



April 3, 2012

VIA MAIL and E-MAIL

**Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
P.O. Box 2319
2300 Yonge Street
Toronto, ON
M4P 1E4**

Dear Ms. Walli:

**RE: Orangeville Hydro Limited
Board File EB-2012-0039
2012 Smart Meter Cost Recovery Application
Response to Board Staff Interrogatories**

Orangeville Hydro Limited is submitting responses to the Board Staff Interrogatories filed in this matter.

An electronic copy of the application (pdf, and model in excel) will be submitted through the OEB e-Filing services and two hard copies via courier.

If you have any further questions, please do not hesitate to contact me.

Respectfully submitted,

Yours truly,

ORANGEVILLE HYDRO LIMITED

George Dick,
President

on behalf of Jan Howard
Manager of Finance & Rates

ONTARIO ENERGY BOARD

IN THE MATTER OF

the *Ontario Energy Board Act*, 1998, S.O. 1998, c. 15 (Schedule B), as amended;

AND IN THE MATTER OF an Application by
Orangeville Hydro Limited (Orangeville Hydro) for an order or orders
approving or fixing just and reasonable
distribution rates to be effective May 1, 2012 to reflect the
recovery of costs for deployed smart meters.

Orangeville Hydro Limited
2012 Smart Meter Cost Recovery
EB-2012-0039

Board Staff Interrogatories

In the Board's Notice of Application and Hearing for an Electricity Distribution Rate Change of Orangeville Hydro Limited ("Orangeville"), Tuesday, March 20, 2012 was set as the deadline for interrogatories to Orangeville. Board staff submits the following interrogatories.

1. Letters of Comment

Following publication of the Notice of Application, the Board has, to date, received no letters of comment. Please confirm whether Orangeville has received any letters of comment. If so, please file a copy of the letters of comment. For each, please confirm whether a reply was sent from Orangeville. If confirmed, please file that reply with the Board. Please ensure that the author's contact information except for the name is redacted. If not confirmed, please explain why a response was not sent and confirm if Orangeville intends to respond.

Response

Orangeville has not received any letters of comment following publication of the Notice of Application, which was published in the Orangeville Banner on February 28, 2012.

2. Ref: Actual Balances

Orangeville states at page 4 of its Application that its cost recovery is based on actual costs incurred to December 31, 2011 and forecasted costs to December 31, 2012. On page 6 of the Manager's Summary, Orangeville states that it has taken the actual capital and OM&A costs in the deferral accounts 1555 and 1556 from its audited financial records as of December 31, 2010 and projected the remainder of 2011 and 2012.

- a. Please confirm whether the December 31, 2011 balances are actual balances or forecast balances.
- b. If the 2011 balances are forecast, please provide the actual balances.

Response

- a. All balances to year end 2011 have been updated to their actual balances, and will correspond to our RRR filing.
- b. Orangeville has updated the Smart Meter Model to reflect actual balances for 2011, and has included this model in our response.

3. Ref: Stranded Meter Costs

On page 19 of its Application, Orangeville states that it is not seeking disposition of stranded meter costs in this Application, but will seek recovery in its next cost of service application. Orangeville states that the NBV of stranded meters as of December 31, 2010 is \$514,071 and that it continues to amortize the stranded meters. Please provide Orangeville's estimate of the NBV of the stranded meters as of December 31, 2013.

Response

Please see the table below for Orangeville's amortization projection for stranded meters and the estimated Net Book Value of stranded meters at December 31, 2013. Actual amortization in 2011 was substantially higher as there is amortization included for assets acquired between 1980 and 1985 that should now be fully amortized, but had been previously calculated with a longer useful life than 25 years. The decrease in amortization in 2013 is due to the fact that assets acquired in 1988 and before are now fully amortized which reduces amortization expense.

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Stranded Meters - Projected Net Book Value	
Current NBV at December 31, 2010	\$514,071.00
Actual Amortization 2011	(74,951.04)
Projected Amortization 2012	(44,088.80)
Projected Amortization 2013	(41,563.93)
Projected NBV at December 31, 2013	\$353,467.23

4. Ref: Smart Meter Model – Historical Smart Meter Costs

Orangeville has provided its expenditures by year on Sheet 2 of the Smart Meter Model. Orangeville's application indicates on page 6 that deployment of residential and GS<50 kW meters started in 2009. However, Orangeville reports software and other equipment (professional fees) expenditures prior to 2009:

2007: \$16,476

2008: \$17,041

- a. Please provide further details of the nature of these expenses.

Response

- a. In 2007, Orangeville incurred costs of \$175 for the legal review of the consulting agreement between Orangeville and Util-assist.

\$16,300.77 was also incurred in 2007 for the Annual Project Management fee for the Smart Metering initiative, which included mileage and meeting expenses.

In 2008 Orangeville incurred costs of \$15,971.01 for the annual Project management fee, which included mileage and meeting expenses. Also incurred was \$1,069.50 for meter consultant costs.

5. Ref: Smart Meter Model – Cost of Service Parameters

Orangeville has provided the basic cost of service parameters for historical years on Sheet 3 in the Smart Meter Model. Board staff requests some clarification of certain entries.

- a. Please reconcile the useful life for Computer Hardware of 10 years as shown on Sheet 3 of the model with the useful life of 5 years shown in the depreciation table filed in Orangeville's 2010 cost of service proceeding (EB-2009-0272).

- b. Board staff notes that Orangeville's 2010 cost of service application includes four CCA classes for Computers and System Hardware, as follows:

- Class 45: 45%
- Class 50: 55%
- Class 52 100%
- Class 45.1 55%

At Sheet 3 of the model, Orangeville has indicated that Computer Equipment is Class 50 at 50%. Please clarify the CCA Class for Computer Equipment involved in Orangeville's smart meter program, and reconcile the CCA rate with those shown in Orangeville's 2010 cost of service application.

Response

- a. **Orangeville inadvertently submitted our application with the useful life for Computer Hardware as 10 years. Orangeville has corrected this useful life to 5 years for Computer Hardware. Orangeville will submit a corrected smart meter model reflecting this change with the interrogatory response.**
- b. **Orangeville inadvertently used 50% for the CCA class for Computer Equipment for 2007 to 2012. Orangeville has corrected the CCA rate to 55% for these years for Computer Equipment. Orangeville will submit a corrected smart meter model reflecting this change with the interrogatory response.**

6. Ref: Smart Meter Model – Taxes/PILs rates

On sheet 3 of the Smart Meter Model, on row 40, the utility inputs the aggregate Federal and Provincial tax rates applicable for each year from 2006 to 2012. By default, the model is populated with the maximum tax rate in each year, but the cells can be overridden.

Board staff notes that Orangeville has used the 2010 Board-approved aggregate tax rate of 28.31% for the years 2010, 2011 and 2012. Board staff also notes that

Response to Board Staff Interrogatories

Orangeville has entered aggregate tax rates of 36.12%, 36.12%, 33.5% and 33.00% for 2006, 2007, 2008 and 2009, respectively.

Please recalculate the Smart Meter Model using the aggregate corporate income tax rate underpinning distribution rates for the 2006 to 2009 period. This should be readily available from taxes/PILs calculations or spreadsheets used in annual cost of service or Incentive Regulation Mechanism (“IRM”) rates applications.

Response

Orangeville has revised the model with the appropriate tax rates for the 2006 to 2009 period as set out in the table below:

2006	2007	2008	2009
30.46%	30.46%	27.84%	26.88%

7. Ref: Costs beyond Minimum Functionality

O. Reg. 426/06 s. 2(1) states that:

“No distributor shall recover any costs associated with meter data functions to be performed by the Smart Meter Entity”.

O. Reg. 393/07 defines the exclusive authority of the Smart Meter Entity to include, among other functions, conducting all services performed on smart metering data to produce billing quantity data, validation, estimating and editing services.

Orangeville’s application at page 9 describes the Operational Data Store (“ODS”) functionality to allow staff to audit and validate meter data.

- Please describe in greater detail how these functions differ from those described as the exclusive authority of the Smart Meter Entity.
- Please describe the benefits and cost savings provided by the ODS.
- What portion of the total capital and OM&A costs are specifically related to the ODS?
- What is the in-service date for the ODS?
- What further capital and operating costs are forecast for the ODS?

Response

- a. The ODS is utilized to audit and validate meter data when the Smart Meter Entity is unsuccessful in auditing and validating meter data. The ODS does not duplicate the functions of the MDMR.
- b. Orangeville's ODS is utilized as an operational tool to assist with backfilling missing data (on new installs, meter changes, etc.), and pre-audit for billing quantity request (to reduce exception handling). These functions are not duplicative functions of the MDM/R. The ODS however, does have an add-on module that allows it to mimic the most critical MDM/R functions. For instance it can create the Data Collection reports, the VE reports, provide estimation and respond to Billing Quantity Requests, all of which would allow Orangeville to maintain the billing schedule in case of an extended outage by the MDM/R.

The aforementioned functionality in response a. within the add-on module is for business continuity purposes. These functions are not included in our agreement with Savage Data Systems, however in an emergency the ODS Virtual MDM/R (VMDR/R) functionality can be turned on within hours. The request to turn on this functionality would only be invoked if the MDM/R declared an extended outage.

- c. The total capital costs relating specifically to the ODS are \$28,451.20, which are approximately 1.54% of total capital costs. The total OM&A costs relating specifically to the ODS are \$6,644.47, which are approximately 3.42% of total OM&A costs.
- d. The in-service date for the ODS was April 2010.
- e. The total operating costs that are forecast for the ODS are \$20,400.00. There are no capital costs forecast going forward.

8. Ref: Costs beyond Minimum Functionality

Orangeville's application at page 18 states that it chose to rent, rather than to own the AMCC, "thereby reducing operating costs".

- a. Please provide a comparison of the capital and operating costs of owning and renting the AMCC.

Response to Board Staff Interrogatories

- b. Board staff notes that WAN OM&A costs have increased from \$16k in 2010, to \$47k in 2011, to \$66k in 2012. Please describe the nature of these costs.
- c. Are the WAN OM&A costs variable? If so, how are they determined?
- d. What are the ongoing capital and operating costs expected for the WAN rental?

Response

- a. **The comparison of capital and operating cost of owning (Option 1) and renting (Option 2a) the AMCC (RNI) can be seen below.**

Orangeville Summary	# of Meters	Total Capital	Average Capital Per Meter	Cost of Capital	15 Year Operating Costs	Average O&M Per Meter Per Month	Total Costs	Average Total Price Per Meter
Owning	10,905	\$1,441,553.22	\$132.19	\$790,361.21	\$2,809,647.61	\$1.43	\$5,041,562.04	\$462.32
Renting		\$1,314,116.99	\$120.51	\$720,491.67	\$1,398,023.74	\$0.71	\$3,432,632.41	\$314.78

- b. **The OM&A WAN fees have increased from 2010 to 2012 for two reasons. The costs for 2010 included a flat rate per month for the TGB located in Orangeville, which began in May, as well as a monthly internet charge. In 2011, the OM&A WAN costs included the cost of a monthly fee for the Orangeville TGB. Orangeville also began paying a monthly flat rate for the Grand Valley TGB in July. At this time Orangeville also began paying a per meter fee for all installed meters in both Orangeville and Grand Valley. In 2012, the forecasted costs included two TGB flat monthly rates, as well as a per meter cost for the entire year, which is why the 2012 forecasted costs are substantially higher.**
- c. **The WAN costs that are charged by Sensus are fixed and variable costs. Orangeville is charged a fixed cost on a monthly basis per TGB, of which there are two, and also monthly on a per meter basis.**
- d. **The ongoing operating costs for 2012 include a monthly flat rate fee for two TGB's, as well as a monthly per meter cost which will total**

approximately \$66,000 in 2012. There are no expected ongoing capital costs.

9. Ref: Customer Repairs

The Board in the Guidelines stated:

“The actual costs for materials and parts to repair or replace any customer-owned equipment should be expensed and also tracked separately in a different sub-account of the Smart Meter OM&A Variance Account 1556 until disposition is ordered by the Board following a review for prudence of the smart meter costs. As the meter base remains the property of the customer, the Board determined that it would not be appropriate to have it form part of the distributor’s rate base.”

- a. Please state the costs of repair or replacement of customer-owned equipment.
- b. Are there any costs for repaired or replaced meter bases included in these costs? If so, please state the total amount.
- c. Please confirm that these costs were recorded in a different sub-account of the Smart Meter OM&A Variance Account 1556.

Response

- a. Please see the table below for the total costs incurred for repair or replacement of customers-owned equipment.

Meter Base Repairs	
Year	Total Cost
2009	\$ 2,458.35
2010	\$ 9,053.88
2011	\$ 9,959.14
Total Meter Base Repairs	\$ 21,471.37

- b. The entire amount of this cost has been incurred for repair or replacement of meter bases.

- c. **Orangeville confirms these costs were recorded in a different sub-account of the Smart Meter OM&A Variance account 1556.**

10. Ref: Smart Meter Model – Interest on OM&A and Amortization/Depreciation Expense

In the Smart Meter Model Version 2.17 filed by Orangeville, the utility has relied upon sheet 8B to calculate the interest on OM&A and depreciation/amortization expenses. Sheet 8B calculates the interest based on the average annual balance of deferred OM&A and depreciation/amortization expenses based on the annual amounts input elsewhere in the model.

The more accurate and preferred method for calculating the interest on OM&A and depreciation/amortization expense is to input the monthly amounts from the sub-account details of Account 1556, using sheet 8A of the model. This approach is analogous to the calculation of interest on SMFA revenues on sheet 8 of the model.

- a. Please re-file the smart meter model using the monthly OM&A and depreciation/amortization expense data from Account 1556 records. Orangeville should also take into account any revisions necessary, including those resulting from its responses to interrogatories, as required.
- b. If this is not possible, please explain.

Response

- a. **Orangeville has updated sheet 8A of the Smart Meter Model, and has submitted the updated model with the response to these interrogatories, taking into account any revisions that took place as a result of the interrogatory responses.**

11. Ref: Smart Meter Model – Revenue Requirement

Board staff notes certain discrepancies between the Revenue Requirement as calculated in Orangeville's Smart Meter model at Sheet 5 and the Revenue Requirement calculations provided in Orangeville's application at pages 20 and 23.

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- a. Please reconcile the total Revenue Requirement to December 31, 2011 of \$539,306 as calculated in the model with the Revenue Requirement of \$543,450 as shown at page 20 of the application.
- b. Please reconcile the 2012 Revenue Requirement of \$436,961 as calculated in the model with the Revenue Requirement of \$437,678 as shown at page 23 of the application.
- c. Please provide corrections to the model or application as necessary.

Response

- a. **Orangeville has made changes to the smart meter model due to the interrogatories, and therefore the Revenue Requirement to December 31, 2011 on Sheet 5 has changed slightly to \$536,714 before Interest on Deferred OM&A and Amortization. The Total Revenue Requirement including Interest on Deferred OM&A and Amortization of \$4,037 is \$540,751. The Revenue Requirement from Sheet 5 in the Smart Meter Model does not include this Interest on Deferred OM&A and Amortization amount. The Total Revenue Requirement of \$540,751 can be compared to Sheet 9 in the Smart Meter Model. Please see table 3a below for reconciliation to this amount.**

Table 3a: Revenue Requirement Calculation for Disposition Rate Rider

Rate Base	2007 Amount	2008 Amount	2009 Amount	2010 Amount	2011 Amount	Total Amount
Net Fixed Assets	\$ 7,826	\$ 22,896	\$ 181,179	\$ 838,125	\$ 1,524,741	\$ 2,574,767
Working Capital Allowance	\$ -	\$ -	\$ 369	\$ 6,147	\$ 11,872	\$ 18,387
Total Rate Base	\$ 7,826	\$ 22,896	\$ 181,548	\$ 844,272	\$ 1,536,613	\$ 2,593,155

Revenue Requirement	2007 Amount	2008 Amount	2009 Amount	2010 Amount	2011 Amount	Total Amount
Short Term Interest	\$ -	\$ -	\$ -	\$ 699	\$ 1,272	\$ 1,971
Long Term Interest	\$ 245	\$ 704	\$ 5,940	\$ 26,618	\$ 48,446	\$ 81,953
Return on Equity	\$ 352	\$ 962	\$ 7,075	\$ 33,264	\$ 60,543	\$ 102,196
Total Return	\$ 597	\$ 1,666	\$ 13,014	\$ 60,582	\$ 110,261	\$ 186,120
OM&A	\$ -	\$ -	\$ 2,458	\$ 40,979	\$ 79,145	\$ 122,583
Amortization	\$ 824	\$ 2,553	\$ 16,617	\$ 67,829	\$ 125,158	\$ 212,982
Grossed-up PILs	\$ 171	\$ 450	\$ 615	\$ 4,470	\$ 11,794	\$ 15,029
Revenue Requirement	\$ 1,249	\$ 3,770	\$ 31,476	\$ 173,861	\$ 326,359	\$ 536,714
Interest on Deferred OM&A and Amortization	\$ 18	\$ 74	\$ 100	\$ 638	\$ 3,207	\$ 4,037
Total Revenue Requirement	\$ 1,267	\$ 3,844	\$ 31,575	\$ 174,498	\$ 329,565	\$ 540,751

Table 3b summarizes the Smart meter True-up balances which is the difference between the revenue requirements shown above and the value of the approved smart meter funding adder. As shown in table 3b,

there is an outstanding smart meter true-up balance of **-\$101,798**, which changed from the original application amount of **-\$99,098**.

Table 3b: Disposition Rate Rider to Recover Actual Smart Meter Costs to December 31, 2011

Revenue Requirement 2007	\$	1,267	
Revenue Requirement 2008	\$	3,844	
Revenue Requirement 2009	\$	31,575	
Revenue Requirement 2010	\$	174,498	
Revenue Requirement 2011	\$	329,565	
Total Revenue Requirement			\$ 540,751
Smart Meter Funding Adder Collected	-\$	625,771	
Carrying Cost on Smart Meter Funding Adder	-\$	16,777	-\$ 642,548
Smart Meter True-up Balance for Disposition Rider		-\$	101,798

Table 3c has changed slightly from the application, specifically in the Revenue Requirement section. Residential revenue requirement has changed from \$388,102 and the GS<50 has changed from \$136,978.

Table 3c: Basis of Allocation for SMDR Revenue Requirement Allocation by Customer Class

Revenue Requirement Return & Amortization:	1860 CWMC Allocator per 2010 Cost Allocation	Revenue Requirement Smart Meter Allocator	
Residential (1)	50.64%	68.94%	(1) / (A)
GS<50 (2)	22.82%	31.06%	(2) / (A)
Subtotal Applicable to Smart Meters (A)	73.46%	100.00%	
GS>50	26.54%		
Total	100.00%		
Revenue Requirement OM&A	Meters Installed by 2011	Revenue Requirement Smart Meter Allocator	
Residential (3)	10,021	90.24%	(3) / (B)
GS<50 (4)	1,084	9.76%	(4) / (B)
Total Smart Meters Installed (B)	11,105		
Revenue Requirement Grossed-up PILS & Interest on Deferred OM&A and Amortization	Revenue Requirement Allocated for Return, Amortization and OM&A	Revenue Requirement Smart Meter Allocator	
Residential (5)	\$ 385,740	73.94%	(5) / (C)
GS<50 (6)	\$ 135,945	26.06%	(6) / (C)
Total Smart Meters Installed (C)	\$ 521,685		

Orangeville Hydro Limited
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Response to Board Staff Interrogatories

Table 3d has been revised to show the total smart meter true up allocated between classes of -\$101,798. Residential total true-up balance is -\$75,270, and the GS<50 total true-up balance is -\$26,527.

Table 3d: Allocation of Revenue Requirement and Smart Meter Funding Adder by Customer Class for Disposition Rate Rider

Revenue Requirement	Total to Allocate	Allocator for Residential	Residential	Allocator for GS<50	GS<50
Return	\$ 186,120	68.94%	\$ 128,303	31.06%	\$ 57,817
Amortization	\$ 212,982	68.94%	\$ 146,820	31.06%	\$ 66,162
OM&A	\$ 122,583	90.24%	\$ 110,617	9.76%	\$ 11,966
Subtotal before PILs	\$ 521,685		\$ 385,740	(5)	\$ 135,945
Grossed-up PILs	\$ 15,029	73.94%	\$ 11,113	26.06%	\$ 3,916
Interest on Deferred OM&A and Amortization	\$ 4,037	73.94%	\$ 2,985	26.06%	\$ 1,052
Total Revenue Requirement	\$ 540,751	73.94%	\$ 399,838	26.06%	\$ 140,913
Total Smart Meter Funding Adder Collected	-\$ 642,548	73.94%	-\$ 475,108	26.06%	-\$ 167,441
Total Smart Meter True-up Balance	-\$ 101,798	73.94%	-\$ 75,270	26.06%	-\$ 26,527

Orangeville proposes to recover this true-up balance of -\$101,798 from customers by a monthly Smart Meter Disposition Rate Rider of -\$0.62 per Residential Customer and -\$2.03 per General Service less than 50kW customer, over a period of May 1, 2012, to April 30, 2013, as shown in Table 3c. The Total Monthly Disposition Rate Rider changed by \$0.02 from our original submission.

Table 3e: Calculation of Disposition Rate Rider by Class

	Residential	GS<50	Total Smart Meter Customers
Total Smart Meter True-up for Disposition	-\$ 75,270	-\$ 26,527	-\$ 101,798
Number of Customers	10,131	1,089	11,220
Total Monthly Disposition Rate Rider	-\$ 0.62	-\$ 2.03	-\$ 0.76

- b. Orangeville has updated the smart meter model due to the interrogatories, and therefore the total 2012 Revenue Requirement has changed slightly from \$437,678 to \$436,842. Please see table 4a below for reconciliation to this amount.

Table 4a: Revenue Requirement Calculation for Incremental Revenue Requirement Rate Rider

Rate Base	2012 Amount
Net Fixed Assets	\$ 1,656,499
Working Capital Allowance	\$ 22,633
Total Rate Base	\$ 1,679,132

Revenue Requirement	2012 Amount
Short Term Interest	\$ 1,390
Long Term Interest	\$ 52,940
Return on Equity	\$ 66,158
Total Return	\$ 120,488
OM&A	\$ 150,888
Amortization	\$ 146,700
Grossed-up PILs	\$ 18,766
Total Revenue Requirement	\$ 436,842

Table 4b has been revised in the Revenue Requirement section for Residential from \$320,371 to \$320,430 and GS<50 from \$97,619 to \$97,646.

Table 4b: Basis of Allocation for SMIRR Revenue Requirement Allocation by Customer Class

Revenue Requirement	1860 CWMC Allocator per 2010 Cost Allocation Review	Revenue Requirement Smart Meter Allocator	
Return & Amortization:			
Residential (1)	50.64%	68.94%	(1) / (A)
GS<50 (2)	22.82%	31.06%	(2) / (A)
Subtotal Applicable to Smart Meters (A)	73.46%	100.00%	
GS>50	26.54%		
Total	100.00%		
Revenue Requirement OM&A	Meters Installed by 2012	Revenue Requirement Smart Meter Allocator	
Residential (3)	10,131	90.29%	(3) / (B)
GS<50 (4)	1,089	9.71%	(4) / (B)
Total Smart Meters Installed (B)	11,220		
Revenue Requirement Grossed-up PILS & Interest on Deferred OM&A and Amortization	Revenue Requirement Allocated for Return, Amortization and OM&A	Revenue Requirement Smart Meter Allocator	
Residential (5)	\$ 320,430	76.64%	(5) / (C)
GS<50 (6)	\$ 97,646	23.36%	(6) / (C)
Total Smart Meters Installed (C)	\$ 418,076		

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Table 4c has changed minimally from a Total Revenue Requirement of \$437,678 to \$436,842. Residential decreased from \$335,461 to \$334,813 and GS<50 increased from \$102,029 to \$102,217.

Table 4c: Allocation of Revenue Requirement by Customer Class for Incremental Revenue Requirement Rate Rider

Revenue Requirement	Total to Allocate	Allocator for Residential	Residential	Allocator for GS<50	GS<50
Return	\$ 120,488	68.94%	\$ 83,059	31.06%	\$ 37,429
Amortization	\$ 146,700	68.94%	\$ 101,128	31.06%	\$ 45,572
OM&A	\$ 150,888	90.29%	\$ 136,243	9.71%	\$ 14,645
Subtotal before PILs	\$ 418,076		\$ 320,430	(5)	\$ 97,646
Grossed-up PILs	\$ 18,766	76.64%	\$ 14,383	23.36%	\$ 4,383
Total Revenue Requirement	\$ 436,842	76.64%	\$ 334,813	23.36%	\$ 102,029

(6)

Orangeville proposes to recover these amounts from customers by a monthly Smart Meter Revenue Requirement Rate Rider of \$2.75 per Residential Customer and \$7.81 per General Service less than 50kW customer, over a period of May 1, 2012, to April 30, 2013, as shown in Table 4d. The Total Monthly Revenue Requirement Rate Rider changed by -\$0.01 from our original submission.

Table 4d: Calculation of Incremental Revenue Requirement Rate Rider

	Residential	GS<50	TOTAL
Total Revenue Requirement	\$ 334,813	\$ 102,029	\$ 436,842
Number of Customers	10,131	1,089	11,220
Total Monthly Incremental Revenue Requirement Rate Rider	\$ 2.75	\$ 7.81	\$ 3.24

c. Orangeville confirms the updated model has been submitted with this interrogatory response.

12. Ref: Smart Meter Model

- a. If Orangeville has changed its inputs to the Smart Meter Model as a result of any of the above interrogatory responses, please update and re-file the smart meter model in working Microsoft Excel format.

Response

- a. **Orangeville confirms we have made changes to the Smart Meter Model, and have submitted the model with the interrogatory responses in working Microsoft Excel format.**

13. Ref: Application, Tables 3 and 4 – Cost Allocation

- a. If Orangeville has made revisions to its Smart Meter Model as a result of its responses to interrogatories, please update the proposed class-specific SMDRs accordingly.
- b. Similarly, please update the calculation of class-specific SMIRRs.

Response

- a. **Orangeville has made revisions to the Smart Meter Model as a result of our responses to interrogatories, and has attached the updated proposed SMDRs. Please see IR#11 for updated tables.**
- b. **Orangeville has made revisions to the Smart Meter Model as a result of our responses to interrogatories, and has attached the updated proposed SMIRRs. Please see IR#11 for updated tables.**

14. Ref: Application, Incremental Revenue Requirement Rate Rider

At page 24 of the application, Orangeville proposes to recover the Smart Meter Incremental Revenue Requirement Rate Rider over the period May 1, 2012 to April 30, 2013.

- a. Please confirm that Orangeville's next scheduled cost of service proceeding will take place for the 2014 rate year.
- b. Please confirm that the SMIRR, as a proxy rate to recover the annualized incremental revenue requirement on a prospective basis for capital-related and operating costs of installed smart meters should continue in effect until Orangeville has new rates based on cost of service rebasing.
- c. Under these circumstances, does Orangeville propose that its SMIRR continue until April 30, 2014? If not, please explain.

Response

- a. **Orangeville confirms we will undertake a cost of service proceeding for the 2014 rate year.**
- b. **Orangeville confirms that the SMIRR, as a proxy rate to recover the annualized incremental revenue requirement on a prospective basis for capital-related and operating costs of installed smart meters**

should continue in effect until Orangeville has new rates based on cost of service rebasing.

- c. Orangeville proposes that the SMIRR continues until April 30, 2014.



Ontario Energy Board

Smart Meter Model

Choose Your Utility:

Orangeville Hydro Limited
Orillia Power Distribution Corporation

Application Contact Information

Name: Jan Howard

Title: Manager Of Finance & Rates

Phone Number: 519-942-8000

Email Address: jhoward@orangevillehydro.on.ca

We are applying for rates effective: May 1, 2012

Last COS Re-based Year: 2010

Legend

DROP-DOWN MENU

INPUT FIELD

CALCULATION FIELD

Copyright

This Workbook Model is protected by copyright and is being made available to you solely for the purpose of filing your application. You may use and copy this model for that purpose, and provide a copy of this model to any person that is advising or assisting you in that regard. Except as indicated above, any copying, reproduction, publication, sale, adaptation, translation, modification, reverse engineering or other use or dissemination of this model without the express written consent of the Ontario Energy Board is prohibited. If you provide a copy of this model to a person that is advising or assisting you in preparing the application or reviewing your draft rate order, you must ensure that the person understands and agrees to the restrictions noted above.

While this model has been provided in Excel format and is required to be filed with the applications, the onus remains on the applicant to ensure the accuracy of the data and the results. The use of any models and spreadsheets does not automatically imply Board approval. The onus is on the distributor to prepare, document and support its application. Board-issued Excel models and spreadsheets are offered to assist parties in providing the necessary information so as to facilitate an expeditious review of an application. The onus remains on the applicant to ensure the accuracy of the data and the results.



Ontario Energy Board Smart Meter Model

Orangeville Hydro Limited

Distributors must enter all incremental costs related to their smart meter program and all revenues recovered to date in the applicable tabs except for those costs (and associated revenues) for which the Board has approved on a final basis, i.e. capital costs have been included in rate base and OM&A costs in revenue requirement.

For 2012, distributors that have completed their deployments by the end of 2011 are not expected to enter any capital costs. However, for OM&A, regardless of whether a distributor has deployments in 2012, distributors should enter the forecasted OM&A for 2012 for all smart meters in service.

Smart Meter Capital Cost and Operational Expense Data

Smart Meter Installation Plan

Actual/Planned number of Smart Meters installed during the Calendar Year

	2006 Audited Actual	2007 Audited Actual	2008 Audited Actual	2009 Audited Actual	2010 Audited Actual	2011 Audited Actual	2012 and later Forecast	Total
Residential				287	9,640	94	110	10131
General Service < 50 kW					447	637	5	1089
Actual/Planned number of Smart Meters installed (Residential and GS < 50 kW only)	0	0	0	287	10087	731	115	11220
Percentage of Residential and GS < 50 kW Smart Meter Installations Completed	0.00%	0.00%	0.00%	2.56%	92.46%	98.98%	100.00%	100.00%
Actual/Planned number of GS > 50 kW meters installed								0
Other (please identify)								0
Total Number of Smart Meters installed or planned to be installed	0	0	0	287	10087	731	115	11220

1 Capital Costs

1.1 ADVANCED METERING COMMUNICATION DEVICE (AMCD)

	Asset Type Asset type must be selected to enable calculations	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
1.1.1 Smart Meters (may include new meters and modules, etc.)	Smart Meter				107,218	869,733	303,466	10,400	\$ 1,290,818
1.1.2 Installation Costs (may include socket kits, labour, vehicle, benefits, etc.)	Smart Meter				12,138	94,661	17,111		\$ 123,910
1.1.3a Workforce Automation Hardware (may include fieldwork handhelds, barcode hardware, etc.)	Computer Hardware					8,595	0		\$ 8,595
1.1.3b Workforce Automation Software (may include fieldwork handhelds, barcode hardware, etc.)	Computer Software								\$ -
Total Advanced Metering Communications Devices (AMCD)		\$ -	\$ -	\$ -	\$ 119,356	\$ 972,990	\$ 320,577	\$ 10,400	\$ 1,423,323

1.2 ADVANCED METERING REGIONAL COLLECTOR (AMRC) (includes LAN)

	Asset Type	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
1.2.1 Collectors	Smart Meter				129,508	6,519	51,515		\$ 187,541
1.2.2 Repeaters (may include radio licence, etc.)	Smart Meter								\$ -
1.2.3 Installation (may include meter seals and rings, collector computer hardware, etc.)	Smart Meter				9,072	40,673	16,609		\$ 66,354
Total Advanced Metering Regional Collector (AMRC) (Includes LAN)		\$ -	\$ -	\$ -	\$ 138,580	\$ 47,192	\$ 68,124	\$ -	\$ 253,895

1.3 ADVANCED METERING CONTROL COMPUTER (AMCC)

1.3.1 Computer Hardware

1.3.2 Computer Software

1.3.3 Computer Software Licences & Installation (includes hardware and software)
(may include AS/400 disk space, backup and recovery computer, UPS, etc.)**Total Advanced Metering Control Computer (AMCC)**

Asset Type	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
Computer Hardware								\$ -
Computer Hardware								\$ -
Computer Hardware								\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

1.4 WIDE AREA NETWORK (WAN)

1.4.1 Activation Fees

Total Wide Area Network (WAN)

Asset Type	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
Tools & Equipment								\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

1.5 OTHER AMI CAPITAL COSTS RELATED TO MINIMUM FUNCTIONALITY

1.5.1 Customer Equipment (including repair of damaged equipment)

1.5.2 AMI Interface to CIS

1.5.3 Professional Fees

1.5.4 Integration

1.5.5 Program Management

1.5.6 Other AMI Capital

Total Other AMI Capital Costs Related to Minimum Functionality**Total Capital Costs Related to Minimum Functionality**

Asset Type	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
Other Equipment								\$ -
Computer Software					5,060	48		\$ 5,108
Other Equipment		16,476	15,971	30,304	28,513	18,068		\$ 109,332
Computer Software			1,070	30,457	3,340	28,451		\$ 63,318
Smart Meter								\$ -
Computer Software					1,625			\$ 1,625
	\$ -	\$ 16,476	\$ 17,041	\$ 60,761	\$ 38,538	\$ 46,567	\$ -	\$ 179,382
	\$ -	\$ 16,476	\$ 17,041	\$ 318,697	\$ 1,058,719	\$ 435,267	\$ 10,400	\$ 1,856,600

1.6 CAPITAL COSTS BEYOND MINIMUM FUNCTIONALITY

(Please provide a descriptive title and identify nature of beyond minimum functionality costs)

1.6.1 Costs related to technical capabilities in the smart meters or related communications infrastructure that exceed those specified in O.Reg 425/06

1.6.2 Costs for deployment of smart meters to customers other than residential and small general service

1.6.3 Costs for TOU rate implementation, CIS system upgrades, web presentation, integration with the MDM/R, etc.

Total Capital Costs Beyond Minimum Functionality**Total Smart Meter Capital Costs**

Asset Type	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
Other Equipment								\$ -
Other Equipment								\$ -
Other Equipment					20,923	51,310	38,396	\$ 110,629
	\$ -	\$ -	\$ -	\$ -	\$ 20,923	\$ 51,310	\$ 38,396	\$ 110,629
	\$ -	\$ 16,476	\$ 17,041	\$ 318,697	\$ 1,079,642	\$ 486,577	\$ 48,796	\$ 1,967,228

2 OM&A Expenses

2.1 ADVANCED METERING COMMUNICATION DEVICE (AMCD)

2.1.1 Maintenance (may include meter reverification costs, etc.)

Total Incremental AMCD OM&A Costs

2.2 ADVANCED METERING REGIONAL COLLECTOR (AMRC) (includes LAN)

2.2.1 Maintenance

Total Incremental AMRC OM&A Costs

2.3 ADVANCED METERING CONTROL COMPUTER (AMCC)

2.3.1 Hardware Maintenance *(may include server support, etc.)*

2.3.2 Software Maintenance *(may include maintenance support, etc.)*

Total Incremental AMCC OM&A Costs

2.4 WIDE AREA NETWORK (WAN)

2.4.1 WAN Maintenance

Total Incremental AMRC OM&A Costs

2.5 OTHER AMI OM&A COSTS RELATED TO MINIMUM FUNCTIONALITY

2.5.1 Business Process Redesign

2.5.2 Customer Communication (may include project communication, etc.)

2.5.3 Program Management

2.5.4 Change Management (may include training, etc.)

2.5.5 Administration Costs

2.5.6 Other AML Expenses

(please specify)

Total Other AMI OM&A Costs Related to Minimum Functionality

TOTAL OM&A COSTS RELATED TO MINIMUM FUNCTIONALITY

2.6 OM&A COSTS RELATED TO BEYOND MINIMUM FUNCTIONALITY

(Please provide a descriptive title and identify nature of beyond minimum functionality costs)

2.6.1 Costs related to technical capabilities in the smart meters or related communications infrastructure that exceed those specified in O.Reg 425/06

2.6.2 Costs for deployment of smart meters to customers other than residential and small general service

2.6.3 Costs for TOU rate implementation, CIS system upgrades, web presentation, integration with the MDM/R, etc.

Total OM&A Costs Beyond Minimum Functionality

Total Smart Meter OM&A Costs

Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
			2,458	9,054	9,959		\$ 21,471
							\$ -
\$ -	\$ -	\$ -	\$ 2,458	\$ 9,054	\$ 9,959	\$ -	\$ 21,471
							\$ -
							\$ -
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
							\$ -
							\$ -
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
							\$ -
							\$ -
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				16,157	47,067	66,000	\$ 129,224
							\$ -
\$ -	\$ -	\$ -	\$ -	\$ 16,157	\$ 47,067	\$ 66,000	\$ 129,224
							\$ -
							\$ -
							\$ -
							\$ -
							\$ -
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ 2,458	\$ 25,211	\$ 57,026	\$ 66,000	\$ 150,696
Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual		
							\$ -
							\$ -
				15,768	22,119	84,888	\$ 122,775
\$ -	\$ -	\$ -	\$ -	\$ 15,768	\$ 22,119	\$ 84,888	\$ 122,775
\$ -	\$ -	\$ -	\$ 2,458	\$ 40,979	\$ 79,145	\$ 150,888	\$ 273,471

3 Aggregate Smart Meter Costs by Category

3.1	Capital									
3.1.1	Smart Meter	\$ -	\$ -	\$ -	\$ 257,936	\$ 1,011,587	\$ 388,700	\$ 10,400	\$ 1,668,623	
3.1.2	Computer Hardware	\$ -	\$ -	\$ -	\$ -	\$ 8,595	\$ -	\$ -	\$ 8,595	
3.1.3	Computer Software	\$ -	\$ -	\$ 1,070	\$ 30,457	\$ 10,025	\$ 28,499	\$ -	\$ 70,050	
3.1.4	Tools & Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
3.1.5	Other Equipment	\$ -	\$ 16,476	\$ 15,971	\$ 30,304	\$ 49,436	\$ 69,378	\$ 38,396	\$ 219,961	
3.1.6	Applications Software	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
3.1.7	Total Capital Costs	<u>\$ -</u>	<u>\$ 16,476</u>	<u>\$ 17,041</u>	<u>\$ 318,697</u>	<u>\$ 1,079,642</u>	<u>\$ 486,577</u>	<u>\$ 48,796</u>	<u>\$ 1,967,228</u>	
3.2	OM&A Costs									
3.2.1	Total OM&A Costs	<u><u>\$ -</u></u>	<u><u>\$ -</u></u>	<u><u>\$ -</u></u>	<u><u>\$ 2,458</u></u>	<u><u>\$ 40,979</u></u>	<u><u>\$ 79,145</u></u>	<u><u>\$ 150,888</u></u>	<u><u>\$ 273,471</u></u>	



Ontario Energy Board

Smart Meter Model

Orangeville Hydro Limited

	2006	2007	2008	2009	2010	2011	2012 and later
Cost of Capital							
Capital Structure¹							
Deemed Short-term Debt Capitalization					4.0%	4.0%	4.0%
Deemed Long-term Debt Capitalization	50.0%	50.0%	53.3%	56.7%	56.0%	56.0%	56.0%
Deemed Equity Capitalization	50.0%	50.0%	46.7%	43.3%	40.0%	40.0%	40.0%
Preferred Shares							
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of Capital Parameters							
Deemed Short-term Debt Rate			4.47%		2.07%	2.07%	2.07%
Long-term Debt Rate (actual/embedded/deemed) ²	6.25%	6.25%	5.77%	5.77%	5.63%	5.63%	5.63%
Target Return on Equity (ROE)	9.0%	9.00%	9.00%	9.00%	9.85%	9.85%	9.85%
Return on Preferred Shares							
WACC	7.63%	7.63%	7.28%	7.17%	7.18%	7.18%	7.18%
Working Capital Allowance							
Working Capital Allowance Rate	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
(% of the sum of Cost of Power + controllable expenses)							
Taxes/PILs							
Aggregate Corporate Income Tax Rate	30.46%	30.46%	27.84%	26.88%	28.31%	28.31%	28.31%
Capital Tax (until July 1st, 2010)	0.30%	0.225%	0.225%	0.225%	0.075%	0.00%	0.00%
Depreciation Rates							
(expressed as expected useful life in years)							
Smart Meters - years	15	15	15	15	15	15	15
- rate (%)	6.67%	6.67%	6.67%	6.67%	6.67%	6.67%	6.67%
Computer Hardware - years	5	5	5	5	5	5	5
- rate (%)	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
Computer Software - years	5	5	5	5	5	5	5
- rate (%)	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
Tools & Equipment - years	10	10	10	10	10	10	10
- rate (%)	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Other Equipment - years	10	10	10	10	10	10	10
- rate (%)	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
CCA Rates							
Smart Meters - CCA Class	47	47	47	47	47	47	47
Smart Meters - CCA Rate	8%	8%	8%	8%	8%	8%	8%
Computer Equipment - CCA Class	45	50	50	50	50	50	50
Computer Equipment - CCA Rate	45%	55%	55%	55%	55%	55%	55%
General Equipment - CCA Class	8	8	8	8	8	8	8
General Equipment - CCA Rate	20%	20%	20%	20%	20%	20%	20%
Applications Software - CCA Class							
Applications Software - CCA Rate							

Assumptions

¹ Planned smart meter installations occur evenly throughout the year.

² Fiscal calendar year (January 1 to December 31) used.

³ Amortization is done on a straight line basis and has the "half-year" rule applied.



Ontario Energy Board

Smart Meter Model

Orangeville Hydro Limited

	2006	2007	2008	2009	2010	2011	2012 and later
Net Fixed Assets - Smart Meters							
Gross Book Value							
Opening Balance		\$ -	\$ -	\$ -	\$ 257,936	\$ 1,269,523	\$ 1,658,223
Capital Additions during year (from Smart Meter Costs)	\$ -	\$ -	\$ -	\$ 257,936	\$ 1,011,587	\$ 388,700	\$ 10,400
Retirements/Removals (if applicable)							
Closing Balance	\$ -	\$ -	\$ -	\$ 257,936	\$ 1,269,523	\$ 1,658,223	\$ 1,668,623
Accumulated Depreciation							
Opening Balance		\$ -	\$ -	\$ -	\$ 8,598	\$ 59,513	\$ 157,105
Amortization expense during year	\$ -	\$ -	\$ -	\$ 8,598	\$ 50,915	\$ 97,592	\$ 110,895
Retirements/Removals (if applicable)							
Closing Balance	\$ -	\$ -	\$ -	\$ 8,598	\$ 59,513	\$ 157,105	\$ 268,000
Net Book Value							
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ 249,338	\$ 1,210,009	\$ 1,501,118
Closing Balance	\$ -	\$ -	\$ -	\$ 249,338	\$ 1,210,009	\$ 1,501,118	\$ 1,400,623
Average Net Book Value	\$ -	\$ -	\$ -	\$ 124,669	\$ 729,674	\$ 1,355,564	\$ 1,450,871
Net Fixed Assets - Computer Hardware							
Gross Book Value							
Opening Balance		\$ -	\$ -	\$ -	\$ -	\$ 8,595	\$ 8,595
Capital Additions during year (from Smart Meter Costs)	\$ -	\$ -	\$ -	\$ -	\$ 8,595	\$ -	\$ -
Retirements/Removals (if applicable)							
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ 8,595	\$ 8,595	\$ 8,595
Accumulated Depreciation							
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 859	\$ 2,578
Amortization expense during year	\$ -	\$ -	\$ -	\$ -	\$ 859	\$ 1,719	\$ 1,719
Retirements/Removals (if applicable)							
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ 859	\$ 2,578	\$ 4,297
Net Book Value							
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,735	\$ 6,016
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ 7,735	\$ 6,016	\$ 4,297
Average Net Book Value	\$ -	\$ -	\$ -	\$ -	\$ 3,868	\$ 6,876	\$ 5,157
Net Fixed Assets - Computer Software (including Applications Software)							
Gross Book Value							
Opening Balance		\$ -	\$ -	\$ 1,070	\$ 31,526	\$ 41,551	\$ 70,050
Capital Additions during year (from Smart Meter Costs)	\$ -	\$ -	\$ 1,070	\$ 30,457	\$ 10,025	\$ 28,499	\$ -
Retirements/Removals (if applicable)							
Closing Balance	\$ -	\$ -	\$ 1,070	\$ 31,526	\$ 41,551	\$ 70,050	\$ 70,050
Accumulated Depreciation							
Opening Balance	\$ -	\$ -	\$ -	\$ 107	\$ 3,367	\$ 10,674	\$ 21,834
Amortization expense during year	\$ -	\$ -	\$ 107	\$ 3,260	\$ 7,308	\$ 11,160	\$ 14,010
Retirements/Removals (if applicable)							
Closing Balance	\$ -	\$ -	\$ 107	\$ 3,367	\$ 10,674	\$ 21,834	\$ 35,844
Net Book Value							
Opening Balance	\$ -	\$ -	\$ -	\$ 963	\$ 28,160	\$ 30,877	\$ 48,216
Closing Balance	\$ -	\$ -	\$ 963	\$ 28,160	\$ 30,877	\$ 48,216	\$ 34,206
Average Net Book Value	\$ -	\$ -	\$ 481	\$ 14,561	\$ 29,518	\$ 39,546	\$ 41,211

Net Fixed Assets - Tools and Equipment

Gross Book Value

Opening Balance		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Capital Additions during year (from Smart Meter Costs)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retirements/Removals (if applicable)							
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Accumulated Depreciation

Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Amortization expense during year	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retirements/Removals (if applicable)							
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Net Book Value

Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Average Net Book Value	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Net Fixed Assets - Other Equipment

Gross Book Value

Opening Balance		\$ -	\$ 16,476	\$ 32,447	\$ 62,751	\$ 112,187	\$ 181,565
Capital Additions during year (from Smart Meter Costs)	\$ -	\$ 16,476	\$ 15,971	\$ 30,304	\$ 49,436	\$ 69,378	\$ 38,396
Retirements/Removals (if applicable)							
Closing Balance	\$ -	\$ 16,476	\$ 32,447	\$ 62,751	\$ 112,187	\$ 181,565	\$ 219,961

Accumulated Depreciation

Opening Balance	\$ -	\$ -	-\$ 824	-\$ 3,270	-\$ 8,030	-\$ 16,777	-\$ 31,464
Amortization expense during year	\$ -	-\$ 824	-\$ 2,446	-\$ 4,760	-\$ 8,747	-\$ 14,688	-\$ 20,076
Retirements/Removals (if applicable)							
Closing Balance	\$ -	-\$ 824	-\$ 3,270	-\$ 8,030	-\$ 16,777	-\$ 31,464	-\$ 51,540

Net Book Value

Opening Balance	\$ -	\$ -	\$ 15,652	\$ 29,177	\$ 54,721	\$ 95,410	\$ 150,100
Closing Balance	\$ -	\$ 15,652	\$ 29,177	\$ 54,721	\$ 95,410	\$ 150,100	\$ 168,420
Average Net Book Value	\$ -	\$ 7,826	\$ 22,414	\$ 41,949	\$ 75,065	\$ 122,755	\$ 159,260



Ontario Energy Board

Smart Meter Model

Orangeville Hydro Limited

	2006	2007	2008	2009	2010	2011	2012 and Later
Average Net Fixed Asset Values (from Sheet 4)							
Smart Meters	\$ -	\$ -	\$ -	\$ 124,669	\$ 729,674	\$ 1,355,564	\$ 1,450,871
Computer Hardware	\$ -	\$ -	\$ -	\$ -	\$ 3,868	\$ 6,876	\$ 5,157
Computer Software	\$ -	\$ -	\$ 481	\$ 14,561	\$ 29,518	\$ 39,546	\$ 41,211
Tools & Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Equipment	\$ -	\$ 7,826	\$ 22,414	\$ 41,949	\$ 75,065	\$ 122,755	\$ 159,260
Total Net Fixed Assets	\$ -	\$ 7,826	\$ 22,896	\$ 181,179	\$ 838,125	\$ 1,524,741	\$ 1,656,499
Working Capital							
Operating Expenses (from Sheet 2)	\$ -	\$ -	\$ -	\$ 2,458	\$ 40,979	\$ 79,145	\$ 150,888
Working Capital Factor (from Sheet 3)	15%	15%	15%	15%	15%	15%	15%
Working Capital Allowance	\$ -	\$ -	\$ -	\$ 369	\$ 6,147	\$ 11,872	\$ 22,633
Incremental Smart Meter Rate Base	\$ -	\$ 7,826	\$ 22,896	\$ 181,548	\$ 844,272	\$ 1,536,613	\$ 1,679,132
Return on Rate Base							
<i>Capital Structure</i>							
Deemed Short Term Debt	\$ -	\$ -	\$ -	\$ -	\$ 33,771	\$ 61,465	\$ 67,165
Deemed Long Term Debt	\$ -	\$ 3,913	\$ 12,203	\$ 102,938	\$ 472,792	\$ 860,503	\$ 940,314
Equity	\$ -	\$ 3,913	\$ 10,692	\$ 78,610	\$ 337,709	\$ 614,645	\$ 671,653
Preferred Shares	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capitalization	\$ -	\$ 7,826	\$ 22,896	\$ 181,548	\$ 844,272	\$ 1,536,613	\$ 1,679,132
<i>Return on</i>							
Deemed Short Term Debt	\$ -	\$ -	\$ -	\$ -	\$ 699	\$ 1,272	\$ 1,390
Deemed Long Term Debt	\$ -	\$ 245	\$ 704	\$ 5,940	\$ 26,618	\$ 48,446	\$ 52,940
Equity	\$ -	\$ 352	\$ 962	\$ 7,075	\$ 33,264	\$ 60,543	\$ 66,158
Preferred Shares	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Return on Capital	\$ -	\$ 597	\$ 1,666	\$ 13,014	\$ 60,582	\$ 110,261	\$ 120,488
Operating Expenses	\$ -	\$ -	\$ -	\$ 2,458	\$ 40,979	\$ 79,145	\$ 150,888
Amortization Expenses (from Sheet 4)							
Smart Meters	\$ -	\$ -	\$ -	\$ 8,598	\$ 50,915	\$ 97,592	\$ 110,895
Computer Hardware	\$ -	\$ -	\$ -	\$ -	\$ 859	\$ 1,719	\$ 1,719
Computer Software	\$ -	\$ -	\$ 107	\$ 3,260	\$ 7,308	\$ 11,160	\$ 14,010
Tools & Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Equipment	\$ -	\$ 824	\$ 2,446	\$ 4,760	\$ 8,747	\$ 14,688	\$ 20,076
Total Amortization Expense in Year	\$ -	\$ 824	\$ 2,553	\$ 16,617	\$ 67,829	\$ 125,158	\$ 146,700
Incremental Revenue Requirement before Taxes/PILs	\$ -	\$ 1,421	\$ 4,220	\$ 32,090	\$ 169,390	\$ 314,564	\$ 418,076
Calculation of Taxable Income							
Incremental Operating Expenses	\$ -	\$ -	\$ -	\$ 2,458	\$ 40,979	\$ 79,145	\$ 150,888
Amortization Expense	\$ -	\$ 824	\$ 2,553	\$ 16,617	\$ 67,829	\$ 125,158	\$ 146,700
Interest Expense	\$ -	\$ 245	\$ 704	\$ 5,940	\$ 27,317	\$ 49,719	\$ 54,330
Net Income for Taxes/PILs	\$ -	\$ 352	\$ 962	\$ 7,075	\$ 33,264	\$ 60,543	\$ 66,158
Grossed-up Taxes/PILs (from Sheet 7)	\$ -	\$ 171.36	\$ 449.74	\$ 614.51	\$ 4,470.31	\$ 11,794.14	\$ 18,765.84
Revenue Requirement, including Grossed-up Taxes/PILs	\$ -	\$ 1,249	\$ 3,770	\$ 31,476	\$ 173,861	\$ 326,359	\$ 436,842



Ontario Energy Board

Smart Meter Model

Orangeville Hydro Limited

For PILs Calculation

UCC - Smart Meters

	2006 Audited Actual	2007 Audited Actual	2008 Audited Actual	2009 Audited Actual	2010 Audited Actual	2011 Audited Actual	2012 and later Forecast
Opening UCC	\$ -	\$ -	\$ -	\$ -	\$ 247,618.53	\$ 1,198,932.14	\$ 1,476,169.88
Capital Additions	\$ -	\$ -	\$ -	\$ 257,935.97	\$ 1,011,586.55	\$ 388,700.32	\$ 10,400.00
Retirements/Removals (if applicable)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
UCC Before Half Year Rule	\$ -	\$ -	\$ -	\$ 257,935.97	\$ 1,259,205.08	\$ 1,587,632.46	\$ 1,486,569.88
Half Year Rule (1/2 Additions - Disposals)	\$ -	\$ -	\$ -	\$ 128,967.99	\$ 505,793.28	\$ 194,350.16	\$ 5,200.00
Reduced UCC	\$ -	\$ -	\$ -	\$ 128,967.99	\$ 753,411.81	\$ 1,393,282.30	\$ 1,481,369.88
CCA Rate Class	47	47	47	47	47	47	47
CCA Rate	8%	8%	8%	8%	8%	8%	8%
CCA	\$ -	\$ -	\$ -	\$ 10,317.44	\$ 60,272.94	\$ 111,462.58	\$ 118,509.59
Closing UCC	\$ -	\$ -	\$ -	\$ 247,618.53	\$ 1,198,932.14	\$ 1,476,169.88	\$ 1,368,060.29

UCC - Computer Equipment

	2006 Audited Actual	2007 Audited Actual	2008 Audited Actual	2009 Audited Actual	2010 Audited Actual	2011 Audited Actual	2012 and later Forecast
Opening UCC	\$ -	\$ -	\$ -	\$ 775.39	\$ 22,430.10	\$ 23,593.00	\$ 31,278.51
Capital Additions Computer Hardware	\$ -	\$ -	\$ -	\$ -	\$ 8,594.95	\$ -	\$ -
Capital Additions Computer Software	\$ -	\$ -	\$ 1,069.50	\$ 30,456.80	\$ 10,024.98	\$ 28,498.84	\$ -
Retirements/Removals (if applicable)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
UCC Before Half Year Rule	\$ -	\$ -	\$ 1,069.50	\$ 31,232.19	\$ 41,050.03	\$ 52,091.84	\$ 31,278.51
Half Year Rule (1/2 Additions - Disposals)	\$ -	\$ -	\$ 534.75	\$ 15,228.40	\$ 9,309.97	\$ 14,249.42	\$ -
Reduced UCC	\$ -	\$ -	\$ 534.75	\$ 16,003.79	\$ 31,740.07	\$ 37,842.42	\$ 31,278.51
CCA Rate Class	45	50	50	50	50	50	50
CCA Rate	45%	55%	55%	55%	55%	55%	55%
CCA	\$ -	\$ -	\$ 294.11	\$ 8,802.08	\$ 17,457.04	\$ 20,813.33	\$ 17,203.18
Closing UCC	\$ -	\$ -	\$ 775.39	\$ 22,430.10	\$ 23,593.00	\$ 31,278.51	\$ 14,075.33

UCC - General Equipment

	2006 Audited Actual	2007 Audited Actual	2008 Audited Actual	2009 Audited Actual	2010 Audited Actual	2011 Audited Actual	2012 and later Forecast
Opening UCC	\$ -	\$ -	\$ 14,828.19	\$ 26,236.46	\$ 48,262.64	\$ 83,102.45	\$ 128,922.16
Capital Additions Tools & Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Capital Additions Other Equipment	\$ -	\$ 16,475.77	\$ 15,971.01	\$ 30,303.85	\$ 49,435.94	\$ 69,378.00	\$ 38,396.00
Retirements/Removals (if applicable)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
UCC Before Half Year Rule	\$ -	\$ 16,475.77	\$ 30,799.20	\$ 56,540.31	\$ 97,698.58	\$ 152,480.45	\$ 167,318.16
Half Year Rule (1/2 Additions - Disposals)	\$ -	\$ 8,237.89	\$ 7,985.51	\$ 15,151.93	\$ 24,717.97	\$ 34,689.00	\$ 19,198.00
Reduced UCC	\$ -	\$ 8,237.89	\$ 22,813.70	\$ 41,388.39	\$ 72,980.61	\$ 117,791.45	\$ 148,120.16
CCA Rate Class	8	8	8	8	8	8	8
CCA Rate	20%	20%	20%	20%	20%	20%	20%
CCA	\$ -	\$ 1,647.58	\$ 4,562.74	\$ 8,277.68	\$ 14,596.12	\$ 23,558.29	\$ 29,624.03
Closing UCC	\$ -	\$ 14,828.19	\$ 26,236.46	\$ 48,262.64	\$ 83,102.45	\$ 128,922.16	\$ 137,694.13

UCC - Applications Software

	2006 Audited Actual	2007 Audited Actual	2008 Audited Actual	2009 Audited Actual	2010 Audited Actual	2011 Audited Actual	2012 and later Forecast
Opening UCC	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Capital Additions Applications Software	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retirements/Removals (if applicable)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
UCC Before Half Year Rule	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Half Year Rule (1/2 Additions - Disposals)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Reduced UCC	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CCA Rate Class	0	0	0	0	0	0	0
CCA Rate	0%	0%	0%	0%	0%	0%	0%
CCA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Closing UCC	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -



PILs Calculation

	2006 Audited Actual	2007 Audited Actual	2008 Audited Actual	2009 Audited Actual	2010 Audited Actual	2011 Audited Actual	2012 and later Forecast
INCOME TAX							
Net Income	\$ -	\$ 352.17	\$ 962.31	\$ 7,074.92	\$ 33,264.32	\$ 60,542.55	\$ 66,157.80
Amortization	\$ -	\$ 823.79	\$ 2,553.08	\$ 16,617.32	\$ 67,829.40	\$ 125,158.20	\$ 146,700.13
CCA - Smart Meters	\$ -	\$ -	\$ -	\$ -	\$ 60,272.94	\$ 111,462.58	\$ 118,509.59
CCA - Computers	\$ -	\$ -	\$ 294.11	\$ 8,802.08	\$ 17,457.04	\$ 20,813.33	\$ 17,203.18
CCA - Applications Software	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CCA - Other Equipment	\$ -	\$ 1,647.58	\$ 4,562.74	\$ 8,277.68	\$ 14,596.12	\$ 23,558.29	\$ 29,624.03
Change in taxable income	\$ -	\$ 471.62	\$ 1,341.47	\$ 3,704.96	\$ 8,767.61	\$ 29,866.55	\$ 47,521.12
Tax Rate (from Sheet 3)	30.46%	30.46%	27.84%	26.88%	28.31%	28.31%	28.31%
Income Taxes Payable	\$ -	\$ 143.66	\$ 373.46	\$ 995.89	\$ 2,482.11	\$ 8,455.22	\$ 13,453.23
ONTARIO CAPITAL TAX							
Smart Meters	\$ -	\$ -	\$ -	\$ 249,338.10	\$ 1,210,009.37	\$ 1,501,118.18	\$ 1,400,623.33
Computer Hardware	\$ -	\$ -	\$ -	\$ -	\$ 7,735.46	\$ 6,016.47	\$ 4,297.48
Computer Software	\$ -	\$ -	\$ 962.55	\$ 28,159.77	\$ 30,876.99	\$ 48,215.69	\$ 34,205.67
(Including Application Software)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Tools & Equipment	\$ -	\$ 15,651.98	\$ 29,176.86	\$ 54,720.84	\$ 95,409.92	\$ 150,100.37	\$ 168,420.11
Other Equipment	\$ -	\$ 15,651.98	\$ 30,139.41	\$ 332,218.72	\$ 1,344,031.74	\$ 1,705,450.71	\$ 1,607,546.58
Rate Base	\$ -	\$ 15,651.98	\$ 30,139.41	\$ 332,218.72	\$ 1,344,031.74	\$ 1,705,450.71	\$ 1,607,546.58
Less: Exemption	\$ -	\$ 15,651.98	\$ 30,139.41	\$ 332,218.72	\$ 1,344,031.74	\$ 1,705,450.71	\$ 1,607,546.58
Deemed Taxable Capital	\$ -	\$ 15,651.98	\$ 30,139.41	\$ 332,218.72	\$ 1,344,031.74	\$ 1,705,450.71	\$ 1,607,546.58
Ontario Capital Tax Rate (from Sheet 3)	0.300%	0.225%	0.225%	0.225%	0.075%	0.000%	0.000%
Net Amount (Taxable Capital x Rate)	\$ -	\$ 35.22	\$ 67.81	\$ 747.49	\$ 1,008.02	\$ -	\$ -
Change in Income Taxes Payable	\$ -	\$ 143.66	\$ 373.46	\$ 995.89	\$ 2,482.11	\$ 8,455.22	\$ 13,453.23
Change in OCT	\$ -	\$ 35.22	\$ 67.81	\$ 747.49	\$ 1,008.02	\$ -	\$ -
PILs	\$ -	\$ 108.44	\$ 305.65	\$ 248.40	\$ 3,490.14	\$ 8,455.22	\$ 13,453.23
Gross Up PILs							
Tax Rate	30.46%	30.46%	27.84%	26.88%	28.31%	28.31%	28.31%
Change in Income Taxes Payable	\$ -	\$ 206.58	\$ 517.55	\$ 1,362.00	\$ 3,462.28	\$ 11,794.14	\$ 18,765.84
Change in OCT	\$ -	\$ 35.22	\$ 67.81	\$ 747.49	\$ 1,008.02	\$ -	\$ -
PILs	\$ -	\$ 171.36	\$ 449.74	\$ 614.51	\$ 4,470.31	\$ 11,794.14	\$ 18,765.84



Ontario Energy Board

Smart Meter Model

Orangeville Hydro Limited

This worksheet calculates the funding adder revenues.

Account 1555 - Sub-account Funding Adder Revenues

Interest Rates	Approved Deferral and Variance Accounts	CWIP	Date	Year	Quarter	Opening Balance (Principal)	Funding Adder Revenues	Interest Rate	Interest	Closing Balance	Annual amounts
2006 Q1			Jan-06	2006	Q1	\$ -		0.00%	\$ -	\$ -	
2006 Q2	4.14%	4.68%	Feb-06	2006	Q1	\$ -		0.00%	\$ -	\$ -	
2006 Q3	4.59%	5.05%	Mar-06	2006	Q1	\$ -		0.00%	\$ -	\$ -	
2006 Q4	4.59%	4.72%	Apr-06	2006	Q2	\$ -		4.14%	\$ -	\$ -	
2007 Q1	4.59%	4.72%	May-06	2006	Q2	\$ -	\$ 435.00	4.14%	\$ -	\$ 435.00	
2007 Q2	4.59%	4.72%	Jun-06	2006	Q2	\$ 435.00	\$ 2,659.00	4.14%	\$ 1.50	\$ 3,095.50	
2007 Q3	4.59%	5.18%	Jul-06	2006	Q3	\$ 3,094.00	\$ 3,198.00	4.59%	\$ 11.83	\$ 6,303.83	
2007 Q4	5.14%	5.18%	Aug-06	2006	Q3	\$ 6,292.00	\$ 2,811.00	4.59%	\$ 24.07	\$ 9,127.07	
2008 Q1	5.14%	5.18%	Sep-06	2006	Q3	\$ 9,103.00	\$ 3,096.00	4.59%	\$ 34.82	\$ 12,233.82	
2008 Q2	4.08%	5.18%	Oct-06	2006	Q4	\$ 12,199.00	\$ 2,700.00	4.59%	\$ 46.66	\$ 14,945.66	
2008 Q3	3.35%	5.43%	Nov-06	2006	Q4	\$ 14,899.00	\$ 2,688.00	4.59%	\$ 56.99	\$ 17,643.99	
2008 Q4	3.35%	5.43%	Dec-06	2006	Q4	\$ 17,587.00	\$ 3,311.00	4.59%	\$ 67.27	\$ 20,965.27	\$ 21,141.14
2009 Q1	2.45%	6.61%	Jan-07	2007	Q1	\$ 20,898.00	\$ 2,365.00	4.59%	\$ 79.93	\$ 23,342.93	
2009 Q2	1.00%	6.61%	Feb-07	2007	Q1	\$ 23,263.00	\$ 3,145.00	4.59%	\$ 88.98	\$ 26,496.98	
2009 Q3	0.55%	5.67%	Mar-07	2007	Q1	\$ 26,408.00	\$ 3,118.00	4.59%	\$ 101.01	\$ 29,627.01	
2009 Q4	0.55%	4.66%	Apr-07	2007	Q2	\$ 29,526.00	\$ 2,771.00	4.59%	\$ 112.94	\$ 32,409.94	
2010 Q1	0.55%	4.34%	May-07	2007	Q2	\$ 32,297.00	\$ 2,628.00	4.59%	\$ 123.54	\$ 35,048.54	
2010 Q2	0.55%	4.34%	Jun-07	2007	Q2	\$ 34,925.00	\$ 3,117.00	4.59%	\$ 133.59	\$ 38,175.59	
2010 Q3	0.89%	4.66%	Jul-07	2007	Q3	\$ 38,042.00	\$ 3,024.00	4.59%	\$ 145.51	\$ 41,211.51	
2010 Q4	1.20%	4.01%	Aug-07	2007	Q3	\$ 41,066.00	\$ 3,006.00	4.59%	\$ 157.08	\$ 44,229.08	
2011 Q1	1.47%	4.29%	Sep-07	2007	Q3	\$ 44,072.00	\$ 3,024.00	4.59%	\$ 168.58	\$ 47,264.58	
2011 Q2	1.47%	4.29%	Oct-07	2007	Q4	\$ 47,096.00	\$ 2,662.00	5.14%	\$ 201.73	\$ 49,959.73	
2011 Q3	1.47%	4.29%	Nov-07	2007	Q4	\$ 49,758.00	\$ 2,879.00	5.14%	\$ 213.13	\$ 52,850.13	
2011 Q4	1.47%	4.29%	Dec-07	2007	Q4	\$ 52,637.00	\$ 3,222.00	5.14%	\$ 225.46	\$ 56,084.46	\$ 36,712.48
2012 Q1	1.47%	4.29%	Jan-08	2008	Q1	\$ 55,859.00	\$ 2,453.00	5.14%	\$ 239.26	\$ 58,551.26	
2012 Q2		4.29%	Feb-08	2008	Q1	\$ 58,312.00	\$ 3,310.00	5.14%	\$ 249.77	\$ 61,871.77	
2012 Q3		4.29%	Mar-08	2008	Q1	\$ 61,622.00	\$ 3,084.00	5.14%	\$ 263.95	\$ 64,969.95	
2012 Q4		4.29%	Apr-08	2008	Q2	\$ 64,706.00	\$ 2,662.00	4.08%	\$ 220.00	\$ 67,588.00	
			May-08	2008	Q2	\$ 67,368.00	\$ 3,046.00	4.08%	\$ 229.05	\$ 70,643.05	
			Jun-08	2008	Q2	\$ 70,414.00	\$ 3,072.00	4.08%	\$ 239.41	\$ 73,725.41	
			Jul-08	2008	Q3	\$ 73,486.00	\$ 2,739.00	3.35%	\$ 205.15	\$ 76,430.15	
			Aug-08	2008	Q3	\$ 76,225.00	\$ 3,027.00	3.35%	\$ 212.79	\$ 79,464.79	
			Sep-08	2008	Q3	\$ 79,252.00	\$ 3,028.00	3.35%	\$ 221.25	\$ 82,501.25	
			Oct-08	2008	Q4	\$ 82,280.00	\$ 3,090.00	3.35%	\$ 229.70	\$ 85,599.70	
			Nov-08	2008	Q4	\$ 85,370.00	\$ 3,034.00	3.35%	\$ 238.32	\$ 88,642.32	
			Dec-08	2008	Q4	\$ 88,404.00	\$ 3,362.00	3.35%	\$ 246.79	\$ 92,012.79	\$ 38,702.44
			Jan-09	2009	Q1	\$ 91,766.00	\$ 2,619.00	2.45%	\$ 187.36	\$ 94,572.36	
			Feb-09	2009	Q1	\$ 94,385.00	\$ 2,866.00	2.45%	\$ 192.70	\$ 97,443.70	
			Mar-09	2009	Q1	\$ 97,251.00	\$ 2,714.00	2.45%	\$ 198.55	\$ 100,163.55	
			Apr-09	2009	Q2	\$ 99,965.00	\$ 3,098.00	1.00%	\$ 83.30	\$ 103,146.30	
			May-09	2009	Q2	\$ 103,063.00	\$ 4,402.00	1.00%	\$ 85.89	\$ 107,550.89	
			Jun-09	2009	Q2	\$ 107,465.00	\$ 9,654.00	1.00%	\$ 89.55	\$ 117,208.55	
			Jul-09	2009	Q3	\$ 117,119.00	\$ 11,580.00	0.55%	\$ 53.68	\$ 128,752.68	
			Aug-09	2009	Q3	\$ 128,699.00	\$ 11,368.00	0.55%	\$ 58.99	\$ 140,125.99	
			Sep-09	2009	Q3	\$ 140,067.00	\$ 9,860.00	0.55%	\$ 64.20	\$ 149,991.20	
			Oct-09	2009	Q4	\$ 149,927.00	\$ 10,615.00	0.55%	\$ 68.72	\$ 160,610.72	
			Nov-09	2009	Q4	\$ 160,542.00	\$ 11,859.00	0.55%	\$ 73.58	\$ 172,474.58	
			Dec-09	2009	Q4	\$ 172,401.00	\$ 27,717.00	0.55%	\$ 79.02	\$ 200,197.02	\$ 109,587.54



Ontario Energy Board

Smart Meter Model

Orangeville Hydro Limited

This worksheet calculates the funding adder revenues.

Account 1555 - Sub-account Funding Adder Revenues

Interest Rates	Approved Deferral and Variance Accounts	CWIP	Date	Year	Quarter	Opening Balance (Principal)	Funding Adder Revenues	Interest Rate	Interest	Closing Balance	Annual amounts
			Jan-10	2010	Q1	\$ 200,118.00	\$ 6,058.00	0.55%	\$ 91.72	\$ 194,151.72	
			Feb-10	2010	Q1	\$ 194,060.00	\$ 11,104.74	0.55%	\$ 88.94	\$ 205,253.68	
			Mar-10	2010	Q1	\$ 205,164.74	\$ 10,022.32	0.55%	\$ 94.03	\$ 215,281.09	
			Apr-10	2010	Q2	\$ 215,187.06	\$ 12,469.64	0.55%	\$ 98.63	\$ 227,755.33	
			May-10	2010	Q2	\$ 227,656.70	\$ 11,613.00	0.55%	\$ 104.34	\$ 239,374.04	
			Jun-10	2010	Q2	\$ 239,269.70	\$ 10,262.01	0.55%	\$ 109.67	\$ 249,641.38	
			Jul-10	2010	Q3	\$ 249,531.71	\$ 11,622.77	0.89%	\$ 185.07	\$ 261,339.55	
			Aug-10	2010	Q3	\$ 261,154.48	\$ 11,725.26	0.89%	\$ 193.69	\$ 273,073.43	
			Sep-10	2010	Q3	\$ 272,879.74	\$ 11,853.16	0.89%	\$ 202.39	\$ 284,935.29	
			Oct-10	2010	Q4	\$ 284,732.90	\$ 11,637.14	1.20%	\$ 284.73	\$ 296,654.77	
			Nov-10	2010	Q4	\$ 296,370.04	\$ 10,327.50	1.20%	\$ 296.37	\$ 306,993.91	
			Dec-10	2010	Q4	\$ 306,697.54	\$ 28,503.00	1.20%	\$ 306.70	\$ 335,507.24	\$ 137,138.82
			Jan-11	2011	Q1	\$ 335,200.54	\$ 6,390.96	1.47%	\$ 410.62	\$ 329,220.20	
			Feb-11	2011	Q1	\$ 328,809.58	\$ 11,673.50	1.47%	\$ 402.79	\$ 340,885.87	
			Mar-11	2011	Q1	\$ 340,483.08	\$ 10,477.50	1.47%	\$ 417.09	\$ 351,377.67	
			Apr-11	2011	Q2	\$ 350,960.58	\$ 11,796.46	1.47%	\$ 429.93	\$ 363,186.97	
			May-11	2011	Q2	\$ 362,757.04	\$ 12,593.48	1.47%	\$ 444.38	\$ 375,794.90	
			Jun-11	2011	Q2	\$ 375,350.52	\$ 23,385.21	1.47%	\$ 459.80	\$ 399,195.53	
			Jul-11	2011	Q3	\$ 398,735.73	\$ 23,791.02	1.47%	\$ 488.45	\$ 423,015.20	
			Aug-11	2011	Q3	\$ 422,526.75	\$ 20,479.95	1.47%	\$ 517.60	\$ 443,524.30	
			Sep-11	2011	Q3	\$ 443,006.70	\$ 23,610.97	1.47%	\$ 542.68	\$ 467,160.35	
			Oct-11	2011	Q4	\$ 466,617.67	\$ 23,320.87	1.47%	\$ 571.61	\$ 490,510.15	
			Nov-11	2011	Q4	\$ 489,938.54	\$ 20,858.98	1.47%	\$ 600.17	\$ 511,397.69	
			Dec-11	2011	Q4	\$ 510,797.52	\$ 22,973.67	1.47%	\$ 625.73	\$ 534,396.92	\$ 204,481.50
			Jan-12	2012	Q1	\$ 533,771.19	\$ 23,000.00	1.47%	\$ 653.87	\$ 557,425.06	
			Feb-12	2012	Q1	\$ 556,771.19	\$ 23,000.00	1.47%	\$ 682.04	\$ 580,453.23	
			Mar-12	2012	Q1	\$ 579,771.19	\$ 23,000.00	1.47%	\$ 710.22	\$ 603,481.41	
			Apr-12	2012	Q2	\$ 602,771.19	\$ 23,000.00	1.47%	\$ 738.39	\$ 626,509.58	
			May-12	2012	Q2	\$ 625,771.19		0.00%	\$ -	\$ 625,771.19	
			Jun-12	2012	Q2	\$ 625,771.19		0.00%	\$ -	\$ 625,771.19	
			Jul-12	2012	Q3	\$ 625,771.19		0.00%	\$ -	\$ 625,771.19	
			Aug-12	2012	Q3	\$ 625,771.19		0.00%	\$ -	\$ 625,771.19	
			Sep-12	2012	Q3	\$ 625,771.19		0.00%	\$ -	\$ 625,771.19	
			Oct-12	2012	Q4	\$ 625,771.19		0.00%	\$ -	\$ 625,771.19	
			Nov-12	2012	Q4	\$ 625,771.19		0.00%	\$ -	\$ 625,771.19	
			Dec-12	2012	Q4	\$ 625,771.19		0.00%	\$ -	\$ 625,771.19	\$ 94,784.52
Total Funding Adder Revenues Collected						\$	625,771.19		\$ 16,777.25	\$ 642,548.44	\$ 642,548.44

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Ontario Energy Board

Smart Meter Model

Orangeville Hydro Limited

This worksheet calculates the interest on OM&A and amortization/depreciation expense, based on monthly data.

Account 1556 - Sub-accounts Operating Expenses, Amortization Expenses, Carrying Charges

Prescribed Interest Rates	Approved Deferral and Variance Accounts	CWIP	Date	Year	Quarter	Opening Balance (Principal)	OM&A Expenses	Amortization / Depreciation Expense	Closing Balance (Principal)	(Annual) Interest Rate	Interest (on opening balance)	Cumulative Interest
2006 Q1	0.00%	0.00%	Jan-06	2006	Q1	\$ -			-	0.00%	-	-
2006 Q2	4.14%	4.68%	Feb-06	2006	Q1	-			-	0.00%	-	-
2006 Q3	4.59%	5.05%	Mar-06	2006	Q1	-			-	0.00%	-	-
2006 Q4	4.59%	4.72%	Apr-06	2006	Q2	-			-	4.14%	-	-
2007 Q1	4.59%	4.72%	May-06	2006	Q2	-			-	4.14%	-	-
2007 Q2	4.59%	4.72%	Jun-06	2006	Q2	-			-	4.14%	-	-
2007 Q3	4.59%	5.18%	Jul-06	2006	Q3	-			-	4.59%	-	-
2007 Q4	5.14%	5.18%	Aug-06	2006	Q3	-			-	4.59%	-	-
2008 Q1	5.14%	5.18%	Sep-06	2006	Q3	-			-	4.59%	-	-
2008 Q2	4.08%	5.18%	Oct-06	2006	Q4	-			-	4.59%	-	-
2008 Q3	3.35%	5.43%	Nov-06	2006	Q4	-			-	4.59%	-	-
2008 Q4	3.35%	5.43%	Dec-06	2006	Q4	-			-	4.59%	-	-
2009 Q1	2.45%	6.61%	Jan-07	2007	Q1	-		\$ 68.65	68.65	4.59%	-	-
2009 Q2	1.00%	6.61%	Feb-07	2007	Q1	68.65		\$ 68.65	137.30	4.59%	0.26	0.26
2009 Q3	0.55%	5.67%	Mar-07	2007	Q1	137.30		\$ 68.65	205.95	4.59%	0.53	0.79
2009 Q4	0.55%	4.66%	Apr-07	2007	Q2	205.95		\$ 68.65	274.60	4.59%	0.79	1.58
2010 Q1	0.55%	4.34%	May-07	2007	Q2	274.60		\$ 68.65	343.25	4.59%	1.05	2.63
2010 Q2	0.55%	4.34%	Jun-07	2007	Q2	343.25		\$ 68.65	411.89	4.59%	1.31	3.94
2010 Q3	0.89%	4.66%	Jul-07	2007	Q3	411.89		\$ 68.65	480.54	4.59%	1.58	5.51
2010 Q4	1.20%	4.01%	Aug-07	2007	Q3	480.54		\$ 68.65	549.19	4.59%	1.84	7.35
2011 Q1	1.47%	4.29%	Sep-07	2007	Q3	549.19		\$ 68.65	617.84	4.59%	2.10	9.45
2011 Q2	1.47%	4.29%	Oct-07	2007	Q4	617.84		\$ 68.65	686.49	5.14%	2.65	12.10
2011 Q3	1.47%	4.29%	Nov-07	2007	Q4	686.49		\$ 68.65	755.14	5.14%	2.94	15.04
2011 Q4	1.47%	4.29%	Dec-07	2007	Q4	755.14		\$ 68.65	823.79	5.14%	3.23	18.27
2012 Q1	1.47%	4.29%	Jan-08	2008	Q1	823.79		\$ 212.76	1,036.54	5.14%	3.53	21.80
2012 Q2	0.00%	4.29%	Feb-08	2008	Q1	1,036.54		\$ 212.76	1,249.30	5.14%	4.44	26.24
2012 Q3	0.00%	4.29%	Mar-08	2008	Q1	1,249.30		\$ 212.76	1,462.06	5.14%	5.35	31.59
2012 Q4	0.00%	4.29%	Apr-08	2008	Q2	1,462.06		\$ 212.76	1,674.81	4.08%	4.97	36.56
			May-08	2008	Q2	1,674.81		\$ 212.76	1,887.57	4.08%	5.69	42.26
			Jun-08	2008	Q2	1,887.57		\$ 212.76	2,100.33	4.08%	6.42	48.68
			Jul-08	2008	Q3	2,100.33		\$ 212.76	2,313.08	3.35%	5.86	54.54
			Aug-08	2008	Q3	2,313.08		\$ 212.76	2,525.84	3.35%	6.46	61.00
			Sep-08	2008	Q3	2,525.84		\$ 212.76	2,738.60	3.35%	7.05	68.05
			Oct-08	2008	Q4	2,738.60		\$ 212.76	2,951.35	3.35%	7.65	75.69
			Nov-08	2008	Q4	2,951.35		\$ 212.76	3,164.11	3.35%	8.24	83.93
			Dec-08	2008	Q4	3,164.11		\$ 212.76	3,376.87	3.35%	8.83	92.77
			Jan-09	2009	Q1	3,376.87		\$ 1,384.78	4,761.64	2.45%	6.89	99.66
			Feb-09	2009	Q1	4,761.64		\$ 1,384.78	6,146.42	2.45%	9.72	109.38
			Mar-09	2009	Q1	6,146.42		\$ 1,384.78	7,531.20	2.45%	12.55	121.93
			Apr-09	2009	Q2	7,531.20		\$ 1,384.78	8,915.97	1.00%	6.28	128.21
			May-09	2009	Q2	8,915.97		\$ 1,384.78	10,300.75	1.00%	7.43	135.64
			Jun-09	2009	Q2	10,300.75	\$ 2,458.35	\$ 1,384.78	14,143.87	1.00%	8.58	144.22
			Jul-09	2009	Q3	14,143.87		\$ 1,384.78	15,528.65	0.55%	6.48	150.70
			Aug-09	2009	Q3	15,528.65		\$ 1,384.78	16,913.43	0.55%	7.12	157.82
			Sep-09	2009	Q3	16,913.43		\$ 1,384.78	18,298.20	0.55%	7.75	165.57
			Oct-09	2009	Q4	18,298.20		\$ 1,384.78	19,682.98	0.55%	8.39	173.96
			Nov-09	2009	Q4	19,682.98		\$ 1,384.78	21,067.76	0.55%	9.02	182.98
			Dec-09	2009	Q4	21,067.76		\$ 1,384.78	22,452.53	0.55%	9.66	192.64

Jan-10	2010	Q1	22,452.53	\$ 275.49	\$ 5,652.45	28,380.47	0.55%	10.29	202.93
Feb-10	2010	Q1	28,380.47	\$ 8,729.37	\$ 5,652.45	42,762.29	0.55%	13.01	215.94
Mar-10	2010	Q1	42,762.29	\$ 875.49	\$ 5,652.45	49,290.23	0.55%	19.60	235.54
Apr-10	2010	Q2	49,290.23	\$ 1,387.93	\$ 5,652.45	56,330.61	0.55%	22.59	258.13
May-10	2010	Q2	56,330.61	\$ 673.42	\$ 5,652.45	62,656.48	0.55%	25.82	283.95
Jun-10	2010	Q2	62,656.48	\$ 5,268.95	\$ 5,652.45	73,577.88	0.55%	28.72	312.66
Jul-10	2010	Q3	73,577.88	\$ 3,464.52	\$ 5,652.45	82,694.85	0.89%	54.57	367.23
Aug-10	2010	Q3	82,694.85	\$ 3,610.99	\$ 5,652.45	91,958.29	0.89%	61.33	428.56
Sep-10	2010	Q3	91,958.29	\$ 5,637.98	\$ 5,652.45	103,248.72	0.89%	68.20	496.77
Oct-10	2010	Q4	103,248.72	\$ 1,641.44	\$ 5,652.45	110,542.61	1.20%	103.25	600.02
Nov-10	2010	Q4	110,542.61	\$ 3,696.62	\$ 5,652.45	119,891.68	1.20%	110.54	710.56
Dec-10	2010	Q4	119,891.68	\$ 5,717.12	\$ 5,652.45	131,261.25	1.20%	119.89	830.45
Jan-11	2011	Q1	131,261.25	\$ 1,571.99	\$ 10,429.85	143,263.09	1.47%	160.80	991.25
Feb-11	2011	Q1	143,263.09	\$ 3,579.96	\$ 10,429.85	157,272.90	1.47%	175.50	1,166.74
Mar-11	2011	Q1	157,272.90	\$ 13,518.07	\$ 10,429.85	181,220.82	1.47%	192.66	1,359.40
Apr-11	2011	Q2	181,220.82	\$ 3,507.45	\$ 10,429.85	195,158.12	1.47%	222.00	1,581.40
May-11	2011	Q2	195,158.12	\$ 3,534.84	\$ 10,429.85	209,122.81	1.47%	239.07	1,820.47
Jun-11	2011	Q2	209,122.81	\$ 3,554.83	\$ 10,429.85	223,107.49	1.47%	256.18	2,076.64
Jul-11	2011	Q3	223,107.49	\$ 3,770.11	\$ 10,429.85	237,307.45	1.47%	273.31	2,349.95
Aug-11	2011	Q3	237,307.45	\$ 3,597.43	\$ 10,429.85	251,334.73	1.47%	290.70	2,640.65
Sep-11	2011	Q3	251,334.73	\$ 7,062.79	\$ 10,429.85	268,827.37	1.47%	307.89	2,948.53
Oct-11	2011	Q4	268,827.37	\$ 15,593.49	\$ 10,429.85	294,850.71	1.47%	329.31	3,277.85
Nov-11	2011	Q4	294,850.71	\$ 19,752.85	\$ 10,429.85	325,033.41	1.47%	361.19	3,639.04
Dec-11	2011	Q4	325,033.41	\$ 101.16	\$ 10,429.85	335,564.42	1.47%	398.17	4,037.21
Jan-12	2012	Q1	335,564.42	\$ 12,574.01	\$ 12,225.01	360,363.44	1.47%	411.07	4,448.27
Feb-12	2012	Q1	360,363.44	\$ 12,574.01	\$ 12,225.01	385,162.46	1.47%	441.45	4,889.72
Mar-12	2012	Q1	385,162.46	\$ 12,574.01	\$ 12,225.01	409,961.48	1.47%	471.82	5,361.54
Apr-12	2012	Q2	409,961.48	\$ 12,574.01	\$ 12,225.01	434,760.50	1.47%	502.20	5,863.74
May-12	2012	Q2	434,760.50	\$ 12,574.01	\$ 12,225.01	459,559.52	0.00%	-	5,863.74
Jun-12	2012	Q2	459,559.52	\$ 12,574.01	\$ 12,225.01	484,358.55	0.00%	-	5,863.74
Jul-12	2012	Q3	484,358.55	\$ 12,574.01	\$ 12,225.01	509,157.57	0.00%	-	5,863.74
Aug-12	2012	Q3	509,157.57	\$ 12,574.01	\$ 12,225.01	533,956.59	0.00%	-	5,863.74
Sep-12	2012	Q3	533,956.59	\$ 12,574.01	\$ 12,225.01	558,755.61	0.00%	-	5,863.74
Oct-12	2012	Q4	558,755.61	\$ 12,574.01	\$ 12,225.01	583,554.63	0.00%	-	5,863.74
Nov-12	2012	Q4	583,554.63	\$ 12,574.01	\$ 12,225.01	608,353.65	0.00%	-	5,863.74
Dec-12	2012	Q4	608,353.65	\$ 12,574.01	\$ 12,225.01	633,152.67	0.00%	-	5,863.74
			\$ 273,470.77	\$ 359,681.90	\$ 633,152.67				



Ontario Energy Board

Smart Meter Model

Orangeville Hydro Limited

This worksheet calculates the interest on OM&A and amortization/depreciation expense, in the absence of monthly data.

Year	OM&A (from Sheet 5)	Amortization Expense (from Sheet 5)	Cumulative OM&A and Amortization Expense	Average Cumulative OM&A and Amortization Expense	Average Annual Prescribed Interest Rate for Deferral and Variance Accounts (from Sheets 8A and 8B)	Simple Interest on OM&A and Amortization Expenses
2006	\$ -	\$ -	\$ -	\$ -	4.37%	\$ -
2007	\$ -	\$ 823.79	\$ 823.79	\$ 411.89	4.73%	\$ 19.47
2008	\$ -	\$ 2,553.08	\$ 3,376.87	\$ 2,100.33	3.98%	\$ 83.59
2009	\$ 2,458.35	\$ 16,617.32	\$ 22,452.53	\$ 12,914.70	1.14%	\$ 146.90
2010	\$ 40,979.32	\$ 67,829.40	\$ 131,261.25	\$ 76,856.89	0.80%	\$ 612.93
2011	\$ 79,144.97	\$ 125,158.20	\$ 335,564.42	\$ 233,412.83	1.47%	\$ 3,431.17
2012	\$ 150,888.13	\$ 146,700.13	\$ 633,152.67	\$ 484,358.55	1.47%	\$ 7,120.07
Cumulative Interest to 2011						\$ 4,294.07
Cumulative Interest to 2012						\$ 11,414.14



Ontario Energy Board

Smart Meter Model

Orangeville Hydro Limited

This worksheet calculates the Smart Meter Disposition Rider and the Smart Meter Incremental Revenue Requirement Rate Rider, if applicable. This worksheet also calculates any new Smart Meter Funding Adder that a distributor may wish to request. However, please note that in many 2011 IRM decisions, the Board noted that current funding adders will cease on April 30, 2011 and that the Board's expectation is that distributors will file for a final review of prudence at the earliest opportunity. The Board also noted that the SMFA is a tool designed to provide advance funding and to mitigate the anticipated rate impact of smart meter costs when recovery of those costs is approved by the Board. The Board observed that the SMFA was not intended to be compensatory (return on and of capital) on a cumulative basis over the term the SMFA was in effect. The SMFA was initially designed to fund future investment, and not fully fund prior capital investment. Distributors that seek a new SMFA should provide evidence to support its proposal. This would include documentation of where the distributor is with respect to its smart meter deployment program, and reasons as to why the distributor's circumstances are such that continuation of the SMFA is warranted. Press the "UPDATE WORKSHEET" button after choosing the applicable adders/riders.

Check if applicable

- ☐ Smart Meter Funding Adder (SMFA)
- ☒ Smart Meter Disposition Rider (SMDR)
- ☒ Smart Meter Incremental Revenue Requirement Rate Rider (SMIRR)

The SMDR is calculated based on costs to December 31, 2011

The SMIRR is calculated based on the incremental revenue requirement associated with the recovery of capital related costs to December 31, 2012 and associated OM&A.

	2006	2007	2008	2009	2010	2011	2012 and later	Total
Deferred and forecasted Smart Meter Incremental Revenue Requirement (from Sheet 5)	\$ -	\$ 1,249.16	\$ 3,769.78	\$ 31,475.58	\$ 173,860.61	\$ 326,358.51	\$ 436,841.88	\$ 973,555.52
Interest on Deferred and forecasted OM&A and Amortization Expense (Sheet 8A/8B) (Check one of the boxes below)	\$ -	\$ 18.27	\$ 74.49	\$ 99.87	\$ 637.81	\$ 3,206.76		\$ 4,037.21
<input checked="" type="checkbox"/> Sheet 8A (Interest calculated on monthly balances)	\$ -	\$ 18.27	\$ 74.49	\$ 99.87	\$ 637.81	\$ 3,206.76		\$ 4,037.21
<input type="checkbox"/> Sheet 8B (Interest calculated on average annual balances)								\$ -
SMFA Revenues (from Sheet 8)	\$ 20,898.00	\$ 34,961.00	\$ 35,907.00	\$ 108,352.00	\$ 135,082.54	\$ 198,570.65	\$ 92,000.00	\$ 625,771.19
SMFA Interest (from Sheet 8)	\$ 243.14	\$ 1,751.48	\$ 2,795.44	\$ 1,235.54	\$ 2,056.28	\$ 5,910.85	\$ 2,784.52	\$ 16,777.25
Net Deferred Revenue Requirement	-\$ 21,141.14	-\$ 35,445.05	-\$ 34,858.16	-\$ 78,012.09	\$ 37,359.61	\$ 125,083.77	\$ 342,057.36	\$ 335,044.29
Number of Metered Customers (average for 2012 test year)							11220	

Calculation of Smart Meter Disposition Rider (per metered customer per month)

Years for collection or refunding	1	
Deferred Incremental Revenue Requirement from 2006 to December 31, 2011 plus Interest on OM&A and Amortization	\$ 540,750.85	
SMFA Revenues collected from 2006 to 2012 test year (inclusive) Plus Simple Interest on SMFA Revenues	\$ 642,548.44	
Net Deferred Revenue Requirement	-\$ 101,797.59	
SMDR	May 1, 2012 to April 30, 2013	-\$ 0.76
Check: Forecasted SMDR Revenues		-\$ 102,326.40

Match

Calculation of Smart Meter Incremental Revenue Requirement Rate Rider (per metered customer per month)

Incremental Revenue Requirement for 2012	\$ 436,841.88	
SMIRR	\$ 3.24	
Check: Forecasted SMIRR Revenues	\$ 436,233.60	

Match



Funding and Cost Recovery Mechanisms

The following table provides a summary of the three mechanisms for smart meter funding and cost recovery that the Board has established and that can be calculated by this model. The Smart Meter Funding Adder ("SMFA") was described in Guideline G-2008-0002. The Smart Meter Disposition Rider ("SMDR") and Smart Meter Incremental Revenue Requirement Rate Rider ("SMIRR") were defined by the Board in the Decision for PowerStream Inc.'s application for Smart Meter disposition [EB-2010-0209], October 1, 2010.

Title	Acronym	Description
Smart Meter Funding Adder	SMFA	<ul style="list-style-type: none"> Mechanism to provide funding before and during smart meter deployment and acts to smooth the rate increases due to smart meter implementation. First implemented in rates for May 1, 2006. Initially established at a level of about \$0.26/month per metered customer for most distributors; some utilities have had unique SMFA rates due to initial Smart Meter Implementation Plans. Distributors could subsequently apply for a standard SMFA of \$1.00 per metered customer per month or a utility-specific SMFA. SMFA revenues are tracked in a sub-account of Account 1555. Upon disposition, the SMFA revenues and simple interest are used to offset the deferred historical revenue requirement of installed smart meters plus interest on the OM&A and amortization/depreciation expenses, with the variance recovered or refunded through the SMDR. In many 2011 EDR applications, the Board capped the SMFA at \$2.50/month per metered customer. Further, the Board indicated that the SMFA would cease by April 30, 2012.
Smart Meter Disposition Rider	SMDR	<ul style="list-style-type: none"> The SMDR recovers, over a specified time period, the variance between: 1) the deferred revenue requirement for the installed smart meters up to the time of disposition and interest on OM&A and depreciation/amortization expenses; and 2) the SMFA revenues collected and associated interest. The SMDR should be calculated as a fixed monthly charge. The capital (smart meter, AMI, systems hardware and software) and operating expenses are largely fixed costs and invariant to a customer's demand, and hence should be recovered largely through fixed charges. In many cases the SMDR has been recovered on an equal basis from all metered customer classes, although more recent decisions have dealt with class-specific disposition riders. The distributor should determine and support its proposed allocation, based on principles of cost causality and practicality.
Smart Meter Incremental Revenue Requirement Rate Rider	SMIRR	<ul style="list-style-type: none"> When smart meter disposition occurs in a stand-alone application, a SMIRR is calculated as the proxy for the incremental change in the distribution rates that would have occurred if the assets and operating expenses were incorporated into the rate base and the revenue requirement. The SMIRR is calculated as the annualized revenue requirement for the test year for the capital and operating costs for smart meters. The SMIRR should be calculated as a fixed monthly charge, similar to the SMDR. The allocation for the SMIRR should generally be the same as for the SMDR. The SMIRR ceases at the time of the utility's next cost of service application when smart meter capital and operating costs are explicitly incorporated into the rate base and revenue requirement.

Cost of Service Applications

The recovery of smart meter capital and operating costs is normally approved (or denied) following a review for prudence and disposition in a cost of service proceeding. A smart meter disposition rate rider (SMDR) is used to recover the residual revenue requirement that is made up of smart meter costs up to the time of disposition plus interest on OM&A and depreciation/amortization expenses, less amounts collected through the SMFA and associated interest. The approved gross book value and accumulated depreciation of installed smart meters are then added to rate base, and the test period operating expenses are added to OM&A. This ensures the recovery of the incremental revenue requirement on a going-forward basis through base rates. Further, smart meter capital and operating costs should be reflected in the cost allocation study to ensure an appropriate allocation of costs to the various customer classes.¹

If a distributor seeks approval for costs related to 100% smart meter deployment, any capital and operating costs for smart meters that are installed beyond the (2012) test year (i.e. for new customers) should not be recorded in Accounts 1555 and 1556.

The Board considers that rates will be fully compensatory when smart meter costs are either incorporated into base rates or recovered by means of the SMIRR. When smart meters are installed for new customers, these customers will pay rates that reflect the recovery of smart meter costs. The costs of these additional smart meter costs should be reflected in normal capital and operating accounts, akin to other normal distribution assets and costs.

Stand-alone Applications

As per *Chapter 3 of the Filing Requirements for Transmission and Distribution Applications*, issued June 22, 2011, the Board expects those distributors that are scheduled to remain on IRM to file a stand-alone application with the Board seeking final approval for smart meter related costs. When rates are adjusted in a stand-alone application, there is no re-evaluation of rate base or of the revenue requirement for the purpose of setting distribution rates. Where the Board approves smart meter capital and operating costs outside of a cost of service proceeding, a SMDR is still required. In addition, a smart meter incremental revenue requirement rate rider (SMIRR) is established to recover the prospective annualized incremental revenue requirement for the approved smart meters, until the distributor's next cost of service application. The SMIRR continues until the effective date of the distributor's next cost of service rate order, at which time assets and costs are incorporated into the rate base and revenue requirement and recovered on a going-forward basis through base rates.

As in a cost of service application, when smart meter costs are approved for 100% deployment, capital and operating costs for smart meters on a going-forward basis are no longer recorded in Accounts 1555 and 1556; instead the costs are recorded in the applicable capital or operating expense account (e.g. Account 1860 – Meters for smart meter capital assets).

Evidence to be Filed in Support of Smart Meter Cost Recovery in a Cost of Service or Stand-Alone Application

The purpose of this model is to calculate a smart meter revenue requirement from a distributor's capital and OM&A costs, and to provide one methodology for the determination of associated riders and/or adders. In addition to filing this model, distributors must provide in any application for cost recovery detailed descriptions of all costs incurred. The onus is on the distributor to support its case, and the distributor should provide any additional information necessary to understand the distributor's costs in light of its circumstances. In considering the recovery of smart meter costs, the Board also expects that a distributor will provide evidence on any operational efficiencies and cost savings that result from smart meter implementation. As an example, meter reading expenses may be reduced with the activation of remote meter reading through the AMI network for residential and small general service customers.

When applying for the recovery of smart meter costs, a distributor should ensure that historical cost information has been audited including the smart meter-related deferral account balances up to the distributor's last Audited Financial Statements. A distributor may also include historical costs that are not audited and estimated costs, corresponding to a stub period or to a forecast for the test rate year. The Board expects that the majority (i.e. 90% or more) of costs for which the distributor is seeking recovery will be audited. In all cases, the Board expects that the distributor will document and explain any differences between unaudited or forecasted amounts and audited costs.

Costs Beyond Minimum Functionality

While authorized smart meter deployment must meet the requirements for minimum functionality, a distributor may incur costs that are beyond the "minimum functionality". To date, the Board has reviewed three types of costs that are "beyond minimum functionality":

A. Costs for technical capabilities in the smart meters or related communications infrastructure that exceed those specified in O.Reg 425/06;

B. Costs for deployment of smart meters to customers other than residential and small general service (i.e. Residential and GS < 50 kW customers); and

C. Costs for TOU rate implementation, CIS system upgrades, web presentation, integration with the MDM/R, etc.

Costs beyond minimum functionality for which recovery is sought must be recorded in the Smart Meter Costs tab of the model in these three categories, and appropriate supporting evidence for each cost type must be provided in the application. Further comments on each of these cost types are provided below.

A. Costs for technical capabilities in the smart meters or related communications infrastructure that exceed those specified in O.Reg. 425/06

O.Reg. 425/06 specifies that costs that exceed minimum functionality may be approved by the Board for recovery. In deciding whether technical capabilities of installed smart meters or associated communications or other infrastructure that exceed minimum functionality are recoverable, the Board will consider the benefits of the added technical features and the prudence of these costs. Any distributor seeking recovery for these additional capabilities should provide documentation of the additional technical capabilities, the reasons for them and a detailed cost/benefit analysis.

Technical functionality beyond minimum functionality was dealt with by the Board with respect to Hydro One Networks' 2008 cost of service application, regarding the costs and benefits of super-capacitors in the smart meters and AML collectors. In its Decision and Order on that application (EB-2007-0681), issued December 18, 2008, the Board approved the recovery of the incremental costs.

B. Costs for deployment of smart meters to customers other than residential and small general service

O.Reg. 425/06 defines smart meter deployment as pertaining to residential and small general service customers. The Functional Specification sets the required minimum level of functionality for the AML to be "for residential and small general service consumers where the metering of demand is not required." As such, minimum functionality has been defined as customers in the residential and general service ("GS") < 50 kW classes.

While some customers in other metered customer classes (GS > 50 kW, Intermediate, Large Use) have interval meters that measure peak demand in a time interval, some distributors may have customers in these classes that have conventional meters and are not eligible for the regulated price plan ("RPP") and therefore are subject to the weighted average spot market price.

A distributor may, as part of its smart meter deployment program, decide to install smart meters for these customers. This could be on the basis that these customers will have higher demand than will typical residential and GS < 50 kW customers, and providing them with better information on how much and when they consume electricity may provide these customers with opportunities for more energy conservation and load shifting. While such meter conversions may generally appear to be logical, they are outside of the regulation and hence are beyond minimum functionality. In other instances, a distributor may convert the meters of interval-metered customers upon repair or re-sealing to "smart" meters that communicate using the AML infrastructure that the distributor has installed, replacing the existing communications systems for these meters. Again, as these are for meters for customers other than residential and small general service, they are outside of the regulation and hence beyond minimum functionality.

The Board, as part of the Combined Proceeding (EB-2007-0063, December 13, 2007), approved cost recovery for meter conversions for GS > 50 kW customers for both Toronto Hydro Electric System Limited ("Toronto Hydro") and Hydro Ottawa Limited. However the Board stated:

"The Board is explicitly not finding that the costs associated with these meters fall into the minimum functionality costs. The Board approval of these costs is ancillary to the smart meter decision."

With respect to Toronto Hydro, the Board subsequently approved the recovery of these costs for smart meter installation/conversion for GS > 50 kW customers in Toronto Hydro's 2008-2009 [EB-2007-0681] and 2011 [EB-2010-0142] cost of service rate applications.

Some distributors may be doing "smart meter" conversions for General Service > 50 kW customers upon repair or resealing to enable meter data collection through the AML infrastructure. While it is recognized that these smart meter installations and conversions are "beyond minimum functionality", a distributor may apply for the recovery of such costs. The application should document the nature, the justification and the cost per meter separately from those for the residential and GS < 50 kW customers.

C. Costs for TOU rate implementation, CIS system upgrades, web presentation, etc.

Costs for CIS systems, TOU rate implementation, etc., are beyond minimum functionality as established by the Board in the Combined Proceeding. However, such costs may be recoverable. In its application, a distributor should show how these costs are required for its smart meter program. Further, a distributor should document how these costs are incremental. For example, if a distributor has a normal budget for maintenance of its billing and CIS systems, costs claimed for system maintenance and upgrades must be shown to be incremental to the normal budget that is already recovered in base rates.

All costs beyond minimum functionality should be clearly identified and supported. Costs that are for meter data functions that will be the responsibility of the Smart Metering Entity will not be recoverable, unless already allowed for as per O.Reg. 426/06. Costs for other matters such as CIS changes or TOU bill presentment may be recoverable, but the distributor will have to support these costs and will have to demonstrate how they are required for the smart meter deployment program and that they are incremental to the distributor's normal operating costs.

Cost recovery for ongoing costs of the Smart Metering Entity should not be included in any smart meter cost recovery application, until such time as the Board establishes a cost recovery mechanism. To date, the Board has disallowed requests for either cost recovery or the establishment of a deferral account to track these costs.

Cost Allocation

The model does not deal with allocations between customer rate classes. In calculating the SMDR and SMIRR, the Board has approved, in some applications, the recovery of amounts from certain applicable customer classes based on the availability of detailed data at the customer class level and on principles of cost causality.

If a distributor does not have sufficient information to support an allocation to the applicable classes, a distributor may choose to propose a recovery on the basis of all metered customers resulting in one uniform rate rider for all metered customer classes. The model calculates the SMFA, SMIRR and SMDR on this basis.

Whichever method is adopted, the Board is of the view that any cost allocation approach should be consistent between the SMDR and the SMIRR when disposition is sought in a stand-alone application. The Board will entertain proposals supported by analysis for SMDRs and SMIRRs based on principles of cost causality and where the distributor has the necessary historical and forecasted data. Distributors should refer to the PowerStream application considered under EB-2010-0209 for a practical approach. However, if a distributor decides to adopt this approach in its application, it will have to adjust it to its own circumstances.² Further, adoption of this approach will not predetermine its approval by the Board in an individual application.

Stranded Meters

The model does not address the recovery of stranded meter costs. Distributors filing Cost of Service applications should refer to *Chapter 2 of the Filing Requirements for Transmission and Distribution Applications*, issued June 22, 2011 (Section 2.5.1.5).

While it would be preferable, conceptually, to also deal with stranded meter costs in a non-cost of service application, the Board recognizes that practical difficulties would arise since there is no restatement of rate base and rates. The Board therefore expects that stranded meter costs will be left in rate base until the distributor's next cost of service application.

The Stranded Meter Rate Rider to recover the residual Net Book Value of stranded (i.e. replaced conventional) meters is separate from any SMDR or SMIRR. In other words, a distributor must calculate (and should show its derivation) the Stranded Meter Rate Rider on a stand-alone basis.

¹ See Section 2.10 – Cost Allocation of Chapter 2 of the Filing Requirements for Transmission and Distribution Applications, issued June 22, 2011.

² For example, if a distributor has deployed smart meters to classes other than Residential and GS < 50 kW, it will have to reflect the additional classes in any cost allocation proposal.