of $297 shown on page 17 of the Study (and in Table

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

4.5). As described in the response to VECC Interrogatory 52 part b), the $297 results from applying the meter allocation factors to the entire balance in USoA account 1860 – Meters. The allocation factor takes into account the costs of all the different types of meters for each class.

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

**INTERROGATORY 12 – SECOND ROUND:**

**Reference(s):** *Cost of Service Study for Individually Metered Suites in Multi-Unit Residential Buildings*, prepared by BDR, dated November 29, 2010 (the "Cost of Service Study")

With respect to the suite-metered sub-class please confirm that the following categories of customers have been included in this sub-class and provide the number of customers and costs for:

a) Customers in bulk metered buildings that have been converted to individually metered units with standard mechanical residential meters and/or with Smart Meters (i.e., not the Quadlogic type used by THESL as part of its Suite Meter Program);
b) Customers in individually metered units that have been converted from standard mechanical residential meters to Smart Meters;
c) Customers of new buildings with individually metered units that are served utilizing Smart Meters installed initially (i.e., conversion not required);
d) Customers in multi-unit buildings that continue to be served by standard mechanical meters.

**RESPONSE:**

THESL confirms that all of the customers described are included in the SMSC in the study.

a) THESL has converted four bulk metered buildings to individual metering using non-Quadlogic type smart meters. Approximately 400 units were converted at these buildings, at an estimated cost of $155 per unit.

# INTERROGATORIES OF SMART SUB-METERING WORKING GROUP

b) To date, THESL has installed approximately 113,000 smart meters at individually metered units as part of the smart meter implementation plan, and is in the process of determining the cost for these installations.

c) THESL does not have this data available, but the number of newly constructed buildings that were initially metered using smart meters is very low (less than 1,000 units).

d) Currently, approximately 2,500 customers in multi-unit buildings continue to be served by conventional meters. To date, no cost has been incurred for either the smart meter implementation plan or suite meter program.