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toronto hydro electric system

March 23, 2007

via email and hand delivery

Kirsten Walli, Board Secretary
Ontario Energy Board
P.O. Box 2319, 27th Floor
2300 Yonge Street
Toronto, On M4P 1E4

Dear Ms. Walli:

Re: Toronto Hydro-Electric System Limited
Amended Supplementary 2007 Rate Adjustment Application
EB-2007-0582

On March 16, 2007 Toronto Hydro-Electric System Limited (Toronto Hydro) filed with the Board a Supplementary 2007 Rate Adjustment Application for certain adjustments to distribution rates, to be effective May 1, 2007. Toronto Hydro is today submitting an Amended Supplementary 2007 Rate Adjustment Application to remove a tax adjustment originally made to the 2006 Smart Meter deferral account balance. The effect of the amendment is to increase the credit balance in that account.

Enclosed with this letter are copies of the amended pages of the application on blue paper. The electronic version of the entire Amended Supplementary Application has been delivered to you in PDF format, along with revised versions of the spreadsheet files in native format.

Yours truly,

(original signed by)

Pankaj Sardana
VP, Treasurer and Regulatory Affairs
Treasury, Rates and Regulatory Affairs
:car
/encl

EB-2007-0582

TORONTO HYDRO-ELECTRIC SYSTEM LIMITED

SUPPLEMENTARY APPLICATION FOR APPROVAL AND RECOVERY OF AMOUNTS RELATED TO CDM AND SMART METERS IN 2007 RATES

Toronto Hydro-Electric System Limited
Supplementary Application for Approval and Recovery of Amounts Related to CDM and Smart Meters in 2007 Rates

EB-2007-0582

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

AND IN THE MATTER OF an application for recovery of amounts related to Smart Meters and Conservation and Demand Management activities.

TORONTO HYDRO-ELECTRIC SYSTEM LIMITED

SUPPLEMENTARY APPLICATION FOR APPROVAL AND RECOVERY OF AMOUNTS RELATED TO CDM AND SMART METERS IN 2007 RATES

MANAGER'S SUMMARY

OEB File No. EB-2007-0582
Filed: March 16, 2007
Amended: March 23, 2007

MANAGER'S SUMMARY

1. Introduction

Toronto Hydro-Electric System Limited (Toronto Hydro) herewith submits an application (the Application) to the Ontario Energy Board (the OEB or the Board) for:

1. Approval and recovery of historical Lost Revenue Adjustment Mechanism (LRAM) and Shared Savings Mechanism (SSM) amounts, to be recovered by way of a rate rider effective for one year from May 1, 2007;
2. Disposition of the 2006 year-end balance in the Smart Meter deferral account, to be recovered by way of a rate rider effective for one year from May 1, 2007;
3. Adjustments to 2007 ratebase reflecting 2006 Smart Meter activities, with corresponding adjustments to 2007 base distribution rates; and
4. Approval of revised Smart Meter rate rider values for 2007, calculated with the model and methodology supplied by the Board.

On a combined basis, the proposals set out in this Application would result in a *1.6%* total bill increase (*$2.02* per month) for residential customers consuming 1,000 kilowatt-hours per month. /a /a

Toronto Hydro proposes that the rate changes consequent upon these proposals take effect May 1, 2007. However, if the Board is unable to conclude proceedings in time to permit that, Toronto Hydro requests that its distribution rates be declared interim at that time, after giving effect to any rate changes that can be determined by that date.

1.1. LRAM and SSM Amounts

The LRAM and SSM amounts are related to Board-approved Conservation and Demand Management (CDM) activities undertaken by Toronto Hydro in 2005 and 2006. All of the CDM programs for which LRAM and SSM amounts are sought were undertaken in connection with Toronto Hydro's 'third tranche' CDM spending obligations. The LRAM amount is $3,111,432, and the after-tax SSM amount is $4,657,342. After gross-up for PILs, the SSM pre-tax amount is $7,290,767. The total amount for recovery related to CDM activities is therefore $10,402,199.

1.2. 2006 Smart Meter Deferral Account and Stranded Meter Costs

For purposes of disposing of the Smart Meter-related deferred amounts from 2006, Toronto Hydro proposes that the Smart Meter deferral account record the revenues received from customers through the Smart Meter rate riders, offset by the revenue

requirement that would have flowed from the 2006 actual Smart Meter activity, were that to have been perfectly forecasted when setting rates for 2006. Toronto Hydro understands and submits that this construction accords with the Board's intention in establishing deferral account treatment for the Smart Meter initiatives undertaken by utilities.

On this basis, the 2006 year-end credit balance in the Smart Meter deferral account is *$(730,000)*. This balance is the sum of Toronto Hydro's computed revenue requirement arising from 2006 Smart Meter activities and expenditures, less revenues received in 2006 through the Smart Meter rate riders. */a*

Toronto Hydro proposes that the deferral account balance be recovered from customers through a distinct 2006 Smart Meter disposition rate rider, effective for one year beginning May 1, 2007 and expiring April 30, 2008, or for one year from the effective date of the rate changes arising from this Application.

1.3. Adjustment to 2007 Ratebase and Revenue Requirement

The amount of the 2007 Smart Meter ratebase adjustment flowing from 2006 Smart Meter activities is $29,475,000, which reflects the following factors:

1. The net book value (NBV) of Smart Meter capital at 2006 year-end of $30,515,000;
2. In-year depreciation of that amount over 2007, in the amount of $2,081,000 and;
3. The NBV of 2006 Smart Meter capital at 2007 year-end of $28,434,000.

The figure of $29,475,000 therefore represents the average of the 2007 opening and closing balances of the net increase in meter investment occurring by year-end 2006. No adjustment is requested in 2007 for working capital related to the 2006 Smart Meter capital additions.

The corresponding adjustments to base distribution rates follow, based on Toronto Hydro's current capital structure, allowed weighted average cost of capital, depreciation, and PILs. The incremental revenue requirement calculated in this way is $4,434,000. The derivation of this amount is shown in Table 9.

1.4. 2007 Smart Meter Rate Riders

Revised Smart Meter rate rider values for 2007 are based on Toronto Hydro's updated Smart Meter implementation plan, and are calculated using the Board's model for 2007 Smart Meter rate riders. The Toronto Hydro figures entered in the Board's model represent the costs of the 2007 Smart Meter program for the Residential, General Service <50 kW, and General Service 50-1000 kW rate classes,

which together comprise the complete Smart Meter rollout activities of Toronto Hydro. Amounts related to Advanced Metering Infrastructure (AMI) and other Smart Meter-related technology initiatives have to-date been provided for within the $3 million allowance in base distribution rates allowed by the Board in 2006 rates, and are therefore not included in the rate rider. The total amount calculated for recovery through the 2007 Smart Meter rate riders is $5,606,336. The Board's model for calculating this amount is provided in Exhibit 2.

1.5. Authorization for LRAM/SSM Recovery

The authorization to file an application seeking recovery of LRAM amounts is found in the Board's RP-2004-0188 Electricity Distribution Rate Handbook Report. At page 107 of that Report, the Board stated:

> In its December 2004 Decision RP-2004-0203, the Board concluded that an LRAM was appropriate and that it should apply to 3rd tranche expenditures. The Board indicated, at that time, that the LRAM formula would be established as part of the 2006 proceeding.
>
> The Board continues to believe that an LRAM is appropriate and concludes that it will be retrospective, not prospective. At this time, greater accuracy will be achieved if the LRAM is calculated after-the–fact, based on actual results.
>
> Accordingly, a distributor will be expected to calculate the energy savings by customer class and to value those energy savings by the Board-approved distribution charge appropriate to that class. The resulting amount may be claimed in a subsequent rate year as compensation for lost revenue.

The authorization to file an application seeking recovery of SSM amounts is also found in the Board's RP-2004-0188 Report, where beginning at page 110 the Board stated:

> The Board, in its RP-2004-0203 Decision, found that a distributor shareholder incentive was an appropriate way to encourage distributors to pursue CDM programs. The Board continues to be of this view. Distributors should be rewarded with 5% of the net savings established by the TRC test. The Board recognizes that it will be essential to establish certain inputs and to define avoided costs. Accordingly, the

> Board's Conservation Manual will address these matters. This will allow parties to screen CDM programs and calculate the relevant incentives.
>
> … The SSM will apply to TRC benefits achieved by 3rd tranche expenditures as well as any incremental expenditures that are approved in 2006. However, as in the case of the Board's Decision with respect to 2005, the incentive will not apply to utility-side activities. Because the SSM will be retrospective, no claims for a shareholder incentive should be made in the 2006 rate applications.

On April 28, 2005, the Board issued under RP-2004-0203 a document entitled "Guidelines for Electricity Distributors Wishing To Apply For SSM Incentive for 2005 Implementation of CDM Plans" (the SSM Guidelines). In the SSM Guidelines, the Board stated at page 2:

> Inputs and assumptions of the TRC Test have to be clearly stated in the pre-filed evidence. Applicants may use the standard inputs for TRC calculation which are contained in the Board's Conservation Manual (available late June 2005). Where an applicant wishes to use other inputs, the applicant must provide supporting evidence, an explanation of its choice and, for comparison, the TRC test results using the inputs contained in the Conservation Manual.

On September 8, 2005 the Board issued the document referred to in the RP-2004-0188 Report and the SSM Guidelines as the Conservation Manual, under the name of the Total Resource Cost Guide (the TRC Guide). The TRC Guide set out a Board-approved methodology and associated parameters for the financial evaluation of CDM programs. The TRC Guide was revised October 2, 2006 to reflect the Board's Decision in the EB-2005-0523 proceeding concerning the attribution of benefits between utilities and non-rate-regulated third parties.

In preparing this Application, Toronto Hydro has relied on and conformed to the SSM Guidelines and the TRC Guide.

1.6. Tables and Exhibits

Exhibit 1 sets out detailed CDM program TRC results. Exhibit 2 provides Toronto Hydro's version of the Board's Smart Meter Addendum model for the 2007 Smart Meter Rate Rider. Exhibit 3 contains consolidated rate impacts. Exhibit 4 reproduces Tables 1 through 12 in native spreadsheet format.

2. Summary of Application – LRAM and SSM Amounts

Toronto Hydro seeks authorization for the recovery of the LRAM and SSM amounts by way of volumetric rate riders effective for a period of one year commencing May 1, 2007, or other date as determined by the Board. The total LRAM amount for both 2005 and 2006 is $3,111,432, calculated as the sum of the products of the CDM-related load reductions and the corresponding variable rates by class. By definition, the LRAM amount already includes an allowance for PILs.

The total after-tax SSM amount, calculated in accordance with the SSM Guidelines and the TRC Guide, is $4,657,342. The total pre-tax amount proposed for recovery through rates is $7,290,767, which is obtained by grossing up the after-tax figure using a marginal tax rate of 36.12%. Table 1 sets out the LRAM and SSM amounts by class, as well as the corresponding rate riders.

Table 1
LRAM and SSM Total Amounts and Rate Riders by Class

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8
1	**Rate Class**	**Amounts (2005 + 2006)**		**Billing Units (2006)**		**Rate Riders**		
2		**LRAM**	**SSM**			**LRAM**	**SSM**	**Total**
3		**$**	**$**			**$/unit (kWh or kVA)**	**$/unit (kWh or kVA)**	**$/unit (kWh or kVA)**
4	**Residential**	2,471,891	4,149,514	5,470,966,591	kWh	0.00045	0.00076	0.0012
5	**GS < 50 kW**	340,193	609,231	2,620,609,508	kWh	0.00013	0.00023	0.0004
6	**GS 50 - 1000 Kw Non Interval**	85,291	-2,551	17,351,203	kVA	0.00000	0.00000	0.0000
	GS 50 - 1000 Kw Interval	0	0	8,472,217	kVA	0.00000	0.00000	0.0000
7	**GS 1000 - 5000 kW**	108,048	1,711,285	11,825,404	kVA	0.01000	0.15000	0.1600
8	**Large Use**	29,776	627,551	5,566,486	kVA	0.01000	0.11000	0.1200
9	**Street Lighting**	0	0	317,526	kVA	0.00000	0.00000	0.0000
10	**Unmetered Scattered Load (USL)**	76,233	195,738	54,396,775	kWh	0.00140	0.00360	0.0050
11	**Total**	**3,111,432**	**7,290,767**					

For simplicity and ease of application, Toronto Hydro proposes that the rate rider amounts for the LRAM and SSM be combined and recovered through a variable rate component for each class.

The most recent Board-approved load quantities are those that underpinned 2006 rates. Toronto Hydro proposes that those quantities be used for the calculation of the class rate riders.

2.1. Determination of LRAM Amount

Toronto Hydro has determined the LRAM amounts by class in a manner consistent with the Board's RP-2004-0188 Report.

By definition, an LRAM accounts for variances between actual CDM results and the corresponding quantities used to set class rates. For both 2005 and 2006 rates, no forecast or other adjustment for the effects of CDM programs was made to the load quantities used to calculate rates. Therefore, the entire actual load reduction achieved by the eligible CDM programs is subject to LRAM treatment.

In concept, for residential and small general service programs, load impacts were calculated based on approved savings per measure and the number of measures installed. For programs targeted to larger customers, reductions in kVA (kilovolt-amperes, a measure of power similar to kW, kilowatts) were calculated based on engineering information specific to the type of equipment installed and other relevant operating parameters.

In practice, the calculations of load savings for each program are detailed and are done on a measure-by-measure basis. They take into account multiple program outcomes (for example, room air conditioner retirement with or without replacement), and specific information for each outcome that is provided in the TRC Guide or is gathered from other reputable sources.

Table 2 summarizes the CDM load impacts by program and rate class. In the case of some programs, results expressed in kWh have been converted to kVA to correspond to the billing basis for customers in the applicable rate classes.

Table 2
CDM Load Impacts by Program and Class

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7
1	**Rate Class/Program**	**2005**		**2006**		**Total**	
2		**kWh**	**kVA**	**kWh**	**kVA**	**kWh**	**kVA**
3	**Residential**						
4	Mass Market	31,881,273		48,088,904		79,970,177	
5	Summer Challenge	-		60,917,161		60,917,161	
6	TAPS	1,903,847		5,382,769		7,286,616	
7	Social Housing	536,875		1,750,934		2,287,809	
8	Refrigerator Buy-Back	2,038,671		3,525,911		5,564,582	
9	**Sub-Total**	**36,360,665**		**119,665,679**		**156,026,345**	
10	**GS < 50 kW**						
11	Summer Challenge			18,488,732		18,488,732	
12	**GS 50 - 1000 kW**						
13	Leveraging Energy Conservation - CI&I		4,788		11,728		16,516
14	**GS 1000 - 5000 kW**						
15	Leveraging Energy Conservation - CI&I		1,326		3,249		4,575
16	Load Displacement				25,842		25,842
17	**Sub-Total**				**29,091**		**30,417**
18	**Large Use**						
19	Load Displacement				10,197		10,197
20	**USL**						
21	LED Traffic Lights	1,667,599		2,386,286		4,053,885	
22	**Total**	**38,028,264**	**6,114**	**140,540,697**	**51,016**	**178,568,961**	**57,130**

Foregone revenue amounts corresponding to the load reductions by class were calculated for each year using the applicable variable distribution rates. For rate classes where the Transformer Allowance applies, the Transformer Allowance amount was deducted from the foregone revenue amount calculated using the variable distribution rate per kVA.

The load reductions were not adjusted for free riders, as this is not appropriate when calculating LRAM amounts. The LRAM is intended to compensate distributors for load losses stemming from CDM programs, regardless of why customers participated in those programs. Toronto Hydro submits that if customers did participate in a CDM program, their motivation for doing so is irrelevant to the load loss for which the LRAM mechanism compensates distributors.

Toronto Hydro is not requesting recovery of carrying costs related to the calculated foregone revenue.

Table 3 summarizes the calculation of foregone revenue by rate class.

Table 3
Foregone Revenue by Class

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8
1	**Rate Class**	**2005**			**2006**			
2		**Load Units (kWh or kVA)**	**Rate * ($ per kWh or kVA)**	**Revenue $(000)**	**Load Units (kWh or kVA)**	**Rate * ($ per kWh or kVA)**	**Revenue $(000)**	**Total Revenue $(000)**
3	**Residential**							
4	Mass Market	31,881,273	0.0173	551,546	48,088,904	0.0154	740,569	1,292,115
5	Summer Challenge	-	0.0173	-	60,917,161	0.0154	938,124	938,124
6	TAPS	1,903,847	0.0173	32,937	5,382,769	0.0154	82,895	115,831
7	Social Housing	536,875	0.0173	9,288	1,750,934	0.0154	26,964	36,252
8	Refrigerator Buy-Back	2,038,671	0.0173	35,269	3,525,911	0.0154	54,299	89,568
9	Sub-Total	36,360,665	0.0173	629,040	119,665,679	0.0154	1,842,851	2,471,891
10	**GS < 50 kW**							
11	Summer Challenge				18,488,732	0.0184	340,193	340,193
12	**GS 50 -1000 kW**							
13	Leveraging Energy Conservation - CI&I	4,788	5.6400	27,002	11,728	4.9700	58,289	85,291
14	**GS 1000 - 5000 kW**							
15	Leveraging Energy Conservation - CI&I	1,326	4.0400	5,358	3,249	3.5300	11,468	16,825
16	Load Displacement				25,842	3.5300	91,222	91,222
17	Sub-Total	1,326	4.0400	5,358	29,091	3.5300	102,690	108,048
18	**Large Use**							
19	Load Displacement				10,197	2.9200	29,776	29,776
20	**USL**							
21	LED Traffic Signals	1,667,599	0.0201	33,519	2,386,286	0.0179	42,715	76,233
22								
23	**Total**							**3,111,432**

(*) Rate net of transformer allowance

2.2. Allocation and Manner of Recovery for LRAM Amounts

Toronto Hydro proposes that the total foregone revenue for each class be allocated to that class for recovery through a class-specific 2007 rate rider. This approach most closely matches program eligibility and potential for benefits to customers in each class with corresponding program costs.

Toronto Hydro also proposes that the class-specific rate riders be expressed as amounts per kWh or per kVA as applicable, and be applied to the variable distribution rate component for each class. Toronto Hydro takes the view that this approach is administratively the most simple.

2.3. Determination of SSM Amount

Toronto Hydro's calculations of the SSM amounts, per program and in total, follow the methodology set out in the TRC Guide. The determination of SSM amounts is separate and distinct from the calculation of LRAM amounts, in that SSM amounts are based on free-rider-adjusted quantities, and are a function of the net present value (NPV) of program benefits, rather than distribution rates. Program net benefits in turn are determined by the present value of the stream of benefits over a program's life, comprised mainly of avoided electricity costs, offset by the present value of program costs. Both benefits and costs are assessed from a societal perspective, so that incentive payments, which are transfers between parties rather than resource costs, cancel out and can be excluded. The TRC Guide prescribes the calculation methodology as well as many of the parameters used (e.g., the unit savings per measure for several different measures, free-rider rates, and avoided electricity costs).

As noted in Section 1.5 above, the Board stated in its RP-2004-0203 Decision that utility-side programs, such as loss reduction initiatives, are not eligible for SSM treatment. Accordingly, Toronto Hydro's SSM application excludes those programs.

For each eligible program, gross load reductions are calculated in accordance with TRC guidelines. The gross load reductions are reduced to account for the 'free rider' factor for each program. Essentially, free riders are program participants who would have undertaken the load reduction measure(s) in the absence of the program. For purposes of determining SSM amounts, the estimate of the free rider benefits (expressed as a percentage) is therefore removed from the calculation of the NPV of program benefits.

Load reductions are valued financially using avoided cost figures provided by the Board in the TRC Guide. The avoided cost figures are distinguished between winter, summer, and shoulder periods during the year, and further into on-peak, mid-peak, and off-peak categories. The avoided unit costs are applied to the corresponding load reduction figures to arrive at nominal annual avoided costs per measure per year, over the number of years of the program's life. The stream of annual benefits is then discounted to arrive at the NPV of the program's benefits. Toronto Hydro used a Weighted Average Cost of Capital ("WACC") of 5.43% as the discount rate, based on the company's long-term debt and equity position as at December 31, 2006, and the associated costs of each of the two capital structure components.
Toronto Hydro, and in some cases program partners, incurred direct costs to implement each CDM program. Toronto Hydro maintains records of internal direct costs charged to each program, and has entered these into the TRC model calculations for each program. Internal direct costs include both invoiced costs from

external parties and costs of staff who are dedicated to the CDM function. Toronto Hydro has relied on information reported to it by program partners in regard to costs incurred by them.

The Board has directed that in cases where programs are jointly sponsored with other regulated energy distributors, attribution rates (apportioning benefits between the regulated sponsors) are either to be in accordance with its policy as set out in its EB-2005-0523 Decision, or presented for approval in an SSM application. The TAPS program is co-sponsored with Enbridge Gas Distribution (EGD). In this instance, Toronto Hydro has addressed the attribution requirement by excluding from this SSM application the gas savings attributable to programmable thermostats installed under the TAPS program, and requests the Board's approval of that approach in this case.

In addition to the costs directly attributable to individual CDM programs, Toronto Hydro undertakes overall program support costs. Allocation of these support costs to individual programs is discussed below, but in general support costs are accounted for as a negative entry offsetting the sum of net individual program benefits.

In three instances (Social Housing, Leveraging Energy Conservation, and Distributed Energy), the actual program outcomes resulted in net costs rather than benefits. Toronto Hydro has included these negative values in calculating the total SSM amount applied for.

In accordance with the Board's RP-2004-0203 Decision, an SSM rate of 5% has been applied to the net TRC benefits (or in the case of program support, costs) for each program. The sum of these, $4,657,342, represents Toronto Hydro's after tax SSM claim in this Application. The corresponding pre-tax amount to be recovered in rates is $7,290,767.

Table 4 summarizes the calculation of the SSM amounts by program and in total. A detailed summary of program results is set out in Exhibit 1.

Table 4
SSM Amounts by Program

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7
1	**Program**	**Total Costs $ (NPV)**	**Total Benefits $ (NPV)**	**Net Benefits $ (NPV)**	**Benefit Cost Ratio**	**SSM Amount $ (After Tax)**	**SSM Amount $ (Pre Tax)**
2	Co-branded Mass Market Program	8,678,165	26,463,176	17,785,011	3.05	889,251	1,392,064
3	Summer Challenge	897,943	5,014,397	4,116,454	5.58	205,823	322,202
4	Residential Load Control Initiative	10,770,355	41,052,133	30,281,778	3.81	1,514,089	2,370,208
5	TAPS Program	734,577	3,089,688	2,355,110	4.21	117,756	184,339
6	Refrigerator Buy-back Program	388,854	964,901	576,047	2.48	28,802	45,088
7	Social Housing Program	3,482,605	3,359,576	-123,029	0.96	-6,151	-9,630
8	LED Traffic Signals	219,600	2,750,425	2,530,825	12.52	126,541	198,092
9	Leveraging Energy Conservation and/or Load Management Programs	3,470,544	3,439,313	-31,231	0.99	-1,562	-2,444
10	Commercial Industrial & Institutional (CI&I) Load Control Initiative	38,263	6,956,931	6,918,668	181.82	345,933	541,536
11	Load Displacement	10,602,870	39,579,350	28,976,480	3.73	1,448,824	2,268,040
12	Stand-by Generators	4,857,612	6,172,273	1,314,661	1.27	65,733	102,901
13	Overall Program Support	1,553,933	0	-1,553,933	-	-77,697	-121,629
14	**Grand Total**	**45,695,321**	**138,842,163**	**93,146,842**	**3.04**	**4,657,342**	**7,290,767**

Table 5 sets out the pre- and post-tax SSM amounts by program within class, together with the allocated overall program support costs by class.

Table 5
SSM Amounts by Program and Class

	Col. 1	Col. 2	Col. 3
1	**Rate Class/Program**	**SSM Amount $ (After Tax)**	**SSM Amount $ (Pre Tax)**
2	**Residential**		
3	Mass Market	889,251	1,392,064
4	Summer Challenge	157,899	247,181
5	TAPS	117,756	184,339
6	Social Housing	-6,151	-9,630
7	Refrigerator Buy-Back	28,802	45,088
8	Residential Load Control Initiative	1,514,089	2,370,208
9	Support Costs	-50,936	-79,737
10	*Sub-Total*	*2,650,709*	*4,149,514*
11	**GS < 50 kW**		
12	Summer Challenge	47,923	75,021
13	CI&I Load Control Initiative	345,933	541,536
14	Support Costs	-4,680	-7,327
15	*Sub-Total*	*389,177*	*609,231*
16	**GS 50 - 1000 kW (Non-Interval)**		
17	Leveraging Energy Conservation - CI&I	-1,191	-1,864
18	Support Costs	-439	-687
19	*Sub-Total*	*-1,630*	*-2,551*
20	**GS 1000 - 5000 kW**		
21	Leveraging Energy Conservation - CI&I	-371	-581
22	Load Displacement	1,043,123	1,632,942
23	Stand-by Generators	65,733	102,901
24	Support Costs	-15,317	-23,977
25	*Sub-Total*	*1,093,169*	*1,711,285*
26	**Large Use**		
27	Load Displacement	405,701	635,098
28	Support Costs	-4,821	-7,547
29	*Sub-Total*	*400,880*	*627,551*
30	**USL**		
31	LED Traffic Lights	126,541	198,092
32	Support Costs	-1,504	-2,354
33	*Sub-Total*	*125,038*	*195,738*
34	*Programs Total*	*4,735,039*	*7,412,396*
35	*Support Costs Total*	*-77,697*	*-121,629*
36	**Total**	**4,657,342**	**7,290,767**

2.4. Allocation and Manner of Recovery for SSM Amounts

Consistent with the proposed approach for the LRAM amounts, Toronto Hydro proposes that the SSM amounts arising from CDM programs in each rate class be allocated to that class for recovery. In cases where programs span more than one rate class, the SSM amounts per class are proportional to the load savings in that class. Overall program costs are allocated back to individual classes according to the proportion of total SSM benefits accounted for by that class.

Toronto Hydro proposes as noted earlier that the LRAM and SSM riders be combined and expressed as a single rate rider for each class. Toronto Hydro also proposes that the corresponding one-year rate riders be expressed per unit of variable consumption (kW or kVA).

2.5. Rate Implementation and Rate Impacts

Toronto Hydro proposes that the LRAM and SSM amounts be recovered through rate riders effective May 1, 2007 and expiring April 30, 2008, or for a period of one year from the effective date approved by the Board.

Table 6 provides a summary of LRAM and SSM rate impacts expressed as the percentage changes in the applicable variable distribution rates, and for standard customers in selected classes, the percentage changes in the total distribution cost and total bill. All comparisons are made against existing approved rates.

Table 6
LRAM & SSM Rate Impacts by Class

	Col. 1	Col. 2	Col. 3	Col. 4
1	**Standard Consumption per month**	**% Change Variable Rate**	**% Change Distribution Cost**	**% Change Total Bill**
2	**Residential**			
3	1000 kWh	7.79%	3.87%	1.02%
4	**GS < 50 kW**			
5	10000 kWh	2.17%	1.85%	0.35%
6	**GS 50 - 1000 kW Non-**			
7	200000 kWh 450 kW	0.00%	0.00%	0.00%
8	**GS 50 - 1000 kW Interval**			
9	200000 kWh 450 kW	0.00%	0.00%	0.00%
10	**GS 1000 - 5000 kW**			
11	900000 kWh 1800 kW	3.86%	3.46%	0.32%
12	**Large Use**			
13	2500000 kWh 5000 kW	3.39%	2.88%	0.24%
14	**Street Lighting**			
15	365 kWh 1 kW	0.00%	0.00%	0.00%
16	**USL**			
17	365 kWh 1 kW	27.93%	19.59%	4.94%

Toronto Hydro submits that the rate impacts arising from recovery of the LRAM and SSM amounts as proposed are moderate and do not warrant mitigation by way of an extended period of recovery.

3. Summary of Application – Smart Meter Amounts

A general description of Toronto Hydro's Smart Meter program is provided in Appendix A.

In this Application, Toronto Hydro requests with respect to Smart Meters:

i. disposition of deferral accounts related to the 2006 Smart Meter program, through rate riders effective for one year commencing May 1, 2007; and
ii. inclusion of 2006 year-end Smart Meter related capital in the 2007 ratebase, and the corresponding adjustment of 2007 base distribution rates, effective May 1, 2007.

3.1. Toronto Hydro Smart Meter Expenditures

Toronto Hydro initially submitted a Smart Meter plan as part of its 2006 rate filing (RP-2005-0421) and most recently provided an update with its Smart Meter Investment Plan filed in December 2006 (EB-2006-0246). Actual expenditures for 2006 are summarized in Table 7, along with revenues recovered.

Table 7
2006 Smart Meter Expenditures and Recoveries

	Col. 1	Col. 2
1	**Category**	**Amount ($000's)**
2	**Expenditures**	
3	Meter Capital	31,205
4	IT Capital	4,041
5	Depreciation	690
6	OM&A	526
7	**Total**	**36,462**
8		
9	**Recoveries**	
10	**Total**	**2,966**

Toronto Hydro installed a total of 194,000 Smart Meters in 2006. Of this total, 191,370 meters were for residential customers, 2,070 meters were for General Service <50 kW customers, and 560 were for larger General Service customers.

The Smart Meter capital of $31.2 million includes cost of the meters, warehousing, parts and supplies, and capitalized labour (including training and planning costs). The installation of the meters has been planned and has proceeded so as to most efficiently make use of Toronto Hydro's work crews and to minimize installation costs.

For purposes of calculating the 2006 Smart Meter-related incremental ratebase, IT expenditures have been excluded. Smart Meter IT expenditures in 2006 included costs related to data servers and infrastructures, interfaces, billing system development and testing, hardware and software. Toronto Hydro notes that in the Board's EB-2005-0421 decision, the Board allowed $3 million in IT related expenditures to be included in rates in 2006. Toronto Hydro expenditures on technology related to Smart Meters were $4,041,000 in 2006. Of this amount, $2,441,000 related to projects that had not been closed to assets in 2006, but will be in 2007. An amount of $1,600,000 related to projects, principally Mobile Workforce Management, that were in service at the end of 2006.

The total accumulated depreciation associated with the installed Smart Meters is $0.689 million, and has been calculated assuming a 15-year lifetime with straight-line depreciation.

OM&A costs include costs for communications and non-capitalized labour associated with the Smart Meter implementation.

3.2. Recovery of 2006 Smart Meter Deferral Account Balances

Toronto Hydro requests disposition of the 2006 year-end balance of the Smart Meter deferral account, by way of rate riders in effect during the 2007 rate year.

Toronto Hydro takes the view, which it believes to be consistent with the Board's intentions, that the Smart Meter deferral account should record the revenue requirement that is associated with Smart Meter activities, offset by the revenue received through the Smart Meter rate riders.

Conceptually, the revenue requirement associated with Smart Meter activities in a given year is what would have been approved by the Board had forecasts of the Smart Meter activity been available and accepted by the Board. As such, it would include expenses related to operations, maintenance, administrative costs, and amortization, as well as the return and taxes associated with the average Smart Meter ratebase during the year.

Offsetting these costs of the Smart Meter program are the revenues received by Toronto Hydro in 2006 through the Smart Meter rate riders.

In a letter dated June 13, 2006, the Board directed that:

> "Carrying charges will apply to the monthly opening principal balance in the variance account at a rate of interest prescribed by the Board."

Toronto Hydro has interpreted the Board's direction to mean that a carrying cost should be applied to the difference between the amounts recovered through the Smart Meter rate riders, and the corresponding revenue requirement amount. This is consistent with the methodology used to determine the 2007 rate rider and is the carrying cost Toronto Hydro has included in this application.

Table 8 details the 2006 expenditures on Smart Meters, and the resulting revenue requirement, as well as the amounts recovered under the Rate Riders implemented May 1, 2006. Revenues from the rate rider exceeded the revenue requirement associated with the installed Smart Meters by *$702,000* at the end of 2006. /a
Accordingly, this credit amount *together with related interest of $28,000* is proposed for /a
disposal through a rate rider to 2007 rates.

Toronto Hydro amends its Application by removing the adjustment to the deferral account balance /a
originally made to reflect taxes paid on revenues to be credited to customers. The amendment has the /a
effect of increasing the 2006 Smart Meter deferral account credit balance by $254,000, with a /a
minimal rate impact of $0.04 per customer per month relative to the original Application. /a

Table 8
2006 Smart Meter Deferral Account Balance

	Col. 1	Col. 2	Col. 3		Col. 4	
1		**($000's)**	**($000's)**		**Calculation**	
2	**Smart Meter 2006 Expenses**					
3	Incremental Operating Expense		526		A	
4	Depreciation Expense		690		B	
5	Total Expenses		1,216		C = A + B	
6						
7	Calculated Return on Rate Base					
8	Smart Meter Fixed Assets Net Book Value - Dec. 31, 2006	30,515			D	
9	Net Fixed Assets (average of Smart Meter Fixed Assets					
10	opening and closing 2006 Net Book Value)	15,258			E = D / 2	
11	Working Capital Allowance	79			F = A * 15%	
12	Total Rate Base	15,337			G = E + F	
13						
14	Debt Cost - weighted debt rate	5.18%	516		H = G * 65% * 5.18%	
15	Return on Equity	9.00%	483		I = G * 35% * 9%	
16	Return on Rate Base		999		J = H + I	
17						
18	Revenue Requirement before PILs		**2,215**		K = C + J	
19						
20	**Calculation of Income for PILs Purposes**					
21	Incremental Operating Expenses		526		A	
22	Depreciation Expense		690		B	
23	Interest Expense		516		H	
24	**Income for PILs purposes**		483		L = K - A - B - H	
25						
26	**Grossed up PILs**		49		M	
27						
28	Revenue Requirement before PILs		2,215		K	
29	Grossed up PILs		49		M	
30	**2006 Revenue Requirement for 2006 Smart Meters**		2,264		N = K + M	
31						
32	**Revenue Earned - Smart Meter Funding**					
33	Residential		2,295		O	
34	General Service <50		671		P	
35	Total Revenue		2,966		Q = O + P	
36						
37	**Difference Over Recovered**		-702		R = N - Q	
38						
39	**Carrying Charge on Over Recovery**		-28		S	
40						
41	**Difference Over Recovered plus Carrying Charge**		**-730**		T = R + S	/a
42						

Table 9 provides the derivation of the 2006 PILs amount included in the calculation of the deferral account balance.

Table 9
2006 Smart Meter Deferral Account Balance – PILs Calculation

	Col. 1	Col. 2	Col. 3	Col. 4
		($000's)		**($000's)**
1	**Income Tax**			
2	Net Income	483		
3	Amortization	690		
4	CCA - Class 47 (8%) Smart Meters	-1,248		
5	CCA - Class 45 (45%) Computers	-		
6	Change in taxable income	-75		
7	Tax Rate	36.12%		
8	**Income Taxes Payable**	**-27**		
9				
10	**Ontario Capital Tax**			
11	Smart Meters	30,515		
12	Computer Hardware	-		
13	Computer Software	-		
14	Rate Base	30,515		
15	Less: Exemption	-		
16	Deemed Taxable Capital	30,515		
17	Ontario Capital Tax Rate	0.300%		
18	**Net OCT Amount**	**92**		
19				
20				
21		**PILs Payable**	**Gross Up**	**Grossed Up PILs**
22	Change in Income Taxes Payable	-27	36.12%	**-42**
23	Change in OCT	92		**92**
24	PIL's	64		**49**

3.3. Closing of Smart Meter Capital to 2007 Rate Base

Toronto Hydro requests that the balances of the 2006 Smart Meter related capital accounts be included to the 2007 rate base. The NBV of the new Smart Meter related assets (exclusive of IT capital) as of the end of 2006 was $30,515,000. Amortization on this amount through 2007 will be $2,081,000 and the average NBV will be $29,475,000.

The Revenue Requirement consequences of closing the 2006 Smart Meter net capital value to rate base in 2007 are shown in Table 10. Return on ratebase at Toronto Hydro's current allowed rates and capital structure is $1,921,000. No operating expense or working capital is associated in 2007 with the 2006 Smart Meter capital. The revenue requirement before PILs, consisting only of return on ratebase and net amortization expense, is therefore $4,002,000.

After deduction of amortization adjusted for CCA and interest expense related to return, incremental taxable income is $613,000. The incremental income-related PILs amount is $222,000, which is grossed up to $347,000. Together with additional Ontario capital tax of $85,000, this results in an increase in PILs expense of $432,000. The derivation of the incremental 2007 PILs amount is shown in Table 11.

The final 2007 incremental revenue requirement resulting from inclusion of the 2006 Smart Meter capital is therefore $4,434,000. This represents a permanent component of base distribution rates and Toronto Hydro requests that 2007 base distribution rates be adjusted to reflect the allocation of this amount to the various rate classes.

Table 10
2007 Incremental Revenue Requirement Due to 2006 Smart Meters

	Col. 1	Col. 2	Col. 3		Col. 4
1		**($000's)**	**($000's)**		**Calculation**
2	**Rate Base**				
3	2006 Smart Meter Fixed Assets Cost	**Start of 2007**	**End of 2007**		
4	Residential	30,713	30,713		A
5	General Service	493	493		B
6	Total	31,205	31,205		C = A + B
7					
8	Less: Smart Meter Accumulated Depreciation				
9	Residential	675	2,723		D
10	General Service	15	48		E
11	Total	690	2,771		F = D + E
12					
13	Smart Meter Fixed Assets Net Book Value				
14	Residential	30,038	27,989		G = A - D
15	General Service	477	445		H = B - E
16	Total	30,515	28,434		I = G + H
17					
18	Average Smart Meter Fixed Assets		29,475		J = avg($I_{start\ of\ 2007}$, $I_{end\ of\ 2007}$)
19					
20	**Smart Meters Fixed Assets in Rate Base**		29,475		K = J
21					
22	**Return on Rate Base**				
23	Deemed Debt	65%	19,159		L = K * 65%
24	Deemed Equity	35%	10,316		M = K * 35%
25			29,475		N = L + M
26					
27	Weighted Debt Rate	5.18%	992		O = L * 5.18%
28	Equity Rate	9.00%	928		P = M * 9.00%
29	**Return on Rate Base**		1,921		Q = O + P
30					
31	**Amortization Expenses**				
32	2006 Smart Meters:				
33	Residential		2,049		R = $D_{end\ of\ 2007}$ - $D_{start\ of\ 2007}$
34	General Service		33		S = $E_{end\ of\ 2007}$ - $E_{start\ of\ 2007}$
35			2,081		T = R + S
36					
37	**Revenue Requirement Before PILs**		4,002		U = T +Q
38					
39	**Calculation of Income for PILs Purposes**				
40	Depreciation Expense		2,081		T
41	Interest Expense		992		O
42	**Income for PILs purposes**		928		V = U - T - O
43					
44	**Grossed up PILs**		432		W
45					
46	Revenue Requirement Before PILs		4,002		U
47	Grossed up PILs		432		W
48	**2007 Revenue Req't for 2006 Smart Meters**		4,434		X = U + W

Table 11
2007 Incremental Revenue Requirement – PILs Calculation

	Col. 1	Col. 2	Col. 3	Col. 4
		($000's)		**($000's)**
1	**Income Tax**			
2	Net Income	928		
3	Amortization	2,081		
4	CCA - Class 47 (8%) Smart Meters	-2,397		
5	CCA - Class 45 (45%) Computers	-		
6	Change in taxable income	613		
7	Tax Rate	36.12%		
8	Income Taxes Payable	**222**		
9				
10	**Ontario Capital Tax**			
11	Smart Meters	28,434		
12	Computer Hardware	-		
13	Computer Software	-		
14	Rate Base	28,434		
15	Less: Exemption	-		
16	Deemed Taxable Capital	28,434		
17	Ontario Capital Tax Rate	0.300%		
18	Net Amount (Taxable Capital x Rate)	**85**		
19				
20				
21		**PILs Payable**	**Gross Up**	**Grossed Up PILs**
22	Change in Income Taxes Payable	222	36.12%	**347**
23	Change in OCT	85		**85**
24	PIL's	307		**432**

3.4. Allocation and Recovery of Amounts Related to 2006 Smart Meter Activities

Toronto Hydro proposes that the 2006 Smart Meter deferral account balance and the revenue requirement associated with adding the 2006 Smart Meter capital to ratebase in 2007 be recovered from those rate classes that had Smart Meters installed in 2006. Those classes are Residential, GS < 50 kW, and GS 50 – 1000 kW Non-Interval. Toronto Hydro proposes that these amounts be collected on the fixed monthly customer charge, which is consistent with how the rate rider for Smart Meters has been collected over 2006. The most recent Board-approved customer numbers are those that underpinned 2006 rates. Toronto Hydro proposes that those quantities be used for the calculation of the class rate riders. Calculation of the allocation and recovery of these amounts by rate class is shown in Table 12.

Table 12
Allocation and Recovery of Smart Meter Amounts

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	
1	**Allocators**	**Residential**	**GS < 50 kW**	**GS - 50 to 1000 kW - Non Interval**	**Total**	
2						
3	Operational Data					
6	Number of Customers (2006 Approved)	597,210	66,505	9,550	**673,265**	
7	2006 Smart Meters Installed	191,370	2,070	560	**194,000**	
9	Allocator Percentages					
12	2006 Smart Meters Installed	98.64%	1.07%	0.29%	**100.0%**	
13	**Allocated Amounts**	**Residential $**	**GS < 50 kW $**	**GS - 50 to 1000 kW - Non Interval $**	**Total $**	
14	2007 Rate Base Addition of Smart Meters	4,374,212	47,315	12,800	4,434,327	
15	2006 Expense and Return Recovery	-720,262	-7,791	-2,108	-730,161	
16	**Total Recovery**	**3,653,950**	**39,524**	**10,692**	**3,704,166**	
17	**Charge Calculations**	**Recovery Basis**	**Residential**	**GS < 50 kW**	**GS - 50 to 1000 kW - Non Interval**	
18			$ per Customer /30 days	$ per Customer /30 days	$ per Customer /30 days	
19	Base Rates Addition	Customer	0.60	0.06	0.11	
20	12-Month Rate Rider for Expense Recovery	Customer	-0.10	-0.01	-0.02	/a
21	**Total**		**0.50**	**0.05**	**0.09**	/a

3.5. Rate Rider Related to 2007 Smart Meter Spending

On January 29, 2007 the Board issued instructions to LDCs who wished to apply for a rate rider in 2007 related to Smart Meter funding. In combination with the application for recovery of 2006 Smart Meter-related amounts outlined above, Toronto Hydro requests a 2007 rate rider related to 2007 Smart Meter spending, derived according to the instructions issued by the Board.

Toronto Hydro has used the Board's model to calculate the 2007 rate riders. In order to meet the confidentiality terms of the meter supply contract with Toronto Hydro's meter supplier, Toronto Hydro has grouped unit meter costs into a single category.

Model results are provided in Exhibit 2. Toronto Hydro's Smart Meter plans include rollout of Smart Meters for customers in rate classes over 50kW; however, the Board's model does not have a specific input field for Smart Meter spending on any of those classes. Toronto Hydro has included these costs in the unit meter costs so that they are captured in calculation of the rate rider. Otherwise, Toronto Hydro follows the Board's methodology in arriving at a single Smart Meter rate rider that will apply to all metered rate classes.

The calculated rate rider is $0.69 stated on a monthly basis ($0.68 stated on a 30-day basis), and will be applied to the customer charge for all metered customers, as was the case with the 2006 Smart Meter rate rider.

4. Bill Impacts

Bill impacts arising from the proposals set out in this Application, separately and in combination, are shown at Exhibit 3.

Toronto Hydro does not propose any measures to mitigate the rate impacts that are consequential to this Application. Toronto Hydro views the impacts as moderate and reasonable given the policy context for, and necessity of, the CDM and Smart Meter activities and corresponding amounts.

Appendix A

Smart Meter Program Implementation at Toronto Hydro

Introduction

The basis of Toronto Hydro's Smart Meter program is the policy for Smart Meter installation that the Provincial Government (the "Province") has set for Ontario. The Province has established targets for Smart Meter coverage which include 800,000 installations by the end of 2007 and complete provincial coverage by the end of 2010. For Toronto Hydro, this implies approximately 700,000 or more Smart Meters being installed by the end of the program, and a very aggressive rollout of meters over the five year period involved, including a target of 400,000 installations by the end of 2007. However, Toronto Hydro, together with the Coalition of Large Distributors and a relatively small group of other utilities, has committed to assisting the Province in achieving its targets, and significant progress has been made to date.

The wholesale replacement of the existing metering stock in the province is unprecedented and has required complex planning and coordination of activities among several responsible parties, including the Ministry of Energy (the "Ministry"), utilities, meter and technology vendors, the Board, and the IESO. Given the target dates and the magnitude of the overall project, it was not possible to produce in advance a detailed final specification of all aspects of the integrated system. Therefore, Toronto Hydro and other parties have had to prepare and execute Smart Meter implementation plans under conditions of uncertainty.

Toronto Hydro began planning for the Smart Meter program shortly after the Board commenced its process to address the Ministers request for a Smart Meter Implementation Plan in July of 2004. Toronto Hydro has been an active member of working groups that have consulted since that time with the Board and the Ministry. Overall, Toronto Hydro's objectives for its Smart Meter Implementation Plan were to:

- Achieve the installation targets for Toronto Hydro;
- Deploy compliant and cost effective technology;
- Minimize program costs including stranded asset costs; and
- Use internal resources efficiently

Toronto Hydro first conducted a number of pilot projects designed to test the capability and suitability of various Advanced Metering Infrastructure (AMI)

technologies. The pilots tested various forms of metering, network and communications technology for reliability, scalability, ease of installation and maintenance, and other factors.

Throughout this period Toronto Hydro also participated with the Ministry and other stakeholders in consultations that culminated in the development of technical specifications for the AMI. The Ministry engaged Toronto Hydro along with other members of the CLD to issue a Request for Pre-Qualification (RFPQ) to meter vendors worldwide. By mid 2006, this process established five vendors of record qualified to provide Advanced Metering Infrastructure (AMI) for LDCs with active programs in Smart Meter deployment.

Full-scale implementation of Toronto Hydro's Smart Meter program began in February 2006, prior to the conclusion of the RFPQ process. This was necessitated by the target requirement to install 400,000 meters by the end of 2007. Other factors such as pressure to replace traditional meters with expiring seals and the need to balance workload for internal resources also contributed to the urgency of commencing the rollout.

Technology Selection and Procurement

Toronto Hydro's Smart Meter program consists of both the installation of new Smart Meters in place of existing mechanical meters, as well as the implementation of the infrastructure systems required to read and process the data and issue customer bills. In the initial phases, the program has focussed on efficient meter installation. As the Meter Data Management and Repository (MDM/R) and other support technologies are developed and implemented, installed Smart Meters will be activated for billing.

Stakeholders and experts in this area recognize that differing AMI technologies address differing physical installation requirements and present differing costs for installation and maintenance. Based on Toronto Hydro's technical expertise, results from the pilot installation projects, and resource availability, Toronto Hydro selected the Elster mesh network technology for the initial phases of its Smart Meter rollout. The Elster system successfully met the RFPQ requirements and is compliant with Ministry standards. The system also has full regulatory approval for use in Canada. Measurement Canada has approved the product for use as a billing system, for both residential and commercial applications. The system is fully approved for all applications required by Toronto Hydro.

The Elster system is technically well suited to the dense urban and suburban developments in and surrounding Toronto's downtown core. It was also the only

available system which could be deployed entirely by Toronto Hydro Smart Metering, Field Services and Meter Services crews without requirements for line crews and bucket trucks.

Together with other members of the CLD and with combined purchase volumes, Toronto Hydro was able to negotiate favourable terms with the vendor.

As the rollout of Smart Meter proceeds, Toronto Hydro anticipates that two or more residential AMI technologies will be required within its service territory plus compatible approaches for commercial and industrial metering. Different residential densities and building types within Toronto Hydro's service area will likely require different methods of meter communication. In the denser downtown core, in building retrofits, and in areas not suited for radio mesh networks, alternate systems will need to be employed. Selection of technologies for these circumstances has been deferred to allow selection from a larger pool of technologies as these mature and qualify for Vendor of Record status over the near future.

Deployment Strategy and Technology

From the outset Toronto Hydro sought to minimize the costs of the Smart Meter rollout. Direct installation costs were managed through use of the Mobile Workforce Management system (described below), retraining and re-deployment of internal staff resources, and a geographic strategy for mass replacements that focussed on dense but easily accessible areas of the city.

Toronto Hydro also sought to minimize stranded asset costs (consisting of mechanical meters removed) by deferring within approved limits the replacement of mechanical meters until Smart Meters were available, and by installing Smart Meters whenever unplanned (i.e., customer demand) meter replacements were required.

A critical component of the Smart Meter rollout at Toronto Hydro has been the implementation of a Mobile Workforce Management (MWM) system to accurately plan and track the mass change-out of the mechanical meters with Smart Meters. This system completely replaces the older paper-based system of tracking meter replacements, which was not a feasible option under the aggressive targets set for Smart Meter implementation, and which would have necessitated significant and ongoing personnel costs to manage the greatly increased volume of work.

The MWM consists of radio-based handheld units and supporting technology that provide the capability to display order information and input meter record data in the

field. This MWM system was implemented to coincide with the high volume installations starting at the beginning of 2006. Accurate record keeping for the removal of existing meters, as well as timely data capture for new meters, required the automation of the planning, dispatch and data collection process.

This system replaced a paper-based system of planning and tracking meter replacements. While sufficient for low volume meter work, a manual process was not a feasible option under the aggressive targets set for Smart Meter implementation and with the number of installers that needed to be kept aligned with dynamic and detailed directions and the large volumes of installation records they generated.

The Mobile Workforce Management system was selected through an extensive evaluation of products and systems that were assessed on a set of functional and systems integration criteria, including the capacity to synchronize work with the Toronto Hydro Customer Information System and its related metering and service records.

Exhibit 1 – CDM Program TRC Results

THESL TRC Results for 2005 - Summary

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9
1		**TRC Net Benefits, $**	**TRC Benefits, $**	**TRC Costs, $**	**Benefit/Cost Ratio**	**KWh Saved in 2005***	**KWh Saved (Over the Life of Measure)**	**Peak Demand Saved (KW)**	**CDM Funding (spent in 2005)**
2	**Customer Focused Programs**								
3	Co-branded Mass Market	8,858,259	14,042,419	5,184,160	2.71	50,584,655	233,381,075	3,231	4,777,320
4	TAPS	736,643	1,092,788	356,145	3.07	3,504,513	16,814,194	26	434,267
5	Refrigerator Buy-Back Program	576,047	964,901	388,854	2.48	2,876,059	15,466,422	484	343,562
6	Leveraging Energy Conservation	321,109	1,364,501	1,043,391	1.31	2,800,279	20,724,395	350	715,785
7	Load Displacement	-254,150	51,917	306,068	0.17	47,432	948,640	32	811,974
8	Stand-by Generators	1,336,151	3,726,158	2,390,008	1.56	0	0	4,700	977,498
9	**Total**	**11,574,058**	**21,242,684**	**9,668,625**	**2.20**	**59,812,939**	**287,334,727**	**8,823**	**8,060,406**
10	Regulatory Reporting and Support	-566,143		566,143					566,143
11	**Total - Customer Focused Programs**	**11,007,915**	**21,242,684**	**10,234,768**	**2.08**	**59,812,939**	**287,334,727**	**8,823**	**8,626,549**

*Savings after adjustment for free-ridership

THESL TRC Results for 2006 - Summary

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9
1		**TRC Net Benefits, $**	**TRC Benefits, $**	**TRC Costs, $**	**Benefit/Cost Ratio**	**kWh Saved in 2006***	**kWh Saved (Over the Life of Measure)**	**Peak Demand Saved (kW)**	**CDM Funding (spent in 2006)**
2	**Customer Focused Programs**								
3	Co-branded Mass Market	8,926,752	12,420,757	3,494,005	3.55	35,954,209	168,078,926	788	1,124,172
4	Summer Challenge	4,116,454	5,014,397	897,943	5.58	71,465,304	71,465,304	0	4,038,261
5	Residential Load Control Initiative	30,281,778	41,052,133	10,770,355	3.81	-	-	25,258	10,770,355
6	TAPS	1,618,468	1,996,900	378,432	5.28	5,500,647	27,416,358	42	395,641
7	Social Housing	-123,029	3,359,576	3,482,605	0.96	3,143,889	58,368,296	403	1,022,003
8	LED Retrofits for Traffic Lights	2,530,825	2,750,425	219,600	12.52	2,129,803	53,245,080	243	139,648
9	Leveraging Energy Conservation	-352,340	2,074,812	2,427,152	0.91	5,165,754	26,696,938	1,157	309,883
10	CI&I Load Control	6,918,668	6,956,931	38,263	181.82	-	-	4,280	38,263
11	Load Displacement	29,230,630	39,527,433	10,296,803	3.84	22,535,961	563,399,030	11,516	2,040,283
12	Stand-by Generators	-21,490	2,446,115	2,467,604	0.99	-	-	2,235	2,436,959
13	**Total**	**83,126,716**	**117,599,479**	**34,472,763**	**3.41**	**145,895,568**	**968,669,932**	**45,925**	**22,315,467**
14	Regulatory Reporting and Support	-987,790		987,790					987,790
15	**Total - Customer Focused Programs**	**82,138,927**	**117,599,479**	**35,460,552**	**3.32**	**145,895,568**	**968,669,932**	**45,925**	**23,303,257**

*Savings after adjustment for free-ridership

Exhibit 2 – 2007 Smart Meter Rate Rider Addendum Model

Ontario Energy Board

2007 EDR Smart Meter Rate Calculation Model

Sheet 1 Utility Information Sheet

Legend:	Input Cell	Pull-Down Menu Option	Output Cell
	From Another Sheet	To The 2007 IRM Model	To Another Sheet

Please note that this model uses MACROS. Before starting, please ensure that macros have been enabled.

Name of LDC:	Toronto Hydro-Electric System Limited		
Licence Number:	ED-2002-0497	Smart Meter Grouping:	Listed
IRM 2007 EB Number:	EB-2007-0582		
EDR 2006 RP Number:	RP-2005-0020	EDR 2006 EB Number:	EB-2005-0421
Date of Submission:	February 9, 2007	Revision:	0
Version:	1.0		

Contact Information

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Please Note: In the event of an inconsistency between this model and any element of the January 2007 "Report of the Board on 2nd Generation Incentive Regulation of Ontario's Electricity Distributors - Addendum for Smart Metering Rates ", the Report governs.

2007 EDR Smart Meter Rate Calculation Model

Toronto Hydro-Electric System Limited
EB-2007-0582
February 9, 2007

Sheet 2. Smart Meter Capital Cost and Operational Expense Data

Smart Meter Unit Installation Plan: *(From Smart Meter Plan filed December 15, 2006)*

assume calendar year installation	2006	2007	2008	2009	2010	Total
Planned number of Residential smart meters to be installed	-	201,000			-	201,000
Planned number of General Service Less Than 50 kW smart meters	-	4,000			-	4,000
Planned Meter Installation (Residential and Less Than 50 kW only)	-	205,000	-	-	-	205,000
Planned Meter Installation Completed before January 1, 2008		205,000				

Smart Meter Unit Cost

	Per Unit	
Smart Meter Unit Cost *Enter the invoiced cost per smart meter purchased* *Please provide details in Manager's Summary*	$ 198.80	A
Smart Meter Other Unit Cost *Enter the invoiced other costs per smart meter unit purchased* *Please provide details in Manager's Summary*		B
Smart Meter Installation Cost per Unit *Enter the time and material cost per smart meter unit installed* *Please provide details in Manager's Summary*		C
Smart Meter Other Cost per Unit *Enter the other cost per smart meter unit installed* *Please provide details in Manager's Summary*		D
Total Unit cost per Smart Meter	**$ 198.80**	E = A + B + C + D

3. LDC Assumptions and Data

AMI Capital Cost

	2006	2007	2008	2009	2010	Total	
AMI Computer Hardware Costs *Enter the estimated capital costs for AMI related Computer Hardware* *Please provide details in Manager's Summary*	$ -	$ 675,000				$ 675,000	F
		3. LDC Assumptions and Data					
AMI Computer Software Costs *Enter the estimated capital costs for AMI related Computer Software* *Please provide details in Manager's Summary*		$ 4,469,463	$ -	$ -	$ -	$ 4,469,463	G
		3. LDC Assumptions and Data					
Total AMI Capital Cost	**$ -**	**$ 5,144,463**	**$ -**	**$ -**	**$ -**	**$ 5,144,463**	H = F + G

Other Capital Cost

	2006	2007	2008	2009	2010	Total	
Other Computer Hardware Costs *Enter the estimated capital costs for other related Computer Hardware* *Please provide details in Manager's Summary*	$ -	$ -	$ -	$ -	$ -	$ -	I
		3. LDC Assumptions and Data					
Other Computer Software Costs *Enter the estimated capital costs for other related Computer Software* *Please provide details in Manager's Summary*	$ -	$ 568,866	$ -	$ -	$ -	$ 568,866	J
		3. LDC Assumptions and Data					
Total Other Capital Cost	**$ -**	**$ 568,866**	**$ -**	**$ -**	**$ -**	**$ 568,866**	K = I + J

Incremental AMI Operational Expenses

	2006	2007	2008	2009	2010	Total	
Incremental AMI O&M Expenses *Enter the estimated incremental AMI related O&M expenses* *Please provide details in Manager's Summary*						$ -	L
			3. LDC Assumptions and Data				
Incremental AMI Admin Expenses *Enter the estimated incremental AMI related Admin expenses* *Please provide details in Manager's Summary*						$ -	M
			3. LDC Assumptions and Data				
Total Incremental AMI Operation Expenses	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	N = L + M

Incremental Other Operational Expenses

	2006	2007	2008	2009	2010	Total	
Incremental Other O&M Expenses *Enter the estimated incremental Other related O&M expenses* *Please provide details in Manager's Summary*	$ -	$ 1,720,236	$ -	$ -	$ -	$ 1,720,236	O
		3. LDC Assumptions and Data					
Incremental Other Admin Expenses *Enter the estimated incremental Other related Admin expenses* *Please provide details in Manager's Summary*	$ -				$ -	$ -	P
			3. LDC Assumptions and Data				
Total Incremental Other Operation Expenses	**$ -**	**$ 1,720,236**	**$ -**	**$ -**	**$ -**	**$ 1,720,236**	Q = O + P

AMI - Advanced Metering Infrastructure
Other - Cost or expenses not AMI but does not include stranded assets

2007 EDR Smart Meter Rate Calculation Model

Toronto Hydro-Electric System Limited
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Sheet 3. LDC Assumptions and Data

Assumptions:

1. Planned meter installations occur evenly through the year.
2. Year assumed January to December
3. Amortization is straight line and has half year rule applied in first year

2006 EDR Data Information

Deemed Debt (from 2006 EDR Sheet "3-2 COST OF CAPITAL (Input)" Cell C 18)	65%	*4. Smart Meter Rate Calc*
Deemed Equity (from 2006 EDR Sheet "3-2 COST OF CAPITAL (Input)" Cell C 19)	35%	*4. Smart Meter Rate Calc*
Weighted Debt Rate (from 2006 EDR Sheet "3-2 COST OF CAPITAL (Input)" Cell C 25)	5.18%	*4. Smart Meter Rate Calc*
Proposed ROE (from 2006 EDR Sheet "3-2 COST OF CAPITAL (Input)" Cell E 32)	9.00%	*4. Smart Meter Rate Calc*
Weighted Average Cost of Capital	6.52%	

2006 EDR Total Metered Customers

Sum of Residential, General Service, and Large User *from 2006 EDR Sheet "7-1 ALLOCATION - Base Rev. Req." Cells H16 thru H93*	675,505	*4. Smart Meter Rate Calc*

2006 EDR Tax Rate

Corporate Income Tax Rate *(from 2006 PILs Sheet "Test Year PILs,Tax Provision" Cell D 14)*	36.12%	*5. PILs*

Capital Data:

	2006	2007	2008	2009	2010	Total
Smart meter including installation ($198.797204878049 times Planned Meters Installed)	$ -	$ 40,753,427	$ -	$ -	$ -	$ 40,753,427
Computer Hardware Costs *2. Smart Meter Data; AMI (F) plus Other (I)*	$ -	$ 675,000	$ -	$ -	$ -	$ 675,000
Computer Software Costs *2. Smart Meter Data; AMI (G) plus Other (J)*	$ -	$ 5,038,329	$ -	$ -	$ -	$ 5,038,329
Total Computer Costs *2. Smart Meter Data; AMI (H) plus Other (K)*	$ -	$ 46,466,756	$ -	$ -	$ -	$ 46,466,756

6. SM Avg Net Fixed Assets &UCC

LDC Amortization Policy:

Smart Meter Amortization Rate *Enter Amortization Policy*	15	Years	*6. SM Avg Net Fixed Assets &UCC*
Computer Hardware Amortization Rate *Enter Amortization Policy*	5	Years	*6. SM Avg Net Fixed Assets &UCC*
Computer Software Amortization Rate *Enter Amortization Policy*	3	Years	*6. SM Avg Net Fixed Assets &UCC*

Operating Expense Data:

	2006	2007	2008	2009	2010	Total
Incremental O&M Expenses *2. Smart Meter Data; AMI (L) plus Other (O)*	$ -	$ 1,720,236	$ -	$ -	$ -	$ 1,720,236
Incremental Admin Expenses *2. Smart Meter Data; AMI (M) plus Other (P)*	$ -	$ -	$ -	$ -	$ -	$ -
Total Incremental Operating Expense *2. Smart Meter Data; AMI (N) plus Other (Q)*	$ -	$ 1,720,236	$ -	$ -	$ -	$ 1,720,236

4. Smart Meter Rate Calc

Per Meter Cost Split:

	Per Meter	Installed	Investment	% of Invest
Smart meter including installation	$ 198.80	205,000	$ 40,753,427	85%
Computer Hardware Costs	$ 3.29	205,000	$ 675,000	0%
Computer Software Costs	$ 24.58	205,000	$ 5,038,329	0%
Smart meter incremental operating expenses	$ 8.39	205,000	$ 1,720,236	0%
Total Smart Meter Capital Costs per meter	$ 235.06		$ 48,186,992	85%

2007 EDR Smart Meter Rate Calculation Model
Toronto Hydro-Electric System Limited
EB-2007-0582
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Sheet 4. Smart Meter Rate Calc

Smart Meter Rate Calculation

	2007				
Average Asset Values					
Net Fixed Assets Smart Meters *(6. SM Avg Net Fixed Assets &UCC)*	$ 19,697,490				
Net Fixed Assets Computer Hardware *(6. SM Avg Net Fixed Assets &UCC)*	$ 303,750				
Net Fixed Assets Computer Software *(6. SM Avg Net Fixed Assets &UCC)*	$ 2,099,304				
Total Net Fixed Assets	$ 22,100,543	$ 22,100,543			*A*
Working Capital					
Operation Expense	$ 1,720,236				
15 % Working Capital	$ 258,035	$ 258,035			*B*
Smart Meters included in Rate Base		$ 22,358,579			*C = A + B*
Return on Rate Base					
Deemed Debt *(3. LDC Assumptions and Data)*	65.0%	$ 14,533,076			*D = C * Deemed Debt*
Deemed Equity *(3. LDC Assumptions and Data)*	35.0%	$ 7,825,503			*E = C * Deemed Equity*
		$ 22,358,579			
Weighted Debt Rate *(3. LDC Assumptions and Data)*	5.2%	$ 752,813			*F = D * Weighted Debt Rate*
Proposed ROE *(3. LDC Assumptions and Data)*	9.0%	$ 704,295			*G = E * Proposed ROE*
Return on Rate Base		$ 1,457,109	$ 1,457,109		*H = F + G*
Operating Expenses					
Incremental Operating Expenses *(3. LDC Assumptions and Data)*			$ 1,720,236		*I*
Amortization Expenses					
Amortization Expenses - Smart Meters *(6. SM Avg Net Fixed Assets &UCC)*		$ 1,358,448			
Amortization Expenses - Computer Hardware *(6. SM Avg Net Fixed Assets &UCC)*		$ 67,500			
Amortization Expenses - Computer Software *(6. SM Avg Net Fixed Assets &UCC)*		$ 839,722			
Total Amortization Expenses			$ 2,265,669	*5. PILs*	*J*
Revenue Requirement Before PILs			$ 5,443,014		*K = H + I + J*
Calculation of Taxable Income					
Incremental Operating Expenses			-$ 1,720,236		*I*
Depreciation Expenses			-$ 2,265,669		*J*
Interest Expense			-$ 752,813		*F*
Taxable Income For PILs			$ 704,295	*5. PILs*	*L = K - I - J - F*
Grossed up PILs *(5. PILs)*			$ 163,322		*M*
Revenue Requirement Before PILs			$ 5,443,014		*K*
Grossed up PILs *(5. PILs)*			$ 163,322		*M*
Revenue Requirement for Smart Meters			**$ 5,606,336**		*N = K + M*
2007 Smart Meter Rate Adder					
Revenue Requirement for Smart Meters			$ 5,606,336		*N*
2006 EDR Total Metered Customers *(3. LDC Assumptions and Data)*			675,505		*O = 2006 EDR Total Metered Customers*
Annualized amount required per metered customer			$ 8.30		*P = N / O*
Number of months in year			12		*Q*
2007 Smart Meter Rate Adder			**$ 0.69**		*R = P / Q*

Enter this amount in the 2007 IRM Model sheet "4. 2006 Smart Meter Information" in cells F 17 thru F 32 (as required)

2007 EDR Smart Meter Rate Calculation Model

Toronto Hydro-Electric System Limited

EB-2007-0582

February 9, 2007

Sheet 5. PILs

PILs Calculation

INCOME TAX	
Net Income *(4. Smart Meter Rate Calc)*	$ 704,295
Amortization *(4. Smart Meter Rate Calc)*	$ 2,265,669
CCA - Class 47 (8%) Smart Meters *(6. SM Avg Net Fixed Assets &UCC)*	-$ 1,630,137
CCA - Class 45 (45%) Computers *(6. SM Avg Net Fixed Assets &UCC)*	-$ 1,285,499
Change in taxable income	$ 54,328
Tax Rate *(3. LDC Assumptions and Data)*	36.12%
Income Taxes Payable	$ 19,623
ONTARIO CAPITAL TAX	
Smart Meters *(6. SM Avg Net Fixed Assets &UCC)*	$39,394,979
Computer Hardware *(6. SM Avg Net Fixed Assets &UCC)*	$ 607,500
Computer Software *(6. SM Avg Net Fixed Assets &UCC)*	$ 4,198,608
Rate Base	$44,201,087
Less: Exemption	$ -
Deemed Taxable Capital	$44,201,087
Ontario Capital Tax Rate	0.300%
Net Amount (Taxable Capital x Rate)	$ 132,603

Gross Up

	PILs Payable	Gross Up	Grossed Up PILs	
Change in Income Taxes Payable	$ 19,623	36.12%	$ 30,719	
Change in OCT	$ 132,603		$ 132,603	
PIL's	$ 152,227		**$ 163,322**	*4. Smart Meter Rate Calc*

Smart Meter Average Net Fixed Assets

Net Fixed Assets - Smart Meters

	2006	2007	
Opening Capital Investment	$ -	$ -	
Capital Investment Year 1 *(3. LDC Assumptions and Data)*	$ -		
Capital Investment Year 2 *(3. LDC Assumptions and Data)*		$ 40,753,427	
Closing Capital Investment	$ -	$ 40,753,427	
Opening Accumulated Amortization	$ -	$ -	
Amortization Year 1 (15 Years Straight Line)	$ -	$ -	
Amortization Year 2 (15 Years Straight Line)		$ 1,358,448	
Closing Accumulated Amortization	$ -	$ 1,358,448	
Opening Net Fixed Assets	$ -	$ -	
Closing Net Fixed Assets	$ -	$ 39,394,979	*5. PILs*
Average Net Fixed Assets	$ -	$ 19,697,490	*4. Smart Meter Rate Calc*

Net Fixed Assets - Computer Hardware

	2006	2007	
Opening Capital Investment	$ -	$ -	
Capital Investment Year 1 *(3. LDC Assumptions and Data)*	$ -		
Capital Investment Year 2 *(3. LDC Assumptions and Data)*		$ 675,000	
Closing Capital Investment	$ -	$ 675,000	
Opening Accumulated Amortization	$ -	$ -	
Amortization Year 1 (5 Years Straight Line)	$ -	$ -	
Amortization Year 2 (5 Years Straight Line)		$ 67,500	
Closing Accumulated Amortization	$ -	$ 67,500	
Opening Net Fixed Assets	$ -	$ -	
Closing Net Fixed Assets	$ -	$ 607,500	*5. PILs*
Average Net Fixed Assets	$ -	$ 303,750	*4. Smart Meter Rate Calc*

Net Fixed Assets - Computer Software

	2006	2007	
Opening Capital Investment	$ -	$ -	
Capital Investment Year 1 *(3. LDC Assumptions and Data)*	$ -		
Capital Investment Year 2 *(3. LDC Assumptions and Data)*		$ 5,038,329	
Closing Capital Investment	$ -	$ 5,038,329	
Opening Accumulated Amortization	$ -	$ -	
Amortization Year 1 (3 Years Straight Line)	$ -	$ -	
Amortization Year 2 (3 Years Straight Line)		$ 839,722	
Closing Accumulated Amortization	$ -	$ 839,722	
Opening Net Fixed Assets	$ -	$ -	
Closing Net Fixed Assets	$ -	$ 4,198,608	*5. PILs*
Average Net Fixed Assets	$ -	$ 2,099,304	*4. Smart Meter Rate Calc*

For PILs Calculation

UCC - Smart Meters

CCA Class 47 (8%)	2006	2007	
Opening UCC	$ -	$ -	
Capital Additions	$ -	$ 40,753,427	
UCC Before Half Year Rule	$ -	$ 40,753,427	
Half Year Rule (1/2 Additions - Disposals)	$ -	$ 20,376,714	
Reduced UCC	$ -	$ 20,376,714	
CCA Rate Class 47	8%	8%	
CCA	$ -	$ 1,630,137	*5. PILs*
Closing UCC	$ -	$ 39,123,290	

UCC - Computer Equipment

CCA Class 45 (45%)	2006	2007	
Opening UCC	$ -	$ -	
Capital Additions Hardware	$ -	$ 675,000	
Capital Additions Software	$ -	$ 5,038,329	
UCC Before Half Year Rule	$ -	$ 5,713,329	
Half Year Rule (1/2 Additions - Disposals)	$ -	$ 2,856,665	
Reduced UCC	$ -	$ 2,856,665	
CCA Rate Class 45	45%	45%	
CCA	$ -	$ 1,285,499	*5. PILs*
Closing UCC	$ -	$ 4,427,830	

Exhibit 3 – Consolidated Rate Impacts

Consolidated Rate Impacts

Residential

Consumption 1,000 kWh Loss Factor: 1.0376
- kW

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12	Col. 13	Col. 14	
1		2006 BILL			2007 BILL							IMPACT			
2	Item	Volume	Rate $	Charge $	Volume	Rate $	SSM and LRAM Charge $	2006 Smart Meter Charge $	2006 Rebased Smart Meter Charge $	2007 Addendum for 2007 Smart Meter Charge $	Charge $	$	%	Item % of Total Bill	
3	30 Day Service Charge			12.43				(0.47)	0.50	0.68	13.14	0.71	5.71%	11.02%	/a
4	Distribution (kWh)	1,000	0.0154	15.40	1,000	0.0154	0.0012				16.60	1.20	7.79%	13.92%	
5	Regulatory Assets (kWh)	1,000	0.0032	3.20	1,000	0.0032					3.20	-	0.00%	2.68%	
6	**Sub-Total**			**31.03**							**32.94**	**1.91**	**6.16%**	**27.62%**	/a
7	Other Charges (kWh)	1,038	0.0164	17.02	1,038	0.0164					17.02	-	0.00%	14.27%	
8	DRC (kWh)	1,000	0.0070	7.00	1,000	0.0070					7.00	-	0.00%	5.87%	
9	Other Charges (kW)	-	-	-	-	-					-	-	0.00%	0.00%	
10	Cost of Power Commodity (kWh)	800	0.0580	46.40	800	0.0580					46.40	-	0.00%	38.90%	
11	Cost of Power Commodity (kWh)	238	0.0670	15.92	238	0.0670					15.92	-	0.00%	13.35%	
12	**Total Bill before Taxes**			**117.37**							**119.28**	**1.91**	**1.63%**	**100%**	/a
13	**GST (6%)**			**7.04**							**7.16**	**0.11**	**1.63%**		
14	**Total Bill after Taxes**			**124.41**							**126.43**	**2.02**	**1.63%**		/a

General Service < 50 KW

Consumption 10,000 kWh Loss Factor 1.0376
- kW

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12	Col. 13	Col. 14
1		2006 BILL			2007 BILL							IMPACT		
2	Item	Volume	Rate $	Charge $	Volume	Rate $	SSM and LRAM Charge $	2006 Smart Meter Charge $	2006 Rebased Smart Meter Charge $	2007 Addendum for 2007 Smart Meter Charge $	Charge $	$	%	Item % of Total Bill
3	30 Day Service Charge			17.06				(1.04)	0.05	0.68	16.75	(0.31)	-1.82%	1.46%
4	Distribution (kWh)	10,000	0.0184	184.00	10,000	0.0184	0.0004				188.00	4.00	2.17%	16.36%
5	Regulatory Assets (kWh)	10,000	0.0015	15.00	10,000	0.0015					15.00	-	0.00%	1.31%
6	**Sub-Total**			**216.06**							**219.75**	**3.69**	**1.71%**	**19.12%**
7	Other Charges (kWh)	10,376	0.0165	171.20	10,376	0.0165					171.20	-	0.00%	14.90%
8	DRC (kWh)	10,000	0.0070	70.00	10,000	0.0070					70.00	-	0.00%	6.09%
9	Other Charges (kW)	-	-	-	-	-					-	-	0.00%	0.00%
10	Cost of Power Commodity (kWh)	750	0.0580	43.50	750	0.0580					43.50	-	0.00%	3.78%
11	Cost of Power Commodity (kWh)	9,626	0.0670	644.94	9,626	0.0670					644.94	-	0.00%	56.11%
12	**Total Bill before Taxes**			**1,145.71**							**1,149.40**	**3.69**	**0.32%**	**100%**
13	**GST (6%)**			**68.74**							**68.96**	**0.22**	**0.32%**	
14	**Total Bill after Taxes**			**1,214.45**							**1,218.36**	**3.91**	**0.32%**	

Non Interval Meters - 50 to 1,000 kW

Consumption 200,000 kWh Loss Factor 1.0376
450 kW

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12	Col. 13	Col. 14	
1		2006 BILL			2007 BILL							IMPACT			
2	Item	Volume	Rate $	Charge $	Volume	Rate $	SSM and LRAM Charge $	2006 Smart Meter Charge $	2006 Rebased Smart Meter Charge $	2007 Addendum for 2007 Smart Meter Charge $	Charge $	$	%	Item % of Total Bill	
3	30 Day Service Charge			26.54				(1.04)	0.09	0.68	26.27	(0.27)	-1.02%	0.13%	/a
4	Distribution (kW)	450	4.9700	2,236.50	450	4.9700	-				2,236.50	-	0.00%	10.75%	
5	Regulatory Assets (kW)	450	0.3100	139.50	450	0.3100					139.50	-	0.00%	0.67%	
6	**Sub-Total**			**2,402.54**							**2,402.27**	**(0.27)**	**-0.01%**	**11.54%**	/a
7	Other Charges (kWh)	207,520	0.0062	1,286.62	207,520	0.0062					1,286.62	-	0.00%	6.18%	
8	DRC (kWh)	200,000	0.0070	1,400.00	200,000	0.0070					1,400.00	-	0.00%	6.73%	
9	Other Charges (kW)	467	3.9100	1,825.66	467	3.9100					1,825.66	-	0.00%	8.77%	
10	Cost of Power Commodity (kWh)	750	0.0580	43.50	750	0.0580					43.50	-	0.00%	0.21%	
11	Cost of Power Commodity (kWh)	206,770	0.0670	13,853.59	206,770	0.0670					13,853.59	-	0.00%	66.57%	
12	**Total Bill before Taxes**			**20,811.91**							**20,811.64**	**(0.27)**	**0.00%**	**100%**	/a
13	**GST (6%)**			**1,248.71**							**1,248.70**	**(0.02)**	**0.00%**		
14	**Total Bill after Taxes**			**22,060.63**							**22,060.34**	**(0.29)**	**0.00%**		/a

Interval Meters - 50 to 1,000 kW

Consumption 200,000 kWh Loss Factor 1.0376
450 kW

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12	Col. 13	Col. 14
1		2006 BILL			2007 BILL							IMPACT		
2	Item	Volume	Rate $	Charge $	Volume	Rate $	SSM and LRAM Charge $	2006 Smart Meter Charge $	2006 Rebased Smart Meter Charge $	2007 Addendum for 2007 Smart Meter Charge $	Charge $	$	%	Item % of Total Bill
3	30 Day Service Charge			26.78				(1.04)	-	0.68	26.42	(0.36)	-1.34%	0.13%
4	Distribution (kW)	450	4.9600	2,232.00	450	4.9600	-				2,232.00	-	0.00%	10.76%
5	Regulatory Assets (kW)	450	0.0900	40.50	450	0.0900					40.50	-	0.00%	0.20%
6	**Sub-Total**			**2,299.28**							**2,298.92**	**(0.36)**	**-0.02%**	**11.08%**
7	Other Charges (kWh)	207,520	0.0062	1,286.62	207,520	0.0062					1,286.62	-	0.00%	6.20%
8	DRC (kWh)	200,000	0.0070	1,400.00	200,000	0.0070					1,400.00	-	0.00%	6.75%
9	Other Charges (kW)	467	3.9800	1,858.34	467	3.9800					1,858.34	-	0.00%	8.96%
10	Cost of Power Commodity (kWh)	750	0.0580	43.50	750	0.0580					43.50	-	0.00%	0.21%
11	Cost of Power Commodity (kWh)	206,770	0.0670	13,853.59	206,770	0.0670					13,853.59	-	0.00%	66.79%
12	**Total Bill before Taxes**			**20,741.34**							**20,740.98**	**(0.36)**	**0.00%**	**100%**
13	**GST (6%)**			**1,244.48**							**1,244.46**	**(0.02)**	**0.00%**	
14	**Total Bill after Taxes**			**21,985.82**							**21,985.43**	**(0.38)**	**0.00%**	

1,000 to 5,000 kW

Consumption 900,000 kWh Loss Factor 1.0376
1,800 kW

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12	Col. 13	Col. 14
1		2006 BILL			2007 BILL							IMPACT		
2	Item	Volume	Rate $	Charge $	Volume	Rate $	SSM and LRAM Charge $	2006 Smart Meter Charge $	2006 Rebased Smart Meter Charge $	2007 Addendum for 2007 Smart Meter Charge $	Charge $	$	%	Item % of Total Bill
3	30 Day Service Charge			716.12				(1.04)	-	0.68	715.76	(0.36)	-0.05%	0.79%
4	Distribution (kW)	1,800	4.1500	7,470.00	1,800	4.1500	0.1600				7,758.00	288.00	3.86%	8.52%
5	Regulatory Assets (kW)	1,800	0.0700	126.00	1,800	0.0700					126.00	-	0.00%	0.14%
6	**Sub-Total**			**8,312.12**							**8,599.76**	**287.64**	**3.46%**	**9.45%**
7	Other Charges (kWh)	933,840	0.0062	5,789.81	933,840	0.0062					5,789.81	-	0.00%	6.36%
8	DRC (kWh)	900,000	0.0070	6,300.00	900,000	0.0070					6,300.00	-	0.00%	6.92%
9	Other Charges (kW)	1,868	4.1700	7,788.23	1,868	4.1700					7,788.23	-	0.00%	8.55%
10	Cost of Power Commodity (kWh)	750	0.0580	43.50	750	0.0580					43.50	-	0.00%	0.05%
11	Cost of Power Commodity (kWh)	933,090	0.0670	62,517.03	933,090	0.0670					62,517.03	-	0.00%	68.67%
12	**Total Bill before Taxes**			**90,750.68**							**91,038.32**	**287.64**	**0.32%**	**100%**
13	**GST (6%)**			**5,445.04**							**5,462.30**	**17.26**	**0.32%**	
14	**Total Bill after Taxes**			**96,195.72**							**96,500.62**	**304.90**	**0.32%**	

Large Use

Consumption 2,500,000 kWh Loss Factor 1.0376
5,000 kW

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12	Col. 13	Col. 14
1		2006 BILL			2007 BILL							IMPACT		
2	Item	Volume	Rate $	Charge $	Volume	Rate $	SSM and LRAM Charge $	2006 Smart Meter Charge $	2006 Rebased Smart Meter Charge $	2007 Addendum for 2007 Smart Meter Charge $	Charge $	$	%	Item % of Total Bill
3	30 Day Service Charge			2,750.33				(1.04)	-	0.68	2,749.97	(0.36)	-0.01%	1.10%
4	Distribution (kW)	5,000	3.5400	17,700.00	5,000	3.5400	0.1200				18,300.00	600.00	3.39%	7.29%
5	Regulatory Assets (kW)	5,000	0.0700	350.00	5,000	0.0700					350.00	-	0.00%	0.14%
6	**Sub-Total**			**20,800.33**							**21,399.97**	**599.64**	**2.88%**	**8.52%**
7	Other Charges (kWh)	2,594,000	0.0062	16,082.80	2,594,000	0.0062					16,082.80	-	0.00%	6.41%
8	DRC (kWh)	2,500,000	0.0070	17,500.00	2,500,000	0.0070					17,500.00	-	0.00%	6.97%
9	Other Charges (kW)	5,188	4.3000	22,308.40	5,188	4.3000					22,308.40	-	0.00%	8.88%
10	Cost of Power Commodity (kWh)	750	0.0580	43.50	750	0.0580					43.50	-	0.00%	0.02%
11	Cost of Power Commodity (kWh)	2,593,250	0.0670	173,747.75	2,593,250	0.0670					173,747.75	-	0.00%	69.20%
12	**Total Bill before Taxes**			**250,482.78**							**251,082.42**	**599.64**	**0.24%**	**100%**
13	**GST (6%)**			**15,028.97**							**15,064.95**	**35.98**	**0.24%**	
14	**Total Bill after Taxes**			**265,511.75**							**266,147.37**	**635.62**	**0.24%**	

Street Lighting

Consumption 365 kWh Loss Factor 1.0376
1 kW

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12	Col. 13	Col. 14
1		2006 BILL			2007 BILL							IMPACT		
2	Item	Volume	Rate $	Charge $	Volume	Rate $	SSM and LRAM Charge $	2006 Smart Meter Charge $	2006 Rebased Smart Meter Charge $	2007 Addendum for 2007 Smart Meter Charge $	Charge $	$	%	Item % of Total Bill
3	30 Day Service Charge			0.26					-	-	0.26	-	0.00%	0.01%
4	Distribution (kW)	1	3.5900	3.59	1	3.5900	-				3.59	-	0.00%	0.20%
5	Regulatory Assets (kW)	1	0.0800	0.08	1	0.0800					0.08	-	0.00%	0.00%
6	**Sub-Total**			**3.93**							**3.93**	**-**	**0.00%**	**0.21%**
7	Other Charges (kWh)	379	4.7862	1,812.65	379	4.7862					1,812.65	-	0.00%	98.50%
8	DRC (kWh)	365	0.0070	2.56	365	0.0070					2.56	-	0.00%	0.14%
9	Other Charges (kW)	1	-	-	1	-					-	-	0.00%	0.00%
10	Cost of Power Commodity (kWh)	365	0.0580	21.17	365	0.0580					21.17	-	0.00%	1.15%
11	Cost of Power Commodity (kWh)	-	0.0670	-	-	0.0670					-	-	0.00%	0.00%
12	**Total Bill before Taxes**			**1,840.30**							**1,840.30**	**-**	**0.00%**	**100%**
13	**GST (6%)**			**110.42**							**110.42**	**-**	**0.00%**	
14	**Total Bill after Taxes**			**1,950.72**							**1,950.72**	**-**	**0.00%**	

Unmetered Scattered Load (One Service Charge with One Connection)

Consumption 365 kWh Loss Factor 1.0376
1 kW

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12	Col. 13	Col. 14
1		2006 BILL			2007 BILL							IMPACT		
2	Item	Volume	Rate $	Charge $	Volume	Rate $	SSM and LRAM Charge $	2006 Smart Meter Charge $	2006 Rebased Smart Meter Charge $	2007 Addendum for 2007 Smart Meter Charge $	Charge $	$	%	Item % of Total Bill
3	30 Day Service Charge			1.98					-	-	1.98	-	0.00%	5.11%
4	Connection Charge			0.29							0.29	-	0.00%	0.75%
5	Distribution (kWh)	365	0.0179	6.53	365	0.0179	0.005				8.36	1.82	27.93%	21.56%
6	Regulatory Assets (kWh)	365	0.0014	0.51	365	0.0014					0.51	-	0.00%	1.32%
7	**Sub-Total**			**9.31**							**11.14**	**1.82**	**19.59%**	**28.74%**
8	Other Charges (kWh)	379	0.0103	3.90	379	0.0103					3.90	-	0.00%	10.06%
9	DRC (kWh)	365	0.0070	2.56	365	0.0070					2.56	-	0.00%	6.59%
10	Other Charges (kW)	1	-	-	1	-					-	-	0.00%	0.00%
11	Cost of Power Commodity (kWh)	365	0.0580	21.17	365	0.0580					21.17	-	0.00%	54.61%
12	Cost of Power Commodity (kWh)	-	0.0670	-	-	0.0670					-	-	0.00%	0.00%
13	**Total Bill before Taxes**			**36.94**							**38.76**	**1.82**	**4.94%**	**100%**
14	**GST (6%)**			**2.22**							**2.33**	**0.11**	**4.94%**	
15	**Total Bill after Taxes**			**39.16**							**41.09**	**1.93**	**4.94%**	

Exhibit 4 – Manager's Summary Tables

Table 1 - LRAM and SSM Total Amounts and Rate Riders by Class

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8
1	**Rate Class**	**Amounts (2005 + 2006)**		**Billing Units (2006)**		**Rate Riders**		
2		**LRAM**	**SSM**			**LRAM**	**SSM**	**Total**
3		**$**	**$**			**$/unit (kWh or kVA)**	**$/unit (kWh or kVA)**	**$/unit (kWh or kVA)**
4	**Residential**	2,471,891	4,149,514	5,470,966,591	kWh	0.00045	0.00076	0.0012
5	**GS < 50 kW**	340,193	609,231	2,620,609,508	kWh	0.00013	0.00023	0.0004
6	**GS 50 - 1000 Kw Non Interval**	85,291	-2,551	17,351,203	kVA	0.00000	0.00000	0.0000
	GS 50 - 1000 Kw Interval	0	0	8,472,217	kVA	0.00000	0.00000	0.0000
7	**GS 1000 - 5000 kW**	108,048	1,711,285	11,825,404	kVA	0.01000	0.15000	0.1600
8	**Large Use**	29,776	627,551	5,566,486	kVA	0.01000	0.11000	0.1200
9	**Street Lighting**	0	0	317,526	kVA	0.00000	0.00000	0.0000
10	**Unmetered Scattered Load (USL)**	76,233	195,738	54,396,775	kWh	0.00140	0.00360	0.0050
11	**Total**	**3,111,432**	**7,290,767**					

Table 2 - CDM Load Impacts by Program and Class

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7
1	**Rate Class/Program**	**2005**		**2006**		**Total**	
2		**kWh**	**kVA**	**kWh**	**kVA**	**kWh**	**kVA**
3	**Residential**						
4	Mass Market	31,881,273		48,088,904		79,970,177	
5	Summer Challenge	-		60,917,161		60,917,161	
6	TAPS	1,903,847		5,382,769		7,286,616	
7	Social Housing	536,875		1,750,934		2,287,809	
8	Refrigerator Buy-Back	2,038,671		3,525,911		5,564,582	
9	**Sub-Total**	**36,360,665**		**119,665,679**		**156,026,345**	
10	**GS < 50 kW**						
11	Summer Challenge			18,488,732		18,488,732	
12	**GS 50 - 1000 kW**						
13	Leveraging Energy Conservation - CI&I		4,788		11,728		16,516
14	**GS 1000 - 5000 kW**						
15	Leveraging Energy Conservation - CI&I		1,326		3,249		4,575
16	Load Displacement				25,842		
17	**Sub-Total**				**29,091**		**4,575**
18	**Large Use**						
19	Load Displacement				10,197		10,197
20	**USL**						
21	LED Traffic Lights	1,667,599		2,386,286		4,053,885	
22	**Total**	**38,028,264**	**6,114**	**140,540,697**	**51,016**	**178,568,961**	**31,288**

Table 3 - Foregone Revenue by Class

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8
1	**Rate Class**	**2005**			**2006**			
2		**Load Units (kWh or kVA)**	**Rate * ($ per kWh or kVA)**	**Revenue $(000)**	**Load Units (kWh or kVA)**	**Rate * ($ per kWh or kVA)**	**Revenue $(000)**	**Total Revenue $(000)**
3	**Residential**							
4	Mass Market	31,881,273	0.0173	551,546	48,088,904	0.0154	740,569	1,292,115
5	Summer Challenge	-	0.0173	-	60,917,161	0.0154	938,124	938,124
6	TAPS	1,903,847	0.0173	32,937	5,382,769	0.0154	82,895	115,831
7	Social Housing	536,875	0.0173	9,288	1,750,934	0.0154	26,964	36,252
	Refrigerator	2,038,671	0.0173	35,269	3,525,911	0.0154	54,299	89,568
8	Buy-Back							
9	Sub-Total	36,360,665	0.0173	629,040	119,665,679	0.0154	1,842,851	2,471,891
10	**GS < 50 kW**							
11	Summer Challenge				18,488,732	0.0184	340,193	340,193
12	**GS 50 -1000 kW**							
	Leveraging Energy	4,788	5.6400	27,002	11,728	4.9700	58,289	85,291
13	Conservation - CI&I							
14	**GS 1000 - 5000 kW**							
	Leveraging Energy	1,326	4.0400	5,358	3,249	3.5300	11,468	16,825
15	Conservation - CI&I							
16	Load Displacement				25,842	3.5300		-
17	Sub-Total	1,326	4.0400	5,358	29,091	3.5300	11,468	16,825
18	**Large Use**							
19	Load Displacement				10,197	2.9200	29,776	29,776
20	**USL**							
21	LED Traffic Signals	1,667,599	0.0201	33,519	2,386,286	0.0179	42,715	76,233
22								
23	**Total**							**3,020,209**

(*) Rate net of transformer allowance

Table 4 - SSM Amounts by Program and Class

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7
1	**Program**	**Total Costs $ (NPV)**	**Total Benefits $ (NPV)**	**Net Benefits $ (NPV)**	**Benefit Cost Ratio**	**SSM Amount $ (After Tax)**	**SSM Amount $ (Pre Tax)**
2	Co-branded Mass Market Program	8,678,165	26,463,176	17,785,011	3.05	889,251	1,392,064
3	Summer Challenge	897,943	5,014,397	4,116,454	5.58	205,823	322,202
4	Residential Load Control Initiative	10,770,355	41,052,133	30,281,778	3.81	1,514,089	2,370,208
5	TAPS Program	734,577	3,089,688	2,355,110	4.21	117,756	184,339
6	Refrigerator Buy-back Program	388,854	964,901	576,047	2.48	28,802	45,088
7	Social Housing Program	3,482,605	3,359,576	-123,029	0.96	-6,151	-9,630
8	LED Traffic Signals	219,600	2,750,425	2,530,825	12.52	126,541	198,092
9	Leveraging Energy Conservation and/or Load Management Programs	3,470,544	3,439,313	-31,231	0.99	-1,562	-2,444
10	Commercial Industrial & Institutional (CI&I) Load Control Initiative	38,263	6,956,931	6,918,668	181.82	345,933	541,536
11	Load Displacement	10,602,870	39,579,350	28,976,480	3.73	1,448,824	2,268,040
12	Stand-by Generators	4,857,612	6,172,273	1,314,661	1.27	65,733	102,901
13	Overall Program Support	1,553,933	0	-1,553,933	-	-77,697	-121,629
14	**Grand Total**	**45,695,321**	**138,842,163**	**93,146,842**	**3.04**	**4,657,342**	**7,290,767**

Table 5 - SSM Amounts by Program Class

	Col. 1	Col. 2	Col. 3
1	**Rate Class/Program**	**SSM Amount $ (After Tax)**	**SSM Amount $ (Pre Tax)**
2	**Residential**		
3	Mass Market	889,251	1,392,064
4	Summer Challenge	157,899	247,181
5	TAPS	117,756	184,339
6	Social Housing	-6,151	-9,630
7	Refrigerator Buy-Back	28,802	45,088
8	Residential Load Control Initiative	1,514,089	2,370,208
9	Support Costs	-50,936	-79,737
10	*Sub-Total*	*2,650,709*	*4,149,514*
11	**GS < 50 kW**		
12	Summer Challenge	47,923	75,021
13	CI&I Load Control Initiative	345,933	541,536
14	Support Costs	-4,680	-7,327
15	*Sub-Total*	*389,177*	*609,231*
16	**GS 50 - 1000 kW (Non-Interval)**		
17	Leveraging Energy Conservation - CI&I	-1,191	-1,864
18	Support Costs	-439	-687
19	*Sub-Total*	*-1,630*	*-2,551*
20	**GS 1000 - 5000 kW**		
21	Leveraging Energy Conservation - CI&I	-371	-581
22	Load Displacement	1,043,123	1,632,942
23	Stand-by Generators	65,733	102,901
24	Support Costs	-15,317	-23,977
25	*Sub-Total*	*1,093,169*	*1,711,285*
26	**Large Use**		
27	Load Displacement	405,701	635,098
28	Support Costs	-4,821	-7,547
29	*Sub-Total*	*400,880*	*627,551*
30	**USL**		
31	LED Traffic Lights	126,541	198,092
32	Support Costs	-1,504	-2,354
33	*Sub-Total*	*125,038*	*195,738*
34	*Programs Total*	*4,735,039*	*7,412,396*
35	*Support Costs Total*	*-77,697*	*-121,629*
36	**Total**	**4,657,342**	**7,290,767**

Table 6 - Rate Impacts by Class

	Col. 1		Col. 2	Col. 3	Col. 4
1	**Standard Consumption per month**		**% Change Variable Rate**	**% Change Distribution Cost**	**% Change Total Bill**
2	**Residential**				
3	1000 kWh		7.79%	3.87%	1.02%
4	**GS < 50 kW**				
5	10000 kWh		2.17%	1.85%	0.35%
6	**GS 50 - 1000 kW Non-Interval**				
7	200000 kWh	450 kW	0.00%	0.00%	0.00%
8	**GS 50 - 1000 kW Interval**				
9	200000 kWh	450 kW	0.00%	0.00%	0.00%
10	**GS 1000 - 5000 kW**				
11	900000 kWh	1800 kW	3.86%	3.46%	0.32%
12	**Large Use**				
13	2500000 kWh	5000 kW	3.39%	2.88%	0.24%
14	**Street Lighting**				
15	365 kWh	1 kW	0.00%	0.00%	0.00%
16	**USL**				
17	365 kWh	1 kW	27.93%	19.59%	4.94%

Table 7 - 2006 Smart Meter Expenditures and Recoveries

	Col. 1	Col. 2
1	**Category**	**Amount ($000's)**
2	**Expenditures**	
3	Meter Capital	31,205
4	IT Capital	4,041
5	Depreciation	690
6	OM&A	526
7	**Total**	**36,462**
8		
9	**Recoveries**	
10	**Total**	**2,966**

Table 8 - Recovery of 2006 Smart Meter Deferral Account Balance

	Col. 1	Col. 2	Col. 3	Col. 4	
1		**($000's)**	**($000's)**	**Calculation**	
2	**Smart Meter 2006 Expenses**				
3	Incremental Operating Expense		526	A	
4	Depreciation Expense		690	B	
5	Total Expenses		1,216	C = A + B	
6					
7	Calculated Return on Rate Base				
8	Smart Meter Fixed Assets Net Book Value - Dec. 31, 2006	30,515		D	
9	Net Fixed Assets (average of Smart Meter Fixed Assets				
10	opening and closing 2006 Net Book Value)	15,258		E = D / 2	
11	Working Capital Allowance	79		F = A * 15%	
12	Total Rate Base	15,337		G = E + F	
13					
14	Debt Cost - weighted debt rate	5.18%	516	H = G * 65% * 5.18%	
15	Return on Equity	9.00%	483	I = G * 35% * 9%	
16	Return on Rate Base		999	J = H + I	
17					
18	Revenue Requirement before PILs		**2,215**	K = C + J	
19					
20	**Calculation of Income for PILs Purposes**				
21	Incremental Operating Expenses		526	A	
22	Depreciation Expense		690	B	
23	Interest Expense		516	H	
24	**Income for PILs purposes**		483	L = K - A - B - H	
25					
26	**Grossed up PILs**		49	M	
27					
28	Revenue Requirement before PILs		2,215	K	
29	Grossed up PILs		49	M	
30	**2006 Revenue Requirement for 2006 Smart Meters**		2,264	N = K + M	
31					
32	**Revenue Earned - Smart Meter Funding**				
33	Residential		2,295	O	
34	General Service <50		671	P	
35	Total Revenue		2,966	Q = O + P	
36					
37	**Difference Over Recovered**		-702	R = N - Q	
38					
39	**Carrying Charge on Over Recovery**		-28	S	
40					
41	**Difference Over Recovered plus Carrying Charge**		**-730**	T = R + S	/a
42					

Table 9 - PILs Calculation -2006

	Col. 1	Col. 2	Col. 3	Col. 4
		($000's)		**($000's)**
1	**Income Tax**			
2	Net Income	483		
3	Amortization	690		
4	CCA - Class 47 (8%) Smart Meters	-1,248		
5	CCA - Class 45 (45%) Computers	-		
6	Change in taxable income	-75		
7	Tax Rate	36.12%		
8	**Income Taxes Payable**	**-27**		
9				
10	**Ontario Capital Tax**			
11	Smart Meters	30,515		
12	Computer Hardware	-		
13	Computer Software	-		
14	Rate Base	30,515		
15	Less: Exemption	-		
16	Deemed Taxable Capital	30,515		
17	Ontario Capital Tax Rate	0.300%		
18	**Net OCT Amount**	**92**		
19				
20				
21		**PILs Payable**	**Gross Up**	**Grossed Up PILs**
22	Change in Income Taxes Payable	-27	36.12%	**-42**
23	Change in OCT	92		**92**
24	PIL's	64		**49**

Table 10 - 2007 Incremental Revenue Requirement Due to 2006 Smart Meters

	Col. 1	Col. 2	Col. 3	Col. 4
1		**($000's)**	**($000's)**	**Calculation**
2	**Rate Base**			
3	2006 Smart Meter Fixed Assets Cost	**Start of 2007**	**End of 2007**	
4	Residential	30,713	30,713	A
5	General Service	493	493	B
6	Total	31,205	31,205	C = A + B
7				
8	Less: Smart Meter Accumulated Depreciation			
9	Residential	675	2,723	D
10	General Service	15	48	E
11	Total	690	2,771	F = D + E
12				
13	Smart Meter Fixed Assets Net Book Value			
14	Residential	30,038	27,989	G = A - D
15	General Service	477	445	H = B - E
16	Total	30,515	28,434	I = G + H
17				
18	Average Smart Meter Fixed Assets		29,475	J = avg($I_{start\ of\ 2007}$, $I_{end\ of\ 2007}$)
19				
20	**Smart Meters Fixed Assets in Rate Base**		29,475	K = J
21				
22	**Return on Rate Base**			
23	Deemed Debt	65%	19,159	L = K * 65%
24	Deemed Equity	35%	10,316	M = K * 35%
25			29,475	N = L + M
26				
27	Weighted Debt Rate	5.18%	992	O = L * 5.18%
28	Equity Rate	9.00%	928	P = M * 9.00%
29	**Return on Rate Base**		1,921	Q = O + P
30				
31	**Amortization Expenses**			
32	2006 Smart Meters:			
33	Residential		2,049	R = $D_{end\ of\ 2007}$ - $D_{start\ of\ 2007}$
34	General Service		33	S = $E_{end\ of\ 2007}$ - $E_{start\ of\ 2007}$
35			2,081	T = R + S
36				
37	**Revenue Requirement Before PILs**		4,002	U = T +Q
38				
39	**Calculation of Income for PILs Purposes**			
40	Depreciation Expense		2,081	T
41	Interest Expense		992	O
42	**Income for PILs purposes**		928	V = U - T - O
43				
44	**Grossed up PILs**		432	W
45				
46	Revenue Requirement Before PILs		4,002	U
47	Grossed up PILs		432	W
48	**2007 Revenue Req't for 2006 Smart Meters**		4,434	X = U + W

Table 11 - 2007 Incremental Revenue Requirement - PILs Calculation

	Col. 1	Col. 2	Col. 3	Col. 4
		($000's)		**($000's)**
1	**Income Tax**			
2	Net Income	928		
3	Amortization	2,081		
4	CCA - Class 47 (8%) Smart Meters	-2,397		
5	CCA - Class 45 (45%) Computers	-		
6	Change in taxable income	613		
7	Tax Rate	36.12%		
8	Income Taxes Payable	**222**		
9				
10	**Ontario Capital Tax**			
11	Smart Meters	28,434		
12	Computer Hardware	-		
13	Computer Software	-		
14	Rate Base	28,434		
15	Less: Exemption	-		
16	Deemed Taxable Capital	28,434		
17	Ontario Capital Tax Rate	0.300%		
18	Net Amount (Taxable Capital x Rate)	**85**		
19				
20				
21		**PILs Payable**	**Gross Up**	**Grossed Up PILs**
22	Change in Income Taxes Payable	222	36.12%	**347**
23	Change in OCT	85		**85**
24	PIL's	307		**432**

Table 12 - Allocation and Recovery of Smart Meter Amounts

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	
1	**Allocators**	**Residential**	**GS < 50 kW**	**GS - 50 to 1000 kW - Non Interval**	**Total**	
2						
3	Operational Data					
6	Number of Customers (2006 Approved)	597,210	66,505	9,550	**673,265**	
7	2006 Smart Meters Installed	191,370	2,070	560	**194,000**	
9	Allocator Percentages					
12	2006 Smart Meters Installed	98.64%	1.07%	0.29%	**100.0%**	
13	**Allocated Amounts**	**Residential $**	**GS < 50 kW $**	**GS - 50 to 1000 kW - Non Interval $**	**Total $**	
14	2007 Rate Base Addition of Smart Meters	4,374,212	47,315	12,800	4,434,327	
15	2006 Expense and Return Recovery	-720,262	-7,791	-2,108	-730,161	
16	**Total Recovery**	**3,653,950**	**39,524**	**10,692**	**3,704,166**	
17	**Charge Calculations**	**Recovery Basis**	**Residential**	**GS < 50 kW**	**GS - 50 to 1000 kW - Non Interval**	
18			$ per Customer /30 days	$ per Customer /30 days	$ per Customer /30 days	
19	Base Rates Addition	Customer	0.60	0.06	0.11	
20	12-Month Rate Rider for Expense Recovery	Customer	-0.10	-0.01	-0.02	/a
21	**Total**		**0.50**	**0.05**	**0.09**	/a