

1       **SUITE METERING SUPPLEMENTARY EVIDENCE**

2       The Board’s July 7, 2011 Partial Decision in EB-2010-0142 (the “Partial Decision”)  
3       found that supplementary evidence on the Suite Metering Issues would be required. The  
4       Board found that “the creation and maintenance of a separate rate class for multi-  
5       residential customers that at the present time are served utilizing Quadlogic technology is  
6       the most effective and transparent manner” to address the costs of providing suite  
7       metering as part of THESL’s monopoly service. The Board further found that THESL  
8       was required to file supplementary evidence with the objective of “establish[ing] both the  
9       cost allocation protocols for the new customer class and the initial tariff that Toronto  
10      Hydro will charge for this service” (page 36 of the Partial Decision).

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12      The following evidence addresses the Board’s requirements. Using the guidance of the  
13      Partial Decision, THESL has made use of the Board’s updated Cost Allocation Model to  
14      determine the costs to be allocated to the new Suite Meter rate class, and the resulting  
15      proposed tariff. THESL has provided the information based on the 2012 forecast costs  
16      filed in its EB-2011-0144 rate filing.

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18      **METHODOLOGY**

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20      THESL has employed the Board’s latest updated Cost Allocation Model, and the same  
21      general assumptions used in BDR’s second report filed in this application as Exhibit L1,  
22      Tab 4, Schedule 1, (which identified the Quadlogic customers as a separate class).  
23      Specific components of the Cost Allocation model and the treatment of costs specific to  
24      the new Suite Meter class are described below.

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26      **CUSTOMERS AND LOADS**

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28      The BDR study at Exhibit L1, Tab 4, Schedule 1 (the “Updated BDR Study”) identified  
29      9,149 suite meter customers served by Quadlogic technology at the end of 2009. For the  
30      current analysis, 24,898 suite meter customers are forecast to be served by Quadlogic

1 meters in 2012. This number represents the mid-year forecast, which is the standard  
2 method of applying customer numbers in the Cost Allocation Model. All other classes  
3 use a mid-year forecast number of customers, as this represents the average of beginning  
4 and ending year customers using the distribution system.

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6 In the Updated BDR Study, based on the 2009 sample of Quadlogic customers, the  
7 average monthly load was estimated to be 361 kWh on a normalized basis (or 355 kWh  
8 non-normalized). THESL has updated its information on loads for this class using the  
9 most recent available hourly load information. As in the Updated BDR Study, some of  
10 the raw load data contain periods with zero use (due to unoccupied units). THESL has  
11 used the same methodology employed in the Updated BDR Study to obtain an updated  
12 estimate of average monthly load. This updated average is 334 kWh per month. Due to  
13 the time constraints associated with filing this evidence, THESL has not done a detailed  
14 investigation as to why the most recent sample produces a lower average monthly load  
15 than the Updated BDR Study. However, statistical analysis of the current data shows a  
16 standard deviation across the sample of 192 kWh per month. This puts the current  
17 estimate well within one standard deviation of the previous estimate. For the purpose of  
18 the Cost Allocation model, THESL has used the point estimate of 334 kWh per month,  
19 but has also produced a sensitivity analysis which includes an estimate of loads that vary  
20 by one standard deviation around this point estimate.

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22 A summary of customers and loads is provided in the table below.

23

1 **Table 1- Customers and Loads**  
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	2012 Base		BDR Study – 2009 Base		
	Suite-Meter Class	Residential Class	Quadlogic-Meter Class	Other Suite Meter Class	Residential Class
Customers	24,898	608,223	9,149	110,798	489,492
Annual class MWh (weather normalized)	99,492	4,937,803	39,601	528,446	4,559,587
kWh/month (normalized)	334	677	361	397	776
4NCP (MW)	78.0	4,527.5	31.1	457.3	4,169.6
4CP (MW)	54.9	3,985.0	21.9	301.5	3,719.6

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**COSTS**

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In the BDR study filed as Exhibit L1, Tab 3, Schedule 1 in this application (the “Original BDR Study”), the consultants reviewed the various functional cost areas to determine if there were costs which were clearly identifiable and materially different in the servicing of multi-residential versus traditional residential customers. BDR concluded, and THESL agrees, that the only significant differences relate to meter costs and to distribution secondary costs. For metering costs (both capital costs of the meter and meter reading costs) the differences in costs are reflected through the appropriate weightings by class (Tabs I7.1 and I7.2 of the Cost Allocation model). For secondary distribution costs, the adjustment is reflected through adjustments to the demand allocators (primarily loads, customers, and NCP/CP values, which are in Tabs I6.2 and I8 in the model). The remaining costs are allocated to the suite meter class according to the logic of the Cost Allocation Model. No special treatment of those costs is required.

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**METER COSTS**

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The Board has indicated that the new Suite Meter class is to be defined (presently) by the meter type servicing the customers in this class – specifically Quadlogic meters. The use of this technology for serving Suite Meter customers was based on a number of factors,

1 including physical characteristics, cost and Measurement Canada approval. Currently,  
2 this is the brand of meter being installed by THESL. The contract with the vendor for  
3 these meters will expire at the end of 2011, and there is no guarantee that this same  
4 technology will be used by THESL going forward. For purposes of the analysis  
5 presented, THESL's best forecast of meter costs has been used.

6

7 For 2012, THESL estimates an installed per meter cost of \$550. This value is higher than  
8 the \$440 value used in the Updated BDR Study. THESL has estimated this number  
9 based on the number and types of meters in service in 2012. Factors driving the  
10 increased per meter cost estimate compared to the previous value include costs related to  
11 inspections, network meters, and larger 3-phase meters which are more costly.

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13 As meter costs are identified as being one of the key cost differences for this class, and  
14 these costs can be significantly affected by technology choice and external costs (e.g.  
15 Measurement Canada inspection requirements) sensitivity analyses to various estimates  
16 for meters costs are included below. A sensitivity analysis was also conducted by  
17 directly allocating the estimated Quadlogic meter costs to the Suite Meter class, rather  
18 than using the model's meter cost weighting factors.

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20 With respect to meter reading costs, as was indicated in the Updated BDR study, these  
21 costs are expected to be reduced as the reading of the meters is moved in-house. In that  
22 study, meter reading for the Quadlogic customers was assigned a weighting factor of 7  
23 compared to 1 for a smart meter residential customer. Based on 2012 data, the weighting  
24 factor compared to other residential meters used in this evidence is estimated to be 3.6.  
25 This lower value reflects the reduced costs. Offsetting this reduction in meter reading  
26 factor is a change in the assumption related to meter reads. In the BDR study, meter  
27 reads were assumed to happen every two months. For the current study, reads have been  
28 assumed to occur monthly, as the suite meters are being read and billed at the same time

1 as the bulk meter (which is used to bill the building common area load). This serves to  
2 increase the costs allocated to the Suite Meter class.

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#### 4 **SECONDARY DISTRIBUTION COSTS**

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6 In the Original BDR study, based on engineering estimates of the proportion of THESL's  
7 secondary system which was used to service individually metered multi-residential  
8 customers (which included Quadlogic metered customers) a weighting factor of 30% was  
9 applied to THESL's secondary costs to adjust the amount of these costs being allocated to  
10 the entire individually metered multi-residential customer class. In the Updated study,  
11 this weighting factor was reduced to 8% for the customers served using Quadlogic meters  
12 to reflect the fact that very few of the buildings with Quadlogic installations are served by  
13 secondary assets. Accordingly, in the current analysis, the weighting factor has been  
14 maintained at 8%.

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16 Because the impact of the amount of secondary costs allocated to the Suite Meter class  
17 can be significant, an alternative assumption of plus or minus 8% (thus allocating 0% or  
18 16% of secondary costs) to demonstrate the sensitivity of the R/C ratios to this  
19 component was computed. THESL believes that a number lower than 8% is more likely  
20 than a number greater than 8%, as most of the additional Quadlogic customers since 2009  
21 have been added to the primary system.

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#### 23 **MARKETING EXPENSES**

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25 In the Updated BDR Study, a direct allocation of marketing costs associated with the  
26 suite meter program was included. The amount allocated to the Quadlogic class was  
27 \$90,000. In 2012, there are no marketing dollars included in the budget for suite meter  
28 activity and hence no expenses have been directly allocated to the Suite Meter class.

29 THESL's overall marketing expenses have, however, been allocated to this class based

1 on the Cost Allocation model logic, which allocated marketing costs to all customer  
2 classes based on the OM&A allocator.

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#### 4 **COST ALLOCATION RESULTS**

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6 Based on the methodology and assumptions detailed above, the Revenue-Cost ratios as  
7 determined based on 2012 Test Year costs for the Suite Meter and remaining Residential  
8 class are detailed in the table below. Also included is a comparison with the Revenue-  
9 Cost ratios from the BDR Study for 2009 costs.

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11 **Table 2 – Revenue/Cost Ratios**

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	2012 Base	BDR Study – 2009 Base
Suite Meter Class	104.7%	94.9%
Residential Class	89.0%	90.7%
Combined Suite Meter and Residential Class <sup>1</sup>	89.2%	90.7%

13 **Note 1:** 2012 from EB-2011-0144, Exhibit L, Tab 1, Schedule 1.

14

15 Based on the 2012 customer, load and cost data applied to the Board's Cost Allocation  
16 model the result indicates a Revenue-to-Cost ratio of more than unity – 104.7% – for the  
17 Suite Meter class. This is higher than estimated in the Updated BDR Study, which found  
18 based on 2009 data the R/C ratio to be 94.9%.

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#### 20 **COST ALLOCATION RESULTS – SENSITIVITY TO ALTERNATIVE** 21 **ASSUMPTIONS**

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23 As noted above, a number of the input variables into the Cost Allocation Model could  
24 vary from the amounts estimated. In order to assess the sensitivity of the R/C ratios for  
25 the Suite Meter class the model was run with the alternate values.

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27 The results, which are summarized in the table below, show the R/C ratios for the Suite  
28 Meter class can vary within a range of about 5-6% depending on the value of the input

1 variables.

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3 **Table 3 - Sensitivity of R/C Ratios to Alternative Assumptions**

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Alternative Assumption	Impact on R/C Ratio for Suite Meter class	Resulting Suite Meter R/C range
Average Monthly load - +/- 1 Std Deviation based on sample	+/- 4-5%	108.6-99.3%
Estimated per Meter Cost +/- \$100	+/- 6%	110.7-98.7%
Directly Allocated Meter Costs	- 5.6%	99.2%
Percentage of Secondary allocated +/- 8%	+/- 3.4%	108.1-101.3%

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6 **SUITE METER RATES**

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8 The Board's Partial Decision requires THESL to propose a tariff for the new customer  
 9 class.

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11 The two key steps in developing a tariff for the class are: 1) determining the proportion of  
 12 the overall revenue requirement to be collected from the class, or in other words, the  
 13 Revenue-to-Cost ratio; and 2) the design of the rates to recover the revenue so  
 14 determined.

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16 With respect to the first step, the Revenue-to-Cost ratio, the Board stated in its Partial  
 17 Decision:

18 *“The Board finds that due to the existence of a competitive market for the*  
 19 *provision of unit sub-metering it is appropriate to ensure that procurement*  
 20 *choices, as between licensed distributors (suite metering) and licensed unit sub-*  
 21 *meter providers (unit sub-metering) are made on a comparable economic basis*  
 22 *both within the competitive unit sub-metering marketplace and between this*  
 23 *competitive market place and the monopoly service.”*

24

1 THESL has interpreted this to imply that the Revenue-to-Cost ratio for the new class is to  
2 be set at unity – where the revenues collected from the class are set equal to the costs  
3 incurred to serve the class, to ensure that suite meter customers are neither receiving nor  
4 paying any subsidies from/to consumers in other rate classes. As indicated above, the  
5 Cost Allocation model indicates that for 2012, the R/C ratio, before any reallocations,  
6 would be 104.7% for the Suite Meter class. For the purposes of designing an initial tariff,  
7 THESL has reduced the revenue responsibility - in the amount of \$287,000 - to the class  
8 to make the Revenue-to-Cost ratio equal to 1. An offsetting increase in the Revenue-to-  
9 Cost ratio for the Remaining Residential Class is a result. Only the Remaining  
10 Residential class has been adjusted since the Suite Meter class was previously part of the  
11 (existing) Residential class, and therefore it is appropriate that any impacts due to the  
12 split of this class would be effected only on this class and not on other rate classes.

13

14 With respect to rate design, THESL proposes the same design of rates for this new class  
15 that is applied for the existing Residential class. The proposed tariff therefore includes  
16 two components – a fixed charge (per customer per 30 days, consistent with fixed  
17 charges in all other THESL rate classes), and a variable charge based on kWh. In  
18 developing the level of these charges, THESL has maintained the same proportion of  
19 revenue recovered from the fixed and variable charges for the new classes (the Suite  
20 Meter class as well as the new Remaining Residential class) as applies to the existing  
21 Residential class.

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23 The initial rates resulting from the allocation and rate design described above (and an  
24 estimated monthly bill based on average consumption) are shown below (in comparison  
25 with the Remaining Residential rates at average residential consumption level).

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1 **Table 4 - Suite Meter Rates**

	Suite Meter Class (334 kWh/month)	Remaining Residential Class (677 kWh/month)
Fixed (\$/customer/30 days)	15.47	20.19
Variable (\$/kWh)	0.02186	0.01654
Estimated Monthly Bill <sup>1</sup>	\$50.52	\$88.77

2  
 3 Note 1: Estimated monthly bill based on Distribution, Transmission and Commodity costs only. Taxes and rate riders not  
 4 included. Transmission rates based on EB-2011-0114 filed rates. Commodity costs based on tiered RPP rates of  
 5 \$0.068/kWh for first 600kWh, and \$0.079/kWh for usage above 600kWh.  
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7 **TRANSITIONAL METER-ONLY RATE FOR CONVERTING BUILDINGS**

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 9 Under section 5.1.9 of the Distribution System Code, THESL has the obligation to be the  
 10 supplier of last resort in a market which is otherwise deemed by the Board to be  
 11 contestable. Section 5.1.9 provides: “When requested to do so by a master consumer, a  
 12 distributor shall install unit smart meters that meet the specifications prescribed by  
 13 Ontario Regulation 389/10”. This means that THESL must provide service in situations  
 14 where other sub-meterers decline to do so.  
 15

16 In these and in any other circumstances in which THESL provides suite metering to a  
 17 residential building which was initially bulk metered, THESL also has the obligation to  
 18 install the suite metering system in an efficient, cost-effective manner. This requires  
 19 THESL to install the entire suite metering system in the building at one time, rather than  
 20 on a piecemeal basis as each individual unit converts to individual direct service.  
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22 In the case of existing condominiums which are converting to unit metering, consent to  
 23 establish individual accounts is conveyed by the condominium corporation rather than  
 24 individual unit occupants. No significant period of time would exist during which  
 25 existing condominium units in a converting building would have meters installed which  
 26 would not be used for billing purposes.  
 27

1 However, in the case of rental buildings, landlords are required by law to obtain the  
2 informed consent of tenants prior to conversion to individual billing. In the cases of new  
3 rental buildings or condominiums, there is also a period during which the units are  
4 habitable and electricity consumption occurs, but have not yet been occupied for the first  
5 time.

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7 In practice, this creates a situation in which suite meters are installed in rental and other  
8 buildings but may not be used for purposes of billing an individual unit for an indefinite  
9 period until consent has been obtained from the occupant of that unit (or until unit  
10 occupancy changes), or until the unit is occupied for the first time.

11  
12 Under the current tariff, THESL must bill the property owner under existing residential  
13 rates (or the prospective suite meter rate, if approved) for each unit in which a suite meter  
14 is installed. THESL cannot install the meters and then wait for an indefinite period to  
15 begin recovering the associated costs. However, relative to the situation in which  
16 consumption for unconverted units is billed under the applicable bulk rate, costs to the  
17 property owner are substantially higher.

18  
19 In the case of converting rental buildings, these increased costs to the landlord may then  
20 be reflected in reduced maintenance or capital expenditures, or in rent increases to the  
21 remaining unconverted tenants. In either case, the interests of the tenants of the building  
22 are prejudiced. In the case of other building types, it is also reasonable to assume that  
23 such costs will be passed on to the ultimate owners or occupants.

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25 THESL submits that this result is an unintended and untoward outcome of the existing  
26 statutory and regulatory framework.

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1 THESL proposes a solution to this problem which minimizes the cost increase to  
2 property owners without creating any cross subsidy from existing THESL ratepayers to  
3 property owners or suite metered customers. Specifically, THESL proposes that for suite  
4 metered buildings, and only for the transitional period during which units are being  
5 gradually converted to individual direct accounts, THESL bill the property owner for  
6 electricity consumption based on the bulk meter reading, adjusted to eliminate the  
7 consumption and demand of the converted units, and apply a 'meter only' rate to recover  
8 the capital-related costs of the Quadlogic (or the successor) meters in units which have  
9 not yet converted. The applicable monthly customer charge for the bulk meter account,  
10 under the GS<50kW, GS 50-1000kW, or GS 1000-5000kW rate class as the case may be,  
11 would continue to apply, and the meter only rate would be a conditional rate component,  
12 similar in that respect to the transformer credit which only applies in some cases  
13 depending on the circumstances of the customer. The meter-only rate would be  
14 applicable only during the transition period and would not be applicable to vacant units  
15 after their conversion to individual billing.

16

17 The meter-only rate would be designed to recover only the capital related costs of the  
18 installed, but unutilized, meter. The capital related costs of the suite meter would be the  
19 depreciation, return, and taxes associated with the meter investment, and would be  
20 recovered through a fixed monthly charge reflecting the amortization period for the  
21 meters together with applicable values for the rate of return and PILs rates.

22

23 Using those proposed values together with the projected Quadlogic meter costs and an  
24 amortization period of 15 years for those meters, Table 5 below sets out the derivation of  
25 the monthly meter-only rate.

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1 **Table 5 - Derivation of Monthly Meter-Only Rate**

Item	Cost/Rate
Average Installed Meter Cost	\$550
Depreciation Rate (15 year amortization)	6.67%
Annual Depreciation & Amortization	\$36.67
Annual Return (at WACC of 6.79% on average NBV over meter life of \$275)	\$18.67
Annual PILs (at 35.6% grossed-up tax rate)	\$3.86
Total Annual Capital-Related Costs	\$59.20
<b>Meter-Only Rate (per 30 day period)</b>	<b>\$4.87</b>

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The resulting figure of \$4.87 per month represents a meaningful reduction from, but not the elimination of, the otherwise applicable charge of \$15.47.

Regular billing and customer care costs related to the unconverted units would not be incurred by THESL during the transition since the meters would not be used for billing purposes in that period. However, there would be incremental administrative costs associated with maintaining information on unconverted units in a building, and calculating and adding the meter-only costs to the GS bill. THESL estimates that for 2012 the annual cost of this function would be approximately \$53,000, based on an estimate of the time required to administer and bill. Spread over a forecast number of buildings that would contain unconverted meters (110 buildings), this results in a per building monthly cost of approximately \$40. THESL proposes this administration fee also be applied monthly to the bulk meter account for those buildings that have unconverted meters, as an adjunct to the meter only rate.

1    **SUMMARY**

2    As noted above, THESL cannot decline to provide suite metering when requested to do  
3    so by a master consumer. Neither can THESL absorb the costs of unutilized meters, or  
4    incur the additional costs of installing a suite metering system on a piecemeal basis.

5    However, application of the standard suite meter rate to unconverted units can reasonably  
6    be expected to accentuate a cost increase related to electrical service that is likely to be to  
7    the detriment of tenants or unit owners. THESL believes that the proposal set out above  
8    represents a responsible approach to the mitigation of this cost increase given the overall  
9    circumstances in which THESL has been placed. It keeps THESL and existing customers  
10    whole while avoiding the imposition of charges for services (i.e. billing and customer  
11    care) not actually provided in the subject circumstances.