St. Thomas energy inc.
We're Your Local Power Distributor

August 9, 2012

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

Dear Ms. Walli

RE: St. Thomas Energy Inc. – 2012 Smart Meter Cost Recovery Application

St. Thomas Energy Inc. ("STEI") is applying for recovery of its smart meter costs as a stand-alone application as STEI is currently subject to the Board's 3rd Generation Incentive Regulation Mechanism ("IRM").

The Smart Meter Recovery application does not include any confidential agreements.

Two hard copies of the Smart Meter Recovery application have been couriered to the Board. An electronic PDF version of the application and an Excel copy of the Smart Meter Model have been submitted through the e-Filing Services.

Please contact me if you require any additional information

Yours truly,

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ONTARIO ENERGY BOARD

IN THE MATTER OF the Ontario Energy Board Act, 1998;

AND IN THE MATTER OF an Application by St. Thomas Energy Inc. for an Order or Orders approving rates for smart meter cost recovery;

A P P L I C A T I O N

The Applicant, St. Thomas Energy Inc. (STEI), an Ontario corporation with its head office located in the City of St. Thomas, is an electricity distributor licensed by the Ontario Energy Board (ED-2002-0523). The Applicant distributes electricity to over 16,400 customers in the City of St. Thomas.

STEI hereby makes application to the Ontario Energy Board for an Order or Orders effective May 1, 2012 approving recovery of smart meter capital and OM&A costs related to minimum functionality as set out in O. Reg. 425/06, criteria for Meters and Metering Equipment, Systems and Technology. The cost recovery is based on actual costs incurred to December 31, 2011.

STEI is requesting a 24-month monthly Smart Meter Disposition Rider of ($0.42) for Residential customers, $1.24 for General Service < 50 kW customers and $4.12 for General Service > 50 kW customers.

In addition, STEI is requesting a 12-month Smart Meter Incremental Revenue Requirement Rate Rider of $2.02 for Residential customers, $4.65 for General Service < 50 kW customers and $9.12 for General Service > 50 kW customers for the period May 1, 2012 to April 30, 2015.

The Application for recovery of smart meter costs for the 2012 year includes the following parts:

- Manager's Summary of the Application
- Smart Meter Model (V2_17)

Manager's Summary

1. Introduction:

STEI is the electricity distributor licenced by the Ontario Energy Board to serve the City of St. Thomas. STEI is incorporated under the Business Corporations Act (Ontario). The sole shareholder of STEI is The Corporation of the City of St. Thomas.

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INTRODUCTION

STEI is submitting this stand-alone application for the recovery of the smart meter costs incurred in implementing its Smart Meter Program. STEI has completed 100% installations as at December 31, 2011 and its next Cost of Service rate application is not scheduled until 2015. Smart Meter cost recovery is based on actual audited costs incurred to December 31, 2011 of $3,485,033, which does not include stranded meter cost.

STEI has worked collaboratively with other LDCs across the Province of Ontario to fulfill the Provincial government's initiative in providing the residents of Ontario conservation tools. STEI has installed 16,459 smart meters, 319 more meters than the planned amount of 16,140. STEI has achieved economies of scale where possible and has acted prudently in obtaining best possible pricing. STEI's Smart Meter cost recovery of $3,485,033 is $1,509,967 less than the Util-Assist developed budget and $14,967 less than the total cost provided in the 2011 COS application. STEI is forecasting $15,000 in annual operational efficiencies as a result of its Smart Metering program.

Table 1, Average Meter Cost, illustrates STEI's cost per meter on a combined operating and capital basis of **$211.74 is $15.18 or 6.7% below the $226.92 industry average** reported by distributors in the Monitoring Report on Smart Meter Investment as at September 30, 2010.

Table 1: Average Meter Cost

Class	Quantity	Total Cost $
Residential	14,632	1,605,610
GS < 50 kW	1,655	418,751
GS > 50 kW	172	98,143
Total	**16,459**	**2,122,504**
Additional capital cost		**1,145,272**
OM&A costs		**217,257**
Total Capital and OM&A Costs	**16,459**	**3,485,033**
Total Cost per Meter		**211.74**

STEI is specifically requesting the following:

1. Smart Meter Disposition Rate Rider ("SMDR") (per metered customer per month) of ($0.42) for Residential customers, $1.24 for General Service < 50 kW customers and $4.12 for General Service > 50 kW customers for a 24 month period (May 1, 2012 to April 30, 2014). This Rate Rider refunds the difference between the May 1, 2006 to December 31, 2011 revenue requirement related to smart meters deployed as of December 31, 2011, plus interest on operations, maintenance and administration and depreciation expenses, and the Smart Meter Funding Adder ("SMFA") revenues collected from May 1, 2006 to April 30, 2012 and corresponding interest on the SMFA revenues;

2. Smart Meter Incremental Revenue Requirement Rate Rider ("SMIRR") (per metered customer per month) of $2.02 for Residential customers, $4.65 for General Service < 50 kW customers and $9.12 for General Service > 50 kW customers for the period May 1, 2012 to April 30, 2015. This Rate Rider reflects the annual Incremental Revenue Requirement related to smart meter that would have occurred if the assets and operating expenses were incorporated into rate base January 1, 2012; and

3. STEI is not requesting recovery of the stranded meter costs of approximately $783,000 but continues to include these in rate base for rate-making purposes, as recommended by the Board in its Decision with Reasons in the Smart Meter Combined Proceeding (EB-2007-0063). STEI expects to seek recovery of the stranded meter costs as part of its next cost of service application.

2. Status of Implementation of Smart Meters

STEI has installed a total of 16,287 Residential and General Service < 50 kW meters as of December 31, 2011 which represents 100% of total meters for these two classes. STEI also installed 172 General Service > 50 kW meters which represents 87% of the total.

STEI recognizes that the installation of smart meters for General Service > 50 kW customers was technically beyond minimum functionality, however, senior management concluded that it was a prudent business decision based upon the following factors:

- The ability to remotely read the General Service > 50 kW customers creates operational efficiencies and cost savings as opposed to manually reading one specific customer class;

- General Service > 50 kW customers have fluctuating power consumption which and could possibly result in a re-classification as a General Service < 50 kW customer resulting in a meter change;

- Providing General Service > 50 kW customers with a smart meter enables these customers with peak and energy-savings opportunities consistent with the Government's Conservation and Demand Management objectives; and

- To provide access to power consumption data via the web, similar to what is provided to all other customer classes.

This application seeks the recovery of the revenue requirements in respect of these smart meters as follows:

Table 2: Smart Meter Capital & OM&A

Rate Filings	Total	% of total
Minimum Functionality - Capital	3,239,666	93%
Minimum Functionality - OM&A	167,951	5%
Total Minimum Functionality	**3,407,617**	**98%**
Beyond Minimum Functionality - Capital	28,110	1%
Beyond Minimum Functionality - OM&A	49,306	1%
Total Beyond Minimum Functionality	**77,416**	**2%**
Total Capital and OM&A Costs	**3,485,033**	**100%**

3. Recovery of Smart Meter Funding:

STEI has been collecting funds associated with smart meter implementation since 2006. The basis for the recovery is outlined below:

- In the **2006** Decision and Order (EB-2005-0416), the OEB ordered that, in accordance with the Generic Decision a $0.30 per month, per residential customer be added to STEI's revenue requirement. A monthly fixed charge of $0.27 per metered customer per month effective May 1, 2006, was billed and the proceeds were credited in OEB Account 1555, Smart Meter Capital and Recovery Offset Variance Account.

- In the **2007** Decision and Order (EB-2007-0577), STEI received approval to continue the $0.27 per metered customer per month smart metering funding charge for the 2007 IRM rate year.

- In the **2008** Decision and Order (EB-2007-0841), STEI received approval to continue the $0.27 per metered customer per month smart metering funding charge for the 2008 IRM rate year.

- In the **2009** Decision and Order (EB-2008-0211), STEI received approval to increase the smart meter funding adder to $1.00 per metered customer per month.

- In its **2010** Decision and Order (EB-2009-0208), STEI received approval to decrease the smart meter funding adder to $0.52 per metered customer per month.

- In its **2011** Decision and Order (EB-2010-0141), STEI received approval from the Board to increase the smart meter funding adders to $2.50 per metered customer per month.

4. Project Overview:

STEI recognized the benefits of collaboration early in the process through participation in the Ontario Utilities Smart Meter (OUSM) working group. Involvement in the OUSM group continued along with the engagement of Util-Assist for specific project management. The details of the implementation project and the prudence reviews include:

- AMI RFP; participated in Ministry of Energy and Infrastructure authorized London Hydro AMI RFP process (establishing best practice procurement procedures);
- ODS RFP and award of contracts;
- WAN RFP and award of contracts;
- Meter Disposal RFQ;
- AMI Network Security Audit;
- Installation Service Provider RFP and award of contracts.

Automated Meter Infrastructure ("AMI") Selection:

In 2007, London Hydro led a consortium of 21 LDCs that released a Request for Proposal ("London RFP") to solicit pricing and features for a comprehensive AMI. Under the London RFP process, there was a selection process to match each participating distributor, or a group of distributors, to vendors from a group pre-selected through the London RFP process. Each distributor then entered into a contractual agreement with the highest ranked vendor to determine pricing arrangements, technical specifications and schedules for delivery and installation. The selection process was overseen by the Fairness Commissioner.

STEI participated in the London RFP to implement meters in a cost effective manner. The collaborative initiative also assisted STEI in the development of project plans, RFPs and contracts.

Based on the London RFP process STEI was awarded Elster Metering ("Elster") as the preferred vendor by the Fairness Commissioner, attached as Appendix 1 is a copy of the Fairness Commissioner Attestation Letter.

STEI was authorized to conduct smart meter activities by virtue of paragraph 3 of section 1(1) of O.Reg. 427/06. Metering activities conducted by a distributor that has procured its smart meters pursuant to and in compliance with the parameters and process established by Request for Proposal for AMI – Phase 1 Smart Meter Deployment dated August 14, 2007, together with amendments to it, issued by London Hydro Inc. O. Reg. 427/06, s 1(1); O. Reg. 153/07, s. 1(1); O. Reg. 235/08, s2(1-4).

Operational Data Store ("ODS") Functionality:

With the implementation of the AMI a need was recognized for an application that supported full integration with the Meter Data Management Repository ("MDM/R") enabling staff to audit, validate, interact with and gain valuable business information from the wealth of meter data being collected. The AMI collects and forwards that power consumption data to the MDM/R, however, the MDM/R does not provide all of the functionality that an ODS provides.

In addition to the features listed below, the ODS allows a distributor the ability to interpret and/or leverage the information it is providing to the customer in an educated and meaningful fashion.

The primary features of the ODS are:

- **Dashboard of Field Issues Possibly Requiring Intervention -** Dashboard visibility to the real-time performance of the smart meter system to provide field staff with visibility to troubleshooting priorities such as non-communicating meters, non-communicating tower gateways/collectors, etc.
- **AMI Service Level Agreement ("SLA") Audit -** Audit and reporting / real-time notification capabilities to monitor AMI performance and therefore ensure that data collection and submission SLA's with the centralized MDM/R are consistently met.
- **Read Re-submission -** The ODS provides a data repository to facilitate backfilling reads after a meter installation, front-filling reads after a meter removal, and replacing reads labeled as Needs Verification or Edit ("NVE") by the IESO MDM/R system. The ODS provides a mechanism for meter data editing and Validation, Estimation and Editing ("VEE") processes (in keeping with the MDM/R specifications), such data can then be re-submitted to the MDM/R. Features such as "register read validation failure resolution" will be invaluable.
- **IESO MDM/R Report Integration / Issue Resolution Automation -** The MDM/R produces a large volume of reports on a daily or regular basis each potentially containing large amounts of information. MeterSense will load the MDM/R reports, and filter the information they provide in

order to provide manageable, meaningful action items that can be prioritized, investigated and resolved.

- **Meter Event Monitoring -** Dashboard visibility to report meter events and indicators such as outages, restorations, tampers, voltage changes, etc., many of which will afford the opportunity to improve the safety and reliability of the distribution system.

- **Revenue Protection** – LDCs will be able to identify and respond to meter tampers which historically would have resulted in unidentified theft of power

- **Outage Reporting -** Real-time outage information to facilitate faster response time, and therefore improved system reliability

To address the MDM/R functionality deficiencies, RFP 2009-10-15 was issued for an ODS to fourteen vendors in North America of which five responded. Following the RFP process, vendors delivered software demonstrations, leading to the selection of Harris MeterSense as the preferred vendor with their ODS application.

5. Business Process Redesign ("BPR")

The Util-Assist training team delivered a series of education sessions covering the MDM/R design specifications, meter read data, VEE and other billing processes, and the design of a testing/cutover strategy. LDCs have widely recognized that a number of business processes, including new account setup, meter installations, meter changes, move-in/move-out and final billing all require scrutiny and procedural modifications to ensure that MDM/R integrations are optimized. Util-Assist assisted STEI in minimizing BPR costs by leveraging best practices and lessons learned from other utilities with similar systems and functionality requirements. Actual BPR is an ongoing process leading up to and after cutover.

6. System Changes

Modifications or additional modules to the existing billing systems were undertaken as part of the smart meter deployment and implementation of time of use billing. STEI leveraged lessons learned from being a member of the Utility Collaborative Service ("UCS") group, other utilities and its billing system provider when making system changes, thus reducing costs and increasing system efficiencies. The required add-ons software modules and professional services for the existing system, to ensure the integration was completed in the defined regulatory timelines, were negotiated and implemented.

7. Integration with MDM/R

To assist with the integration to the provincial MDM/R staff attended relevant IESO training sessions as well as further training sessions provided by Util-Assist. Registration paperwork and integration project plan were filed with the IESO in 2009. Applicability Statement 2 Protocol (AS2) connectivity software to facilitate data integration with the MDM/R was installed in December, 2010 and connectivity testing was completed with the IESO in 2011.

MDM/R testing timelines were completed as follows:

- **Unit Testing** to test STEI interfaces with the MDM/R.
    - commenced January 2011, completed June 21, 2011.

- **System Integration Testing** (SIT) to test interfaces and ensure STEI systems can operate with the MDM/R and handle meter to bill lifecycle.
    - commenced June 27, 2011, completed July 15, 2011.

- **Qualification Testing** (QT) to ensure that STEI business processes can support various support scenarios from meter reads to billing, end to end testing.
    - commenced July 14, 2011, completed August 15, 2011.

- **Cutover to MDM/R production**, transition from testing to production operations.

- August 15, 2011 transitioned 200 accounts with the remaining accounts transferred by August 31, 2011.

The ability to meet these timelines was to a large extent contingent upon clear and complete requirements, software systems delivering the functionality and suppliers meeting their contractual obligations and deadlines. STEI is not seeking recovery of MDM/R integration costs as part of the Smart Meter Recovery Application.

8. Transition to Time of Use ("TOU") Pricing

In mid-2010, the Ontario Government articulated an expectation that 1 million Regulated Price Plan ("RPP") customers would be billed using TOU pricing by the summer of 2011, increasing to 3.6 million customers by June 2012. On June 24, 2011, the Ontario Energy Board issued a proposed determination regarding mandated TOU pricing for regulated price plan customers (Board File No. EB-2011-0218), suggesting that distributor-specific TOU dates would be the most appropriate approach, as it allows for the deadline to logically follow MDM/R enrolment activities.

In a letter dated August 4, 2010, the OEB provided direction to all LDCs on mandated dates by which each distributor must bill its RPP customers having eligible TOU meters using TOU pricing. STEI's mandated date for time-of-use billing was October 1, 2011 for all Residential and General Service < 50kW customers. STEI TOU customer bills were issued in November, 2011 based upon October usage.

9. Customer Education

STEI provided its customers with bill inserts during the months of March and April 2010 informing customers that smart meters were to be installed by December 2010. STEI also provided smart metering information on its website and in a front lobby display during this period as well as placing advertisements in the local newspaper, hosted public information forums and provided information at a business expo throughout 2010 and 2011.

- Customer Information Package

  Customer information packages were hand delivered, at the time of the meter installation, directly to all Residential and General Service < 50 kW customers containing a TOU brochure detailing how to shift load and take advantage of TOU rates. The package included TOU magnets for customers to place on appliances to remind them of the TOU hour changes that occur.

- Town Hall Meetings

  STEI conducted Town Hall Meetings that provided customers with TOU information and to answer questions regarding the changeover to TOU rates.

10. Web Presentment

To address the Provincial Government's requirement to provide power consumption data to customers within 24 hours, access to STEI's customer information system via the internet was required. This access was accomplished through a TOU web presentment tool (Customer Connect) in January of 2012. The main features of this presentment tool are as follows:

- Ability to view TOU data in an easy to understand format;
- Ability to view TOU data by billing period;
- Ability to export TOU data for comparative analysis and graphing;
- Ability to provide weather overlay data;
- Ability to provide graphical comparative analysis; and
- To provide educational and conservation information and updates.

11. Annual AMI Security Audit:

With the mass deployment of the AMI, security of the AMI network became critical to prevent utilities from becoming susceptible to new levels of potential security breaches and to ensure customer privacy and acceptance of the network. Installation of network infrastructure in the field requires new and additional security measures to ensure that utility data and equipment are kept secure from manipulation or other forms of control. As networks are deployed throughout the world, cyber security articles and reports of the potential for smart-grid hacking are commonplace in the media. The minimum Functional Specification for AMI released in July 2006 identified the need for security within the AMI network – Section 2.11 Security and Authentication: “The AMI shall have security features to prevent unauthorized access to the AMI and meter data and to ensure authentication to all AMI elements.” Some of the privacy and network security infrastructure concerns that have been raised include:

- Monitoring a consumer’s usage;
- Modifying one’s own, or another consumer’s usage;
- Interrupting the power of one or more consumers; and
- Tampering with demand side management tools which can be controlled through smart meters.

Since 2009, Ontario utilities have been working with their smart meter providers to understand the security features of the networks, best practices for their deployment and new features that are being developed for future implementation within the smart meter networks. In November 2009 the Information and Privacy Commissioner of Ontario released the report Smart Privacy for the Smart Grid which identified areas of concern to be addressed in the area of smart meter and smart grid devices. Going forward, annual security audits will be budgeted, as this is a prudent approach to satisfying the due diligence requirements for protection not only of the customer information, but also to ensure that access to the infrastructure is properly protected, thereby securing against unwanted modifications to data collection and/or load-control functionality. Security of the network and ensuring that customer data is protected at all times has resulted in the development of governance standards requiring extensive security measures such as those developed by (“NERC”) North American Electric Reliability Corporation. The NERC reliability standards are developed by the electricity industry using a balanced, open, fair and inclusive process managed by the NERC Standards Committee. For many Ontario LDCs, including STEI, completing a security audit at a NERC, (“NIST”) Network Information Security & Technology or comparable level would be a cost-prohibitive. Therefore STEI as part of an eighteen member consortium of Ontario Utilities using the Elster metering AMI issued RFP #05-21, “Smart Meter Network Security Audit Services for Elster AMI.” The objective of the RFP was to select an audit partner who would complete a security audit of the Elster AMI systems for consortium members utilizing Elster technology and to ensure Elster had implemented countermeasures to resolve all security concerns and to minimize the audit costs amongst the participating utilities.

N-Dimension Solutions Inc. was selected and awarded the contract by the consortium and completed an in-depth security review of the STEI Elster solution. N-Dimension Solutions Inc. reviewed the technology at other participating utilities and confirmed the Elster AMI systems were configured to consortium "standard". The Audit included end-to-end testing from the meter to the utility systems and home area network.

12. Copies of Agreements

The following agreements were negotiated by STEI:

- AMI RFP, Agreement between STEI and Elster.;
- ODS RFP, Agreement between STEI and Harris;
- WAN RFP, Agreement between STEI and National Wireless;
- Meter Disposal RFQ, Agreement between STEI and Green-Port Environmental;
- AMI Security Network Audit, N-Dimension Solutions Inc.; and
- Smart Meter Installation Agreement between STEI and Olameter Inc.

Elster, Harris, National Wireless, Green-Port Environmental, N-Dimension Solutions Inc. and Olameter Inc. are **all non-affiliated third party competitive businesses**. The disclosure of the terms of these agreements could reasonably be expected to prejudice the economic interests, competitive positions and cause undue financial interests to the above named companies, as it would enable their competitors to ascertain the scope and pricing of services provided by these companies. The Board's Practice Direction on Confidential Filings (the "Practice Direction") recognizes these are among the factors the Board will take into consideration when addressing the confidentiality of filings. They are also addressed in section 17(1) of the Freedom of Information and Protection of Privacy Act ("FIPPA"), and the Practice Direction notes (at Appendix C of the Practice Direction) that third party information as described in subsection 17(1) of FIPPA is among the types of information previously assessed or maintained by the Board as confidential. Accordingly, STEI requests these Agreements be kept confidential.

STEI is prepared to provide copies of the Agreements to parties' counsel and experts or consultants on an as needed basis, provided they have executed the Board's form of Declaration and Undertaking with respect to confidentiality and they comply with the Practice Direction, subject to STEI's right to object to the Board's acceptance of a Declaration and Undertaking from any person.

13. Justification for Functionality that Exceeds Minimum Functionality:

STEI has recorded $77,416 of costs deemed to exceed minimum functionality comprised of $28,110 of capital cost and $49,306 of operating cost (See Table 2).

The justifications for these expenditures are fully detailed in Section "14. Cost Variance Analysis".

14. Cost Variance Analysis:

Comparisons of actual to budgeted costs are provided in table 3: Actual to Budget Cost Summary.

Table 3: Actual to Budget Cost Summary

RATE FILING		Actual	Budget	Variance
Capital Costs				
1.1	Advanced Metering Communication Devices (AMCD)	2,617,678	2,665,000	(47,322)
1.2	Advanced Metering Regional Collector (AMRC)	173,268	199,000	(25,732)
1.3	Advanced Metering Control Computer (AMCC)	114,944	94,000	20,944
1.4	Wide Area Network (WAN)	39,872	-	39,872
1.5	Other AMI Capital Cost Related to Minimum Functionality	293,904	446,000	(152,096)
1.6	Capital Cost Beyond Minimum Functionality	28,110	496,000	(467,890)
Total Smart Meter Capital Costs		**3,267,776**	**3,900,000**	**(632,224)**
OM&A Costs				
2.1	Advanced Metering Communication Devices (AMCD)	(20,784)	-	(20,784)
2.2	Advanced Metering Regional Collector (AMRC)	12,362	-	12,362
2.3	Advanced Metering Control Computer (AMCC)	16,153	111,000	(94,847)
2.4	Wide Area Network (WAN)	12,593	44,000	(31,407)
2.5	Other AMI Capital Cost Related to Minimum Functionality	147,627	430,000	(282,373)
2.6	OM&A Costs Beyond Minimum Functionality	49,306	510,000	(460,694)
Total Smart Meter OM&A Costs		**217,257**	**1,095,000**	**(877,743)**
Total Smart Meter Recovery, exlcuding stranded meter)		**3,485,033**	**4,995,000**	**(1,509,967)**
Stranded Meter Recovery		-	-	-
Total Smart Meter Recovery		**3,485,033**	**4,995,000**	**(1,509,967)**
Total Cost as Forecasted in 2011 COS Application			**3,500,000**	

STEI's total smart meter combined capital and operating costs of $3,485,033 is $1,509,967 less than the Util-Assist derived budget of $4,995,000 and $14,967 less than the $3,500,000 forecasted in the 2011 Cost of Service application. The initial budget, as determined by Util-Assist, included cost beyond minimum functionality and cost beyond the December 31, 2011 installation date. Neither the Smart Meter budget nor this Smart Meter Application includes stranded meter costs.

Table 4: Budget Variance Summary provides an analysis of the positive $1,509,967 budget variance.

Table 4: Budget Variance Summary

BUDGET to ACTUAL VARIANCE ANALYSIS			
Smart Meter Budget Variance, per table 3	**Item**		**(1,509,967)**
Cost beyond Mininum Functionality			
Remote disconnects - budget	1.6	(496,000)	
MDM/R - budget	2.6	(510,000)	(1,006,000)
			(503,967)
Budget items for periods beyond December 31, 2011			
Smart meter capital	1.1	(47,322)	
Software maintenance	2.3	(48,000)	
WAN maintenance	2.4	(18,000)	
Administration cost	2.5	(74,000)	
Other AMI expenses	2.5	(52,000)	(239,322)
			(264,645)
Capital Variances			
Contingency	1.2	(25,732)	
Hardware / software costs	1.3	20,944	
WAN	1.4	39,872	
Contingency	1.5	(43,000)	
ODS integration and training	1.5	(77,000)	
Additional AMI costs	1.5	(32,096)	
3 phase analyzer	1.6	28,110	(88,902)
			(175,743)
OM&A Variances			
Scientific Research & Experimental Development credit	2.1	(30,000)	
Customer meter bases	2.1	9,216	
Meter collector maintenance	2.2	12,362	
Contingency	2.3	(9,000)	
Software maintenance	2.3	(37,847)	
Contingency	2.4	(4,000)	
AMRC operations	2.4	(9,407)	
Contingency	2.5	(49,000)	
Administrative cost, budget, 1 additional staff	2.5	(90,000)	
Other AMI expenses	2.5	(17,373)	
Business process redesign, CIS changes	2.6	49,306	(175,743)
Ending Variance			-

- **Capital Cost Analysis Items 1.1 to 1.6**

Actual Capital cost of $3,267,776 (see Table 3) were $632,224 less than the budget amount of $3,900,000, $496,000 or 78% of the capital variance is attributed to not installing remote disconnect technology. The budged was based upon installing 16,140 meters which included 169 General Service > 50 kW meters. STEI installed a total of 16,459 meters, 319 meters more than planned and under budget.

Following is a description of the smart meter capital additions by the OEB assigned categories.

1.1 Advanced Metering Communications Device (AMCD):

The AMCD is an advanced metering communication device that is housed either under the meter's glass or outside the meter. It transmits Meter Reads from the meter to the Advanced Metering Control Computer ("AMCC"). Depending on memory capacity, Meter Reads stored in the AMCD may be transferred at a preprogrammed time for intermediary storage in the Advanced Metering Regional Collector ("AMRC"); alternatively they may be transmitted directly to the AMCC (as noted in Section 3.2.1 of the Functional Specification).

1.2 Advanced Metering Regional Collector (AMRC):

The AMRC is an advanced metering regional collector that collects Meter Reads over the LAN from the AMCD and transfers these reads over the WAN to the AMCC.

1.3 Advanced Metering Control Computer (AMCC):

The AMCC is an advanced metering control computer that is used to retrieve or receive and temporarily store Meter Reads before or as they are being transmitted to the MDM/R. The information stored in the AMCC is available to log maintenance and transmission faults and issue reports on the overall health of the AMI to the LDC. These costs include the hardware and software required for this infrastructure.

1.5 Other AMI Capital Costs Related to Minimum Functionality:

The other Capital costs include repairs to customer owned equipment as well as program management fees, other professional fees and AMI interface costs.

1.6 Capital Cost Beyond Minimum Functionality:

Capital cost beyond minimum functionality consists of a 3 phase analyzer. The analyzer was purchased as a revenue protection, customer complaint mitigation tool. As per STEI's business process the analyzer is installed prior to and after a meter change-out to verify meter readings to customers as a means of mitigating customer disputes with regard to consumption issues. As well the analyzer is an ideal tool for finding energy waste in commercial and factory buildings and equipment.

- **Operations, Maintenance and Administration ("OM&A") Cost Analysis Items 2.1 to 2.6:**

Total Smart Meter OM&A costs of $217,257 (see table 3) were $877,743 less than the budgeted amount of $1,095,000, $510,000 or 58% of the variance is attributed to MDM/R budget costs not incurred. In addition to the MDM/R savings the positive variance is attributed to the following:

- Budget items for cost beyond December 31, 2011 of $192,000 not incurred;

- OM&A expenses were $145,743 less than budget. The budget assumed one additional staff resource would be required. STEI was able to reduce costs by providing the necessary labour resources on a non-incremental basis and the costs were therefore absorbed by operations; and

- OM&A costs also include a Scientific Research and Experimental Development (SR&ED) refund of approximately $30,000.

2.6 Cost beyond minimum functionality is comprised of expenditures associated with Business Process Redesign and CIS System changes. These costs are considered incremental as the features required within the CIS system to handle the mass introduction of smart meters, TOU billings and WEB Presentment were outside the scope of the current systems functionality and the associated costs were not a component of STEI's CIS annual capital and operating budget. STEI anticipates annual saving of approximately $15,000 as a result of the change from manually reading meters to remote meter reading costs.

- **Stranded Meter Costs**

STEI is not seeking disposition of its stranded meter costs in this Application. STEI continues to recover these costs by including the net book value of stranded meters in its rate base for rate-making purposes, as recommended by the Board in its Decision with Reasons in the Combined Proceeding. Proceeds on the scrapped meters are captured in account 1555 as an offset to the costs in the deferral account, in accordance with the Board's Guideline 2008-0002, the Board's January 16, 2007 letter to distributors on stranded meter costs related to the installation of smart meters and Board Guideline G-2011-001. The stranded meter cost is estimated to be $590,000 at December 31, 2014.

15. Smart Meter Rate Rider:

STEI is requesting a SMDR Rider of ($0.42) per Residential $1.24 per General Service < 50 kW and $4.12 per General Service > 50 kW per customer per month.

In addition STEI is requesting a SMIRR Rider of $2.02 for Residential customers, $4.65 for General Service < 50kW customers and $9.12 for General Service > 50 kW customers as calculated in accordance with the following:

STEI has completed the Smart Meter Model Version 2.17 in accordance with the instructions released by Board staff on December 15, 2011; a copy of the Model is filed with this Application. The model provides the calculation of the Revenue Requirement as a result of the costs incurred by STEI. Although this model provides for the Smart Meter Disposition Rider and the Smart Meter Incremental Revenue Requirement Rate Rider assuming customers pay the same rate, STEI submits the following calculations based on a similar approach approved by the Board in Power Stream's 2010 smart meter application (EB-2010-0209). The following outlines the smart meter costs allocation and the development of the specific class rate riders for 2012, using the following cost allocation methodology:

Cost allocations are based upon three main drivers:

1. Total direct meter cost by class;
2. Installed meters; and
3. Total cost before PILs.

- Allocation of the return (deemed interest plus return on equity) and amortization based on cost allocator 1.
- Allocate the OM&A based on the number of meters installed for each class, cost allocator 2.
- Allocate PILs based on the revenue requirement allocated to each class before PILs, cost allocator 3.
- The Smart Meter revenues and smart meter true-up has been allocated on a class specific basis based upon the Power Stream Decision, (EB-2011-0128).

Table 5 summarizes the smart meter funding adder allocation.

Table 5: Smart Meter Revenue Allocation

SMART METER REVENUE ALLOCATION								
	2006	2007	2008	2009	2010	2011	2012	Total
Residential	25,537	45,266	45,926	119,183	124,913	237,609	184,567	783,001
GS < 50	2,883	5,190	5,401	13,905	14,490	27,303	21,047	90,219
GS > 50	332	590	602	1,580	1,666	3,285	2,458	10,513
Total	28,752	51,046	51,929	134,668	141,069	268,197	208,072	883,733

Table 6 provides the results of the above allocation methodology for the Smart Meter Disposition Rate Rider and the proposed disposition over a 24-month period.

Table 6: Smart Meter Disposition Rate Rider by Rate Class

Smart Meter Actual Cost Recovery Rate Rider - SMDR Calculated by Rate Class				
	Total	Residential	GS < 50	GS > 50
Allocators				
Direct Meter Cost - $'s	2,122,504	1,605,609	418,751	98,143
Direct Meter Cost - %	100.00%	75.65%	19.73%	4.62%
Number of meters installed	16,459	14,632	1,655	172
Number of meters installed	100.00%	88.90%	10.06%	1.05%
Total Return (deemed interest plus return on equity)	$288,451	$218,204	$56,909	$13,338
Amortization	$300,445	$227,277	$59,275	$13,892
OM&A	$222,678	$197,960	$22,391	$2,327
Total Before PILs	$811,574	$643,442	$138,575	$29,557
PILs	$24,836	$19,691	$4,241	$905
Total Revenue Requirement	836,410	663,133	142,816	30,462
	100.00%	79.28%	17.07%	3.64%
Smart Meter Rate Adder Revenues	($883,733)	($783,001)	($90,219)	($10,513)
Carrying Charge	($30,571)	($27,086)	($3,121)	($364)
Smart Meter True-up	(77,894)	(146,954)	49,475	19,585
Metered Customers - December 2011	16,488	14,632	1,658	198
Rate Rider to Recover Smart Meter Costs - 2 yrs		(0.42)	1.24	4.12

Table 7 provides the Smart Meter Incremental Revenue Requirement Rate Rider by rate class using the allocation outlined above, however, the recovery period is over a 12-month period.

Table 7: Smart Meter Incremental Revenue Requirement Rate Rider by Rate Class

Smart Meter Actual Cost Recovery Rate Rider - SMIRR Calculated by Rate Class				
	Total	Residential	GS < 50	GS > 50
Allocators				
Direct Meter Cost - $'s	2,122,504	1,605,609	418,751	98,143
Direct Meter Cost - %	100.00%	75.65%	19.73%	4.62%
Number of meters installed	16,459	14,632	1,655	172
Number of meters installed	100.00%	88.90%	10.06%	1.05%
Total Return (deemed interest plus return on equity)	$200,061	$151,340	$39,470	$9,251
Amortization	$238,809	$180,652	$47,115	$11,042
OM&A	$0	$0	$0	$0
Total Before PILs	$438,870	$331,992	$86,585	$20,293
PILs	$29,780	$22,528	$5,875	$1,377
Total Revenue Requirement	468,650	354,519	92,460	21,670
	100.00%	75.65%	19.73%	4.62%
Smart Meter Rate Adder Revenues	$0			
Carrying Charge	$0			
Smart Meter True-up	468,650	354,519	92,460	21,670
Metered Customers - December 2011	16,488	14,632	1,658	198
Rate Rider to Recover Smart Meter Costs -1 yr		2.02	4.65	9.12

Table 8 summarizes the Rate Riders applied for within this Application in comparison to the funding adder included in STEI's rates up to April 30, 2012:

Table 8: Summary of Rate Adder and Rate Riders

RESIDENTIAL, ($'s)			
	30-Apr-12	**01-May-12**	**Variance**
Funding Adder to April 30, 2012	2.50	-	(2.50)
Disposition Rider	-	(0.42)	(0.42)
Incremental Revenue Rate Rider	-	2.02	2.02
Smart Meter Rate Change	**2.50**	**1.60**	**(0.90)**

GENERAL SERVICE < 50, ($'s)			
	30-Apr-12	**01-May-12**	**Variance**
Funding Adder to April 30, 2012	2.50	-	(2.50)
Disposition Rider	-	1.24	1.24
Incremental Revenue Rate Rider	-	4.65	4.65
Smart Meter Rate Change	**2.50**	**5.89**	**3.39**

GENERAL SERVICE > 50, ($'s)			
	30-Apr-12	**01-May-12**	**Variance**
Funding Adder to April 30, 2012	2.50	-	(2.50)
Disposition Rider	-	4.12	4.12
Incremental Revenue Rate Rider	-	9.12	9.12
Smart Meter Rate Change	**2.50**	**13.24**	**10.74**

Rate Implementation

As a means of mitigating rate increases to the General Service < 50 kW and General Service > 50 kW classes and to align the sunset dates within a rate year, STEI is proposing that the SMDR Rider be collected over a 20-month period from September 1, 2012 to April 30, 2014, and that the 2012 SMIRR Rider be collected over an 8-month period from September 1, 2012 to April 30, 2013.

16. CONCLUSION:

STEI has worked collaboratively with other LDCs across the Province of Ontario to fulfill the Provincial government's initiative in providing the residents of Ontario conservation tools. STEI has achieved economies of scale where possible and has acted prudently in obtaining the best possible pricing.

As provided in the Table 9: Meter Type and Cost per Meter, STEI's cost per meter on a combined capital and operating basis of $211.74 is below the $226.92 industry average reported by distributors in the Monitoring Report on Smart Meter Investment as at September 30, 2010.

Table 9: Meter Type and Cost per Meter

Class	Type	Quantity	Total Cost
Residential	REX2's	14,632	1,605,610
GS < 50 kW	RES2's & A3RL's	1,655	418,751
GS > 50 kW	A3RL's & A3TL	172	98,143
Total		**16,459**	**2,122,504**
Installation Costs			495,174
Additional capital cost			650,098
Total Capital Cost			**3,267,776**
OM&A costs			**217,257**
Total Cost			**3,485,033**
Total Cost per Meter			**211.74**

STEI submits all costs incurred are justified as set out throughout this Application and respectfully requests recovery through the Rate Riders as submitted.

17. Appendix:

Appendix 1 **Attestation Letter of the Fairness Commissioner**

Appendix 2 **Smart Meter Model**

Respectfully submitted,

Robert Kent, CGA
Director, Finance and Regulatory Affairs
Telephone (519) 631-5550 x 258
Fax (519) 631-5193
e-mail rkent@sttenergy.com

PRP International, Inc.

Fairness Advisory Services

RECEIVED
MAY 28 2009

April 29, 2009

St. Thomas Energy Inc.
135 Edward Street
St. Thomas, Ontario N5P 4A8

Attention: Jennifer Shannon-Mousseau, Customer Service Supervisor

Dear Ms Shannon-Mousseau:

Subject: Attestation Letter (Negotiations) of the Fairness Commissioner
St. Thomas Energy Inc. – Elster Metering Contract Award
Advanced Metering Infrastructure RFP, August 2007
London Hydro & Consortium of LDCs Smartmetering Project

PRP International, Inc. is pleased to submit its Attestation Letter (Negotiations) of the Fairness Commissioner for the noted negotiations and contracting phase of the London Hydro AMI Request for Proposal (RFP) procurement. This judgment is being provided for the information and use of St. Thomas Energy Inc., in its administration of the contract awarded to its #2 ranked Proponent, Elster Metering following unsuccessful negotiations with its #1 ranked Proponent, Silver Spring Networks.

"It is the judgment of PRP International, Inc.(as the Fairness Commissioner engaged by St. Thomas Energy Inc. *for the phase of negotiations and contract award) that the successful conclusion of negotiations and contract award to* Elster Metering, *was undertaken in accordance with the principles for such negotiations and contract award set out in the RFP, issued August 14, 2007 and the Fairness Protocol, issued August 2008."*

A backgrounder and summary of the Fairness Protocol is attached and forms part of this Attestation Letter (Negotiations).

Yours truly,

Peter Sorensen

Peter Sorensen
President

Attachment: Negotiations and Contract Phase Backgrounder

203 - 8 Queen Street, Summerside, PEI C1N 0A6
Direct telephone: 902.436.3930 Fax: 604-677-5409
Email: fairness@telus.net

BACKGROUNDER TO FAIRNESS CONFIRMATION / ATTESTATION
Advanced Metering Infrastructure Procurement

TO WHOM IT MAY CONCERN:

Background:

- A Request for Proposal procurement transaction was conducted by London Hydro Inc., as the lead sponsoring Local Distribution Company (LDC) and with a consortia of another 63 LDCs, during the period August 2007 to July, 2008;
- The evaluation and selection phase of the RFP provided for the determination of the #1 and #2 ranked Proponents for each LDC;
- RFP Provision 7.5.14[1] provides the framework (principle) for negotiations and contracting based on the principle of "first right to negotiation and execution of a contract" being accorded to the ranked order of Proponents commencing with the highest ranked Proponent and proceeding in a consecutive order thereafter; and
- Each LDC was provided the evaluation results for their #1 and #2 ranked Proponents supported by the Attestation Letter of the Fairness Commissioner as to those rankings.

Fairness Coverage Objective:

Normally, fairness coverage terminates with the determination of the ranked Proponents following the evaluation and selection phase of the RFP; however, certain LDCs expressed a wish to secure additional fairness coverage during the subsequent phase of negotiations and contract award. The objective for this second phase fairness coverage is to assure that LDCs undertook a phase of negotiations and contracting that meets the RFP provisions of consecutive negotiations where required, e.g. with their top two ranked Proponents and in the event of unsuccessful negotiations with the #1 ranked Proponent, a subsequent contract award to the next ranked Proponent would be on an equitable basis as was the requirements in the negotiations with the #1 ranked Proponent.

---

[1] 7.5.14 **Final Contract Negotiations**

Any conditions and provisions that a bidder seeks shall be a part of this proposal. Notwithstanding, nothing herein shall be interpreted to prohibit London Hydro from introducing or modifying contract terms and conditions during negotiation of the final contract.

London Hydro has scheduled no more than two weeks for contract negotiations (if necessary), and expects the successful bidder to maintain a prompt and responsive negotiation to accomplish and complete final contract agreement within that time period. If contract negotiations exceed an interval acceptable to London Hydro, London Hydro retains the option to terminate negotiations and continue to the next apparent successful bidder, at the sole discretion of London Hydro. Said interval shall in no event be less than three weeks.

Fairness Protocols:

- A Fairness Protocol was developed and issued to all LDCs, in August 2008 that set forth the best practices for fair consecutive-based negotiations and contract award.
  - The fundamental principle of the Protocol was the requirement for the LDC to establish the negotiations agenda for their top ranked Proponents and submit a copy to the Fairness Commissioner prior to engagement of their #1 ranked Proponent, i.e. the agenda would demonstrate a common statement of work, a LDC standard for pass/fail in their negotiations and the negotiation issues would only differ to the extent of the respective Proponent's technical solution being offered.

Form of Fairness Confirmation / Attestation[2]:

1. A confirmation of fair negotiations and contract award would be issued if the LDC's #1 ranked Proponent was awarded a contract; the original Attestation Letter remains in effect.

2. An Attestation of fair negotiations and contract award would be issued if the LDC determined that their #1 Proponent was to be set aside and the LDC successfully contracted with their next ranked Proponent, e.g. their #2; the original Attestation Letter is thus superseded by the Negotiations and Contract Award Attestation Letter.

Local Distribution Company:

St. Thomas Energy Inc.
135 Edward Street
St. Thomas, Ontario N5P 4A8

Attention: Jennifer Shannon-Mousseau, Customer Service Supervisor

---

[2] **Conditions on the rendering of this Confirmation/Attestation.**

- The two Negotiations Agenda were provided by STEI via their agent e360 Inc;
- Fairness Commissioner undertook no direct participation or oversight in the negotiations between STEI and either of their #1 or #2 ranked Proponents;
- The successful contract award was based on the STEI criteria and no independent analysis nor any comparison with the evaluation results of the RFP process was carried out by the Fairness Commissioner; and
- The confirmation of the Fairness Commissioner was based on the progress report(s) provided by STEI via their agent e360 Inc.

V 2.17

Ontario Energy Board

Smart Meter Model

Choose Your Utility:

Sioux Lookout Hydro Inc.
St. Thomas Energy Inc.

Application Contact Information

Name:	Robert Kent
Title:	Director Financia and Regulatory Affairs
Phone Number:	1-519-631-5550 x 258
Email Address:	rkent@sttenergy.com
We are applying for rates effective:	May 1, 2012
Last COS Re-based Year	2011

Legend

DROP-DOWN MENU

INPUT FIELD

CALCULATION FIELD

Copyright

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

#N/A

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.

		2006	2007	2008	2009	2010	2011	2012 and later	Total
Smart Meter Capital Cost and Operational Expense Data		Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
Smart Meter Installation Plan									
Actual/Planned number of Smart Meters installed during the Calendar Year									
Residential						14,254	378	0	14632
General Service < 50 kW						993	662	0	1655
Actual/Planned number of Smart Meters installed (Residential and GS < 50 kW only)		0	0	0	0	15247	1040	0	16287
Percentage of Residential and GS < 50 kW Smart Meter Installations Completed		0.00%	0.00%	0.00%	0.00%	93.61%	100.00%	0.00%	100.00%
Actual/Planned number of GS > 50 kW meters installed							172		172
Other (please identify)									0
Total Number of Smart Meters installed or planned to be installed		0	0	0	0	15247	1212	0	16459
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					1,996,527	125,977		$ 2,122,504
1.1.2 Installation Costs *(may include socket kits, labour, vehicle, benefits, etc.)*	Smart Meter					18,203	476,971		$ 495,174
1.1.3a Workforce Automation Hardware *(may include fieldwork handhelds, barcode hardware, etc.)*									$ -
1.1.3b Workforce Automation Software *(may include fieldwork handhelds, barcode hardware, etc.)*									$ -
Total Advanced Metering Communications Devices (AMCD)		$ -	$ -	$ -	$ -	$ 2,014,730	$ 602,948	$ -	$ 2,617,678

Asset Type

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

		Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
1.2.1 Collectors	Smart Meter					76,229	45		$ 76,274
1.2.2 Repeaters *(may include radio licence, etc.)*	Smart Meter					840	66		$ 906
1.2.3 Installation *(may include meter seals and rings, collector computer hardware, etc.)*	Smart Meter					82,422	13,666		$ 96,087
Total Advanced Metering Regional Collector (AMRC) (Includes LAN)		$ -	$ -	$ -	$ -	$ 159,491	$ 13,778	$ -	$ 173,268

1.3 ADVANCED METERING CONTROL COMPUTER (AMCC)	Asset Type	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
1.3.1 Computer Hardware	Computer Hardware					16,624	31,851		$ 48,475
1.3.2 Computer Software	Computer Software					41,386	25,083		$ 66,469
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)		$ -	$ -	$ -	$ -	$ 58,010	$ 56,934	$ -	$ 114,944

1.4 WIDE AREA NETWORK (WAN)	Asset Type	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
1.4.1 Activiation Fees	Computer Software					39,828	44		$ 39,872
Total Wide Area Network (WAN)		$ -	$ -	$ -	$ -	$ 39,828	$ 44	$ -	$ 39,872

1.5 OTHER AMI CAPITAL COSTS RELATED TO MINIMUM FUNCTIONALITY	Asset Type	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
1.5.1 Customer Equipment *(including repair of damaged equipment)*	Smart Meter					17,487	442		$ 17,929
1.5.2 AMI Interface to CIS	Computer Software					230	2,133		$ 2,363
1.5.3 Professional Fees	Smart Meter					93,599	68,944		$ 162,543
1.5.4 Integration	Smart Meter					7,991	3,085		$ 11,076
1.5.5 Program Management	Smart Meter					99,336			$ 99,336
1.5.6 Other AMI Capital	Smart Meter					658			$ 658
Total Other AMI Capital Costs Related to Minimum Functionality		$ -	$ -	$ -	$ -	$ 219,301	$ 74,603	$ -	$ 293,904
Total Capital Costs Related to Minimum Functionality		$ -	$ -	$ -	$ -	$ 2,491,360	$ 748,306	$ -	$ 3,239,666

1.6 CAPITAL COSTS BEYOND MINIMUM FUNCTIONALITY *(Please provide a descriptive title and identify nature of beyond minimum functionality costs)*	Asset Type	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
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						0			$ -
1.6.2 Costs for deployment of smart meters to customers other than residential and small general service	Smart Meter					28,110	0		$ 28,110
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		$ -	$ -	$ -	$ -	$ 28,110	$ 0	$ -	$ 28,110
Total Smart Meter Capital Costs		$ -	$ -	$ -	$ -	$ 2,519,470	$ 748,306	$ -	$ 3,267,776

2 OM&A Expenses

		Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
2.1 ADVANCED METERING COMMUNICATION DEVICE (AMCD)									
2.1.1 Maintenance *(may include meter reverification costs, etc.)*						5,643	3,387		$ 9,030
2.1.2 Other *(please specifiy)*	SR&ED Credit						-29,814		-$ 29,814
Total Incremental AMCD OM&A Costs		$ -	$ -	$ -	$ -	$ 5,643	-$ 26,427	$ -	-$ 20,784
2.2 ADVANCED METERING REGIONAL COLLECTOR (AMRC) (includes LAN)									
2.2.1 Maintenance						161	12,201		$ 12,362
2.2.2 Other *(please specifiy)*									$ -
Total Incremental AMRC OM&A Costs		$ -	$ -	$ -	$ -	$ 161	$ 12,201	$ -	$ 12,362
2.3 ADVANCED METERING CONTROL COMPUTER (AMCC)									
2.3.1 Hardware Maintenance *(may include server support, etc.)*							25		$ 25
2.3.2 Software Maintenance *(may include maintenance support, etc.)*							16,128		$ 16,128
2.3.2 Other *(please specifiy)*									$ -
Total Incremental AMCC OM&A Costs		$ -	$ -	$ -	$ -	$ -	$ 16,153	$ -	$ 16,153
2.4 WIDE AREA NETWORK (WAN)									
2.4.1 WAN Maintenance						3,580	9,013		$ 12,593
2.4.2 Other *(please specifiy)*									$ -
Total Incremental AMRC OM&A Costs		$ -	$ -	$ -	$ -	$ 3,580	$ 9,013	$ -	$ 12,593
2.5 OTHER AMI OM&A COSTS RELATED TO MINIMUM FUNCTIONALITY									
2.5.1 Business Process Redesign						5,650	1,767		$ 7,417
2.5.2 Customer Communication (may include project communication, etc.)						32,599	31,965		$ 64,564
2.5.3 Program Management						0	904		$ 904
2.5.4 Change Management (may include training, etc.)						1,478	56,298		$ 57,776
2.5.5 Administration Costs						0	16,682		$ 16,682
2.5.6 Other AMI Expenses *(please specify)*							284		$ 284
Total Other AMI OM&A Costs Related to Minimum Functionality		$ -	$ -	$ -	$ -	$ 39,727	$ 107,900	$ -	$ 147,627
TOTAL OM&A COSTS RELATED TO MINIMUM FUNCTIONALITY		$ -	$ -	$ -	$ -	$ 49,111	$ 118,840	$ -	$ 167,951
2.6 OM&A COSTS RELATED TO BEYOND MINIMUM FUNCTIONALITY *(Please provide a descriptive title and identify nature of beyond minimum functionality costs)*		Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual		
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						0	0		$ -
2.6.2 Costs for deployment of smart meters to customers other than residential and small general service						2,764	46,543		$ 49,307

2.6.3 Costs for TOU rate implementation, CIS system upgrades, web presentation, integration with the MDM/R, etc.					0	0		$ -
Total OM&A Costs Beyond Minimum Functionality	$ -	$ -	$ -	$ -	$ 2,764	$ 46,543	$ -	$ 49,307
Total Smart Meter OM&A Costs	$ -	$ -	$ -	$ -	$ 51,875	$ 165,383	$ -	$ 217,258

3 Aggregate Smart Meter Costs by Category

3.1	**Capital**								
3.1.1	Smart Meter	$ -	$ -	$ -	$ -	$ 2,421,402	$ 689,196	$ -	$ 3,110,598
3.1.2	Computer Hardware	$ -	$ -	$ -	$ -	$ 16,624	$ 31,851	$ -	$ 48,475
3.1.3	Computer Software	$ -	$ -	$ -	$ -	$ 81,444	$ 27,259	$ -	$ 108,703
3.1.4	Tools & Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3.1.5	Other Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3.1.6	Applications Software	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3.1.7	**Total Capital Costs**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 2,519,470**	**$ 748,306**	**$ -**	**$ 3,267,776**
3.2	**OM&A Costs**								
3.2.1	**Total OM&A Costs**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 51,875**	**$ 165,383**	**$ -**	**$ 217,258**

Ontario Energy Board

Smart Meter Model

#N/A

	2006	2007	2008	2009	2010	2011	2012 and later
Cost of Capital							
Capital Structure[1]							
Deemed Short-term Debt Capitalization			0.0%	4.0%	4.0%	4.0%	4.0%
Deemed Long-term Debt Capitalization	50.0%	50.0%	53.3%	52.7%	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	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of Capital Parameters							
Deemed Short-term Debt Rate			0.00%	7.25%	7.25%	2.30%	2.30%
Long-term Debt Rate (actual/embedded/deemed)[2]	7.25%	7.25%	7.25%	7.25%	7.25%	5.48%	5.48%
Target Return on Equity (ROE)	9.0%	9.00%	9.00%	9.00%	9.00%	9.66%	9.66%
Return on Preferred Shares	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WACC	8.13%	8.13%	8.07%	8.01%	7.95%	7.02%	7.02%
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	36.12%	36.12%	33.50%	33.00%	31.00%	28.25%	26.25%
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							
- rate (%)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Other Equipment - years							
- rate (%)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

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							
General Equipment - CCA Rate							
Applications Software - CCA Class	45	50	50	50	50	50	50
Applications Software - CCA Rate	45%	55%	55%	55%	55%	55%	55%

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 striaght line basis and has the "half-year" rule applied.*

Ontario Energy Board

Smart Meter Model

#N/A

	2006	2007	2008	2009	2010	2011	2012 and later
Net Fixed Assets - Smart Meters							
Gross Book Value							
Opening Balance		$ -	$ -	$ -	$ -	$ 2,421,402	$ 3,110,598
Capital Additions during year (from Smart Meter Costs)	$ -	$ -	$ -	$ -	$ 2,421,402	$ 689,196	$ -
Retirements/Removals (if applicable)							
Closing Balance	$ -	$ -	$ -	$ -	$ 2,421,402	$ 3,110,598	$ 3,110,598
Accumulated Depreciation							
Opening Balance		$ -	$ -	$ -	$ -	-$ 80,713	-$ 265,113
Amortization expense during year	$ -	$ -	$ -	$ -	-$ 80,713	-$ 184,400	-$ 207,373
Retirements/Removals (if applicable)							
Closing Balance	$ -	$ -	$ -	$ -	-$ 80,713	-$ 265,113	-$ 472,487
Net Book Value							
Opening Balance	$ -	$ -	$ -	$ -	$ -	$ 2,340,688	$ 2,845,484
Closing Balance	$ -	$ -	$ -	$ -	$ 2,340,688	$ 2,845,484	$ 2,638,111
Average Net Book Value	$ -	$ -	$ -	$ -	$ 1,170,344	$ 2,593,086	$ 2,741,798

	2006	2007	2008	2009	2010	2011	2012 and later
Net Fixed Assets - Computer Hardware							
Gross Book Value							
Opening Balance		$ -	$ -	$ -	$ -	$ 16,624	$ 48,475
Capital Additions during year (from Smart Meter Costs)	$ -	$ -	$ -	$ -	$ 16,624	$ 31,851	$ -
Retirements/Removals (if applicable)							
Closing Balance	$ -	$ -	$ -	$ -	$ 16,624	$ 48,475	$ 48,475
Accumulated Depreciation							
Opening Balance	$ -	$ -	$ -	$ -	$ -	-$ 1,662	-$ 8,172
Amortization expense during year	$ -	$ -	$ -	$ -	-$ 1,662	-$ 6,510	-$ 9,695
Retirements/Removals (if applicable)							
Closing Balance	$ -	$ -	$ -	$ -	-$ 1,662	-$ 8,172	-$ 17,867
Net Book Value							
Opening Balance	$ -	$ -	$ -	$ -	$ -	$ 14,962	$ 40,303
Closing Balance	$ -	$ -	$ -	$ -	$ 14,962	$ 40,303	$ 30,608
Average Net Book Value	$ -	$ -	$ -	$ -	$ 7,481	$ 27,632	$ 35,455

	2006	2007	2008	2009	2010	2011	2012 and later
Net Fixed Assets - Computer Software (including Applications Software)							
Gross Book Value							
Opening Balance		$ -	$ -	$ -	$ -	$ 81,444	$ 108,703
Capital Additions during year (from Smart Meter Costs)	$ -	$ -	$ -	$ -	$ 81,444	$ 27,259	$ -
Retirements/Removals (if applicable)							
Closing Balance	$ -	$ -	$ -	$ -	$ 81,444	$ 108,703	$ 108,703
Accumulated Depreciation							
Opening Balance	$ -	$ -	$ -	$ -	$ -	-$ 8,144	-$ 27,159
Amortization expense during year	$ -	$ -	$ -	$ -	-$ 8,144	-$ 19,015	-$ 21,741
Retirements/Removals (if applicable)							
Closing Balance	$ -	$ -	$ -	$ -	-$ 8,144	-$ 27,159	-$ 48,900
Net Book Value							
Opening Balance	$ -	$ -	$ -	$ -	$ -	$ 73,300	$ 81,544
Closing Balance	$ -	$ -	$ -	$ -	$ 73,300	$ 81,544	$ 59,804
Average Net Book Value	$ -	$ -	$ -	$ -	$ 36,650	$ 77,422	$ 70,674

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		$ -	$ -	$ -	$ -	$ -	$ -
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	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Ontario Energy Board

Smart Meter Model

#N/A

	2006	2007	2008	2009	2010	2011	2012 and Later
Average Net Fixed Asset Values (from Sheet 4)							
Smart Meters	$ -	$ -	$ -	$ -	$ 1,170,344	$ 2,593,086	$ 2,741,798
Computer Hardware	$ -	$ -	$ -	$ -	$ 7,481	$ 27,632	$ 35,455
Computer Software	$ -	$ -	$ -	$ -	$ 36,650	$ 77,422	$ 70,674
Tools & Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Other Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Net Fixed Assets	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,214,475**	**$ 2,698,140**	**$ 2,847,927**
Working Capital							
Operating Expenses (from Sheet 2)	$ -	$ -	$ -	$ -	$ 51,875	$ 165,383	$ -
Working Capital Factor (from Sheet 3)	15%	15%	15%	15%	15%	15%	15%
Working Capital Allowance	$ -	$ -	$ -	$ -	$ 7,781	$ 24,807	$ -
Incremental Smart Meter Rate Base	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,222,256**	**$ 2,722,948**	**$ 2,847,927**
Return on Rate Base							
Capital Structure							
Deemed Short Term Debt	$ -	$ -	$ -	$ -	$ 48,890	$ 108,918	$ 113,917
Deemed Long Term Debt	$ -	$ -	$ -	$ -	$ 684,463	$ 1,524,851	$ 1,594,839
Equity	$ -	$ -	$ -	$ -	$ 488,902	$ 1,089,179	$ 1,139,171
Preferred Shares	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Capitalization	$ -	$ -	$ -	$ -	$ 1,222,256	$ 2,722,948	$ 2,847,927
Return on							
Deemed Short Term Debt	$ -	$ -	$ -	$ -	$ 3,545	$ 2,505	$ 2,620
Deemed Long Term Debt	$ -	$ -	$ -	$ -	$ 49,624	$ 83,562	$ 87,397
Equity	$ -	$ -	$ -	$ -	$ 44,001	$ 105,215	$ 110,044
Preferred Shares	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Return on Capital	$ -	$ -	$ -	$ -	$ 97,169	$ 191,282	$ 200,061
Operating Expenses	$ -	$ -	$ -	$ -	$ 51,875	$ 165,383	$ -
Amortization Expenses (from Sheet 4)							
Smart Meters	$ -	$ -	$ -	$ -	$ 80,713	$ 184,400	$ 207,373
Computer Hardware	$ -	$ -	$ -	$ -	$ 1,662	$ 6,510	$ 9,695
Computer Software	$ -	$ -	$ -	$ -	$ 8,144	$ 19,015	$ 21,741
Tools & Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Other Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Amortization Expense in Year	$ -	$ -	$ -	$ -	$ 90,520	$ 209,925	$ 238,809
Incremental Revenue Requirement before Taxes/PILs	$ -	$ -	$ -	$ -	$ 239,565	$ 566,589	$ 438,870
Calculation of Taxable Income							
Incremental Operating Expenses	$ -	$ -	$ -	$ -	$ 51,875	$ 165,383	$ -
Amortization Expense	$ -	$ -	$ -	$ -	$ 90,520	$ 209,925	$ 238,809
Interest Expense	$ -	$ -	$ -	$ -	$ 53,168	$ 86,067	$ 90,017
Net Income for Taxes/PILs	$ -	$ -	$ -	$ -	$ 44,001	$ 105,215	$ 110,044
Grossed-up Taxes/PILs (from Sheet 7)	$ -	$ -	$ -	$ -	$ 6,627.45	$ 18,209.10	$ 29,780.35
Revenue Requirement, including Grossed-up Taxes/PILs	$ -	$ -	$ -	$ -	$ 246,192	$ 584,798	$ 468,650

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	$ -	$ -	$ -	$ -	$ -	$ 2,324,545.55	$ 2,800,210.06
Capital Additions	$ -	$ -	$ -	$ -	$ 2,421,401.61	$ 689,196.00	$ -
Retirements/Removals (if applicable)							
UCC Before Half Year Rule	$ -	$ -	$ -	$ -	$ 2,421,401.61	$ 3,013,741.55	$ 2,800,210.06
Half Year Rule (1/2 Additions - Disposals)	$ -	$ -	$ -	$ -	$ 1,210,700.81	$ 344,598.00	$ -
Reduced UCC	$ -	$ -	$ -	$ -	$ 1,210,700.81	$ 2,669,143.55	$ 2,800,210.06
CCA Rate Class	47	47	47	47	47	47	47
CCA Rate	8%	8%	8%	8%	8%	8%	8%
CCA	$ -	$ -	$ -	$ -	$ 96,856.06	$ 213,531.48	$ 224,016.80
Closing UCC	$ -	$ -	$ -	$ -	$ 2,324,545.55	$ 2,800,210.06	$ 2,576,193.26

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	$ -	$ -	$ -	$ -	$ -	$ 71,099.30	$ 74,849.62
Capital Additions Computer Hardware	$ -	$ -	$ -	$ -	$ 16,624.00	$ 31,850.90	$ -
Capital Additions Computer Software	$ -	$ -	$ -	$ -	$ 81,444.00	$ 27,259.36	$ -
Retirements/Removals (if applicable)							
UCC Before Half Year Rule	$ -	$ -	$ -	$ -	$ 98,068.00	$ 130,209.56	$ 74,849.62
Half Year Rule (1/2 Additions - Disposals)	$ -	$ -	$ -	$ -	$ 49,034.00	$ 29,555.13	$ -
Reduced UCC	$ -	$ -	$ -	$ -	$ 49,034.00	$ 100,654.43	$ 74,849.62
CCA Rate Class	45	50	50	50	50	50	50
CCA Rate	45%	55%	55%	55%	55%	55%	55%
CCA	$ -	$ -	$ -	$ -	$ 26,968.70	$ 55,359.94	$ 41,167.29
Closing UCC	$ -	$ -	$ -	$ -	$ 71,099.30	$ 74,849.62	$ 33,682.33

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	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Capital Additions Tools & Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Capital Additions Other Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -
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	$ -	$ -	$ -	$ -	$ 44,001.22	$ 105,214.70	$ 110,043.89
Amortization	$ -	$ -	$ -	$ -	$ 90,520.19	$ 209,924.60	$ 238,808.83
CCA - Smart Meters	$ -	$ -	$ -	$ -	-$ 96,856.06	-$ 213,531.48	-$ 224,016.80
CCA - Computers	$ -	$ -	$ -	$ -	-$ 26,968.70	-$ 55,359.94	-$ 41,167.29
CCA - Applications Software	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CCA - Other Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Change in taxable income	$ -	$ -	$ -	$ -	$ 10,696.64	$ 46,247.88	$ 83,668.61
Tax Rate (from Sheet 3)	36.12%	36.12%	33.50%	33.00%	31.00%	28.25%	26.25%
Income Taxes Payable	$ -	$ -	$ -	$ -	$ 3,315.96	$ 13,065.03	$ 21,963.01
ONTARIO CAPITAL TAX							
Smart Meters	$ -	$ -	$ -	$ -	$ 2,340,688.22	$ 2,845,484.25	$ 2,638,111.08
Computer Hardware	$ -	$ -	$ -	$ -	$ 14,961.60	$ 40,302.61	$ 30,607.63
Computer Software (Including Application Software)	$ -	$ -	$ -	$ -	$ 73,299.60	$ 81,544.22	$ 59,803.55
Tools & Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Other Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Rate Base	$ -	$ -	$ -	$ -	$ 2,428,949.42	$ 2,967,331.08	$ 2,728,522.26
Less: Exemption							
Deemed Taxable Capital	$ -	$ -	$ -	$ -	$ 2,428,949.42	$ 2,967,331.08	$ 2,728,522.26
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)	$ -	$ -	$ -	$ -	$ 1,821.71	$ -	$ -
Change in Income Taxes Payable	$ -	$ -	$ -	$ -	$ 3,315.96	$ 13,065.03	$ 21,963.01
Change in OCT	$ -	$ -	$ -	$ -	$ 1,821.71	$ -	$ -
PILs	$ -	$ -	$ -	$ -	$ 5,137.67	$ 13,065.03	$ 21,963.01
Gross Up PILs							
Tax Rate	36.12%	36.12%	33.50%	33.00%	31.00%	28.25%	26.25%
Change in Income Taxes Payable	$ -	$ -	$ -	$ -	$ 4,805.74	$ 18,209.10	$ 29,780.35
Change in OCT	$ -	$ -	$ -	$ -	$ 1,821.71	$ -	$ -
PILs	$ -	$ -	$ -	$ -	$ 6,627.45	$ 18,209.10	$ 29,780.35

#N/A

This worksheet calculates the funding adder revenues.

Account 1555 - Sub-account Funding Adder Revenues

Interest Rates	Approved Deferral and Variance Accounts	CWIP
2006 Q1		
2006 Q2	4.14%	4.68%
2006 Q3	4.59%	5.05%
2006 Q4	4.59%	4.72%
2007 Q1	4.59%	4.72%
2007 Q2	4.59%	4.72%
2007 Q3	4.59%	5.18%
2007 Q4	5.14%	5.18%
2008 Q1	5.14%	5.18%
2008 Q2	4.08%	5.18%
2008 Q3	3.35%	5.43%
2008 Q4	3.35%	5.43%
2009 Q1	2.45%	6.61%
2009 Q2	1.00%	6.61%
2009 Q3	0.55%	5.67%
2009 Q4	0.55%	4.66%
2010 Q1	0.55%	4.34%
2010 Q2	0.55%	4.34%
2010 Q3	0.89%	4.66%
2010 Q4	1.20%	4.01%
2011 Q1	1.47%	4.29%
2011 Q2	1.47%	4.29%
2011 Q3	1.47%	4.29%
2011 Q4	1.47%	4.29%
2012 Q1	1.47%	4.29%
2012 Q2	1.47%	4.29%
2012 Q3	1.47%	4.29%
2012 Q4	1.47%	4.29%

Date	Year	Quarter	Opening Balance (Principal)	Funding Adder Revenues	Interest Rate	Interest	Closing Balance	Annual amounts	Board Approved Smart Meter Funding Adder (from Tariff)
Jan-06	2006	Q1	$ -		0.00%	$ -	$ -		
Feb-06	2006	Q1	$ -		0.00%	$ -	$ -		
Mar-06	2006	Q1	$ -		0.00%	$ -	$ -		
Apr-06	2006	Q2	$ -		4.14%	$ -	$ -		
May-06	2006	Q2	$ -		4.14%	$ -	$ -		
Jun-06	2006	Q2	$ -	$ 2,390.30	4.14%	$ -	$ 2,390.30		
Jul-06	2006	Q3	$ 2,390.30	$ 5,513.70	4.59%	$ 9.14	$ 7,913.14		
Aug-06	2006	Q3	$ 7,904.00	$ 4,163.93	4.59%	$ 30.23	$ 12,098.16		
Sep-06	2006	Q3	$ 12,067.93	$ 4,162.39	4.59%	$ 46.16	$ 16,276.48		
Oct-06	2006	Q4	$ 16,230.32	$ 4,184.67	4.59%	$ 62.08	$ 20,477.07		
Nov-06	2006	Q4	$ 20,414.99	$ 4,170.53	4.59%	$ 78.09	$ 24,663.61		
Dec-06	2006	Q4	$ 24,585.52	$ 4,166.92	4.59%	$ 94.04	$ 28,846.48	$ 29,072.18	
Jan-07	2007	Q1	$ 28,752.44	$ 4,238.57	4.59%	$ 109.98	$ 33,100.99		
Feb-07	2007	Q1	$ 32,991.01	$ 4,253.20	4.59%	$ 126.19	$ 37,370.40		
Mar-07	2007	Q1	$ 37,244.21	$ 4,229.81	4.59%	$ 142.46	$ 41,616.48		
Apr-07	2007	Q2	$ 41,474.02	$ 4,180.15	4.59%	$ 158.64	$ 45,812.81		
May-07	2007	Q2	$ 45,654.17	$ 4,286.55	4.59%	$ 174.63	$ 50,115.35		
Jun-07	2007	Q2	$ 49,940.72	$ 4,256.88	4.59%	$ 191.02	$ 54,388.62		
Jul-07	2007	Q3	$ 54,197.60	$ 4,233.66	4.59%	$ 207.31	$ 58,638.57		
Aug-07	2007	Q3	$ 58,431.26	$ 4,264.18	4.59%	$ 223.50	$ 62,918.94		
Sep-07	2007	Q3	$ 62,695.44	$ 4,263.34	4.59%	$ 239.81	$ 67,198.59		
Oct-07	2007	Q4	$ 66,958.78	$ 4,277.36	5.14%	$ 286.81	$ 71,522.95		
Nov-07	2007	Q4	$ 71,236.14	$ 4,281.15	5.14%	$ 305.13	$ 75,822.42		
Dec-07	2007	Q4	$ 75,517.29	$ 4,281.50	5.14%	$ 323.47	$ 80,122.26	$ 53,535.30	
Jan-08	2008	Q1	$ 79,798.79	$ 4,302.40	5.14%	$ 341.80	$ 84,442.99		
Feb-08	2008	Q1	$ 84,101.19	$ 4,324.43	5.14%	$ 360.23	$ 88,785.85		
Mar-08	2008	Q1	$ 88,425.62	$ 4,309.44	5.14%	$ 378.76	$ 93,113.82		
Apr-08	2008	Q2	$ 92,735.06	$ 4,309.75	4.08%	$ 315.30	$ 97,360.11		
May-08	2008	Q2	$ 97,044.81	$ 4,309.23	4.08%	$ 329.95	$ 101,683.99		
Jun-08	2008	Q2	$ 101,354.04	$ 4,299.40	4.08%	$ 344.60	$ 105,998.04		
Jul-08	2008	Q3	$ 105,653.44	$ 4,338.71	3.35%	$ 294.95	$ 110,287.10		
Aug-08	2008	Q3	$ 109,992.15	$ 4,339.63	3.35%	$ 307.06	$ 114,638.84		
Sep-08	2008	Q3	$ 114,331.78	$ 4,343.39	3.35%	$ 319.18	$ 118,994.35		
Oct-08	2008	Q4	$ 118,675.17	$ 4,351.72	3.35%	$ 331.30	$ 123,358.19		
Nov-08	2008	Q4	$ 123,026.89	$ 4,348.95	3.35%	$ 343.45	$ 127,719.29		
Dec-08	2008	Q4	$ 127,375.84	$ 4,351.91	3.35%	$ 355.59	$ 132,083.34	$ 55,951.13	
Jan-09	2009	Q1	$ 131,727.75	$ 4,351.58	2.45%	$ 268.94	$ 136,348.27		
Feb-09	2009	Q1	$ 136,079.33	$ 4,283.34	2.45%	$ 277.83	$ 140,640.50		
Mar-09	2009	Q1	$ 140,362.67	$ 4,440.73	2.45%	$ 286.57	$ 145,089.97		
Apr-09	2009	Q2	$ 144,803.40	$ 4,361.57	1.00%	$ 120.67	$ 149,285.64		
May-09	2009	Q2	$ 149,164.97	$ 5,602.09	1.00%	$ 124.30	$ 154,891.36		
Jun-09	2009	Q2	$ 154,767.06	$ 14,488.40	1.00%	$ 128.97	$ 169,384.43		
Jul-09	2009	Q3	$ 169,255.46	$ 16,105.70	0.55%	$ 77.58	$ 185,438.74		
Aug-09	2009	Q3	$ 185,361.16	$ 16,201.10	0.55%	$ 84.96	$ 201,647.22		
Sep-09	2009	Q3	$ 201,562.26	$ 16,172.80	0.55%	$ 92.38	$ 217,827.44		
Oct-09	2009	Q4	$ 217,735.06	$ 16,221.92	0.55%	$ 99.80	$ 234,056.78		
Nov-09	2009	Q4	$ 233,956.98	$ 16,204.74	0.55%	$ 107.23	$ 250,268.95		
Dec-09	2009	Q4	$ 250,161.72	$ 16,233.55	0.55%	$ 114.66	$ 266,509.93	$ 136,451.41	
Jan-10	2010	Q1	$ 266,395.27	$ 16,208.13	0.55%	$ 122.10	$ 282,725.50		
Feb-10	2010	Q1	$ 282,603.40	$ 16,250.34	0.55%	$ 129.53	$ 298,983.27		
Mar-10	2010	Q1	$ 298,853.74	$ 16,278.20	0.55%	$ 136.97	$ 315,268.91		
Apr-10	2010	Q2	$ 315,131.94	$ 16,292.40	0.55%	$ 144.44	$ 331,568.78		
May-10	2010	Q2	$ 331,424.34	$ 15,297.13	0.55%	$ 151.90	$ 346,873.37		
Jun-10	2010	Q2	$ 346,721.47	$ 9,753.64	0.55%	$ 158.91	$ 356,634.02		
Jul-10	2010	Q3	$ 356,475.11	$ 8,479.65	0.89%	$ 264.39	$ 365,219.15		
Aug-10	2010	Q3	$ 364,954.76	$ 8,491.22	0.89%	$ 270.67	$ 373,716.65		
Sep-10	2010	Q3	$ 373,445.98	$ 8,500.25	0.89%	$ 276.97	$ 382,223.20		
Oct-10	2010	Q4	$ 381,946.23	$ 8,523.08	1.20%	$ 381.95	$ 390,851.26		
Nov-10	2010	Q4	$ 390,469.31	$ 8,483.03	1.20%	$ 390.47	$ 399,342.81		
Dec-10	2010	Q4	$ 398,952.34	$ 8,511.63	1.20%	$ 398.95	$ 407,862.92	$ 143,895.95	
Jan-11	2011	Q1	$ 407,463.97	$ 8,508.18	1.47%	$ 499.14	$ 416,471.29		
Feb-11	2011	Q1	$ 415,972.15	$ 8,527.97	1.47%	$ 509.57	$ 425,009.69		
Mar-11	2011	Q1	$ 424,500.12	$ 8,547.97	1.47%	$ 520.01	$ 433,568.10		
Apr-11	2011	Q2	$ 433,048.09	$ 8,546.83	1.47%	$ 530.48	$ 442,125.40		
May-11	2011	Q2	$ 441,594.92	$ 8,560.38	1.47%	$ 540.95	$ 450,696.25		
Jun-11	2011	Q2	$ 450,155.30	$ 8,545.38	1.47%	$ 551.44	$ 459,252.12		
Jul-11	2011	Q3	$ 458,700.68	$ 8,547.97	1.47%	$ 561.91	$ 467,810.56		
Aug-11	2011	Q3	$ 467,248.65	$ 12,131.79	1.47%	$ 572.38	$ 479,952.82		
Sep-11	2011	Q3	$ 479,380.44	$ 35,724.11	1.47%	$ 587.24	$ 515,691.79		

#N/A

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	Board Approved Smart Meter Funding Adder (from Tariff)
			Oct-11	2011	Q4	$ 515,104.55	$ 41,019.33	1.47%	$ 631.00	$ 556,754.88		
			Nov-11	2011	Q4	$ 556,123.88	$ 40,948.65	1.47%	$ 681.25	$ 597,753.78		
			Dec-11	2011	Q4	$ 597,072.53	$ 78,588.41	1.47%	$ 731.41	$ 676,392.35	$ 275,113.75	
			Jan-12	2012	Q1	$ 675,660.94	$ 41,133.86	1.47%	$ 827.68	$ 717,622.48		
			Feb-12	2012	Q1	$ 716,794.80	$ 41,190.31	1.47%	$ 878.07	$ 758,863.18		
			Mar-12	2012	Q1	$ 757,985.11	$ 41,184.15	1.47%	$ 928.53	$ 800,097.79		
			Apr-12	2012	Q2	$ 799,169.26	$ 41,040.41	1.47%	$ 978.98	$ 841,188.65		
			May-12	2012	Q2	$ 840,209.67	$ 36,367.71	1.47%	$ 1,029.26	$ 877,606.64		
			Jun-12	2012	Q2	$ 876,577.38	$ 7,156.05	1.47%	$ 1,073.81	$ 884,807.24		
			Jul-12	2012	Q3	$ 883,733.43		1.47%	$ 1,082.57	$ 884,816.00		
			Aug-12	2012	Q3	$ 883,733.43		1.47%	$ 1,082.57	$ 884,816.00		
			Sep-12	2012	Q3	$ 883,733.43		1.47%	$ 1,082.57	$ 884,816.00		
			Oct-12	2012	Q4	$ 883,733.43		1.47%	$ 1,082.57	$ 884,816.00		
			Nov-12	2012	Q4	$ 883,733.43		1.47%	$ 1,082.57	$ 884,816.00		
			Dec-12	2012	Q4	$ 883,733.43		1.47%	$ 1,082.57	$ 884,816.00	$ 220,284.24	
			Total Funding Adder Revenues Collected				**$ 883,733.43**		**$ 30,570.53**	**$ 914,303.96**	**$ 914,303.96**	

Ontario Energy Board

Smart Meter Model

#N/A

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*	-			-	4.59%	-	-
2009 Q2	1.00%	6.61%	Feb-07	*2007*	*Q1*	-			-	4.59%	-	-
2009 Q3	0.55%	5.67%	Mar-07	*2007*	*Q1*	-			-	4.59%	-	-
2009 Q4	0.55%	4.66%	Apr-07	*2007*	*Q2*	-			-	4.59%	-	-
2010 Q1	0.55%	4.34%	May-07	*2007*	*Q2*	-			-	4.59%	-	-
2010 Q2	0.55%	4.34%	Jun-07	*2007*	*Q2*	-			-	4.59%	-	-
2010 Q3	0.89%	4.66%	Jul-07	*2007*	*Q3*	-			-	4.59%	-	-
2010 Q4	1.20%	4.01%	Aug-07	*2007*	*Q3*	-			-	4.59%	-	-
2011 Q1	1.47%	4.29%	Sep-07	*2007*	*Q3*	-			-	4.59%	-	-
2011 Q2	1.47%	4.29%	Oct-07	*2007*	*Q4*	-			-	5.14%	-	-
2011 Q3	1.47%	4.29%	Nov-07	*2007*	*Q4*	-			-	5.14%	-	-
2011 Q4	1.47%	4.29%	Dec-07	*2007*	*Q4*	-			-	5.14%	-	-
2012 Q1	1.47%	4.29%	Jan-08	*2008*	*Q1*	-			-	5.14%	-	-
2012 Q2	1.47%	4.29%	Feb-08	*2008*	*Q1*	-			-	5.14%	-	-
2012 Q3	1.47%	4.29%	Mar-08	*2008*	*Q1*	-			-	5.14%	-	-
2012 Q4	1.47%	4.29%	Apr-08	*2008*	*Q2*	-			-	4.08%	-	-

[redacted]	May-08	2008	Q2	-			-	4.08%	-	-
	Jun-08	2008	Q2	-			-	4.08%	-	-
	Jul-08	2008	Q3	-			-	3.35%	-	-
	Aug-08	2008	Q3	-			-	3.35%	-	-
	Sep-08	2008	Q3	-			-	3.35%	-	-
	Oct-08	2008	Q4	-			-	3.35%	-	-
	Nov-08	2008	Q4	-			-	3.35%	-	-
	Dec-08	2008	Q4	-			-	3.35%	-	-
	Jan-09	2009	Q1	-			-	2.45%	-	-
	Feb-09	2009	Q1	-			-	2.45%	-	-
	Mar-09	2009	Q1	-			-	2.45%	-	-
	Apr-09	2009	Q2	-			-	1.00%	-	-
	May-09	2009	Q2	-			-	1.00%	-	-
	Jun-09	2009	Q2	-	$ -		-	1.00%	-	-
	Jul-09	2009	Q3	-	$ -		-	0.55%	-	-
	Aug-09	2009	Q3	-	$ -		-	0.55%	-	-
	Sep-09	2009	Q3	-	$ -		-	0.55%	-	-
	Oct-09	2009	Q4	-	$ -		-	0.55%	-	-
	Nov-09	2009	Q4	-	$ -		-	0.55%	-	-
	Dec-09	2009	Q4	-	$ -		-	0.55%	-	-
	Jan-10	2010	Q1	-	$ -		-	0.55%	-	-
	Feb-10	2010	Q1	-	$ -		-	0.55%	-	-
	Mar-10	2010	Q1	-	$ -		-	0.55%	-	-
	Apr-10	2010	Q2	-	$ 33,210.44		33,210.44	0.55%	-	-
	May-10	2010	Q2	33,210.44	$ 12,037.00		45,247.44	0.55%	15.22	15.22
	Jun-10	2010	Q2	45,247.44	$ 393.91		45,641.35	0.55%	20.74	35.96
	Jul-10	2010	Q3	45,641.35	$ 562.25		46,203.60	0.89%	33.85	69.81
	Aug-10	2010	Q3	46,203.60	$ 1,028.11		47,231.71	0.89%	34.27	104.08
	Sep-10	2010	Q3	47,231.71	$ 1,153.43		48,385.14	0.89%	35.03	139.11
	Oct-10	2010	Q4	48,385.14	$ 2,479.59		50,864.73	1.20%	48.39	187.49
	Nov-10	2010	Q4	50,864.73	$ 5,422.71		56,287.44	1.20%	50.86	238.36
	Dec-10	2010	Q4	56,287.44	$ 5,438.13		61,725.57	1.20%	56.29	294.65
	Jan-11	2011	Q1	61,725.57	$ 5,478.85		67,204.42	1.47%	75.61	370.26
	Feb-11	2011	Q1	67,204.42	$ 1,534.10		68,738.52	1.47%	82.33	452.58
	Mar-11	2011	Q1	68,738.52	$ 5,699.43		74,437.95	1.47%	84.20	536.79
	Apr-11	2011	Q2	74,437.95	$ 6,256.00		80,693.95	1.47%	91.19	627.98
	May-11	2011	Q2	80,693.95	$ 9,372.79		90,066.74	1.47%	98.85	726.83
	Jun-11	2011	Q2	90,066.74	$ 10,769.04		100,835.78	1.47%	110.33	837.16
	Jul-11	2011	Q3	100,835.78	$ 1,649.98		102,485.76	1.47%	123.52	960.68
	Aug-11	2011	Q3	102,485.76	$ 8,600.11		111,085.87	1.47%	125.55	1,086.23
	Sep-11	2011	Q3	111,085.87	$ 13,845.08		124,930.95	1.47%	136.08	1,222.31
	Oct-11	2011	Q4	124,930.95	$ 26,512.88		151,443.83	1.47%	153.04	1,375.35
	Nov-11	2011	Q4	151,443.83	$ 32,119.15		183,562.98	1.47%	185.52	1,560.87
	Dec-11	2011	Q4	183,562.98	$ 55,136.28		238,699.26	1.47%	224.86	1,785.73
	Jan-12	2012	Q1	238,699.26			238,699.26	1.47%	292.41	2,078.14
	Feb-12	2012	Q1	238,699.26			238,699.26	1.47%	292.41	2,370.54
	Mar-12	2012	Q1	238,699.26			238,699.26	1.47%	292.41	2,662.95
	Apr-12	2012	Q2	238,699.26			238,699.26	1.47%	292.41	2,955.36
	May-12	2012	Q2	238,699.26			238,699.26	1.47%	292.41	3,247.76
	Jun-12	2012	Q2	238,699.26			238,699.26	1.47%	292.41	3,540.17
	Jul-12	2012	Q3	238,699.26			238,699.26	1.47%	292.41	3,832.58
	Aug-12	2012	Q3	238,699.26			238,699.26	1.47%	292.41	4,124.98
	Sep-12	2012	Q3	238,699.26			238,699.26	1.47%	292.41	4,417.39
	Oct-12	2012	Q4	238,699.26			238,699.26	1.47%	292.41	4,709.80

[redacted]	Nov-12	*2012*	*Q4*	238,699.26			238,699.26	1.47%	292.41	5,002.20
	Dec-12	*2012*	*Q4*	238,699.26			238,699.26	1.47%	292.41	5,294.61
					$ 238,699.26	$ -	$ 238,699.26			

Ontario Energy Board

Smart Meter Model

#N/A

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	$ -	$ -	$ -	$ -	4.73%	$ -
2008	$ -	$ -	$ -	$ -	3.98%	$ -
2009	$ -	$ -	$ -	$ -	1.14%	$ -
2010	$ 51,875.34	$ 90,520.19	$ 142,395.53	$ 71,197.76	0.80%	$ 567.80
2011	$ 165,383.00	$ 209,924.60	$ 517,703.13	$ 330,049.33	1.47%	$ 4,851.73
2012	$ -	$ 238,808.83	$ 756,511.95	$ 637,107.54	1.47%	$ 9,365.48
Cumulative Interest to 2011						$ 5,419.53
Cumulative Interest to 2012						$ 14,785.01

#N/A

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)	
X	Smart Meter Disposition Rider (SMDR)	**The SMDR is calculated based on costs to December 31, 2011**
X	Smart Meter Incremental Revenue Requirement Rate Rider (SMIRR)	**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)	$ -	$ -	$ -	$ -	$ 246,192.33	$ 584,798.33	$ 468,650.33	$ 1,299,640.99
Interest on Deferred and forecasted OM&A and Amortization Expense (Sheet 8A/8B) (Check **one** of the boxes below)	$ -	$ -	$ -	$ -	$ 567.80	$ 4,851.73		$ 5,419.53
[ ] Sheet 8A (Interest calculated on monthly balances)								$ -
[X] Sheet 8B (Interest calculated on average annual balances)	$ -	$ -	$ -	$ -	$ 567.80	$ 4,851.73		$ 5,419.53
SMFA Revenues (from Sheet 8)	$ 28,752.44	$ 51,046.35	$ 51,928.96	$ 134,667.52	$ 141,068.70	$ 268,196.97	$ 208,072.49	$ 883,733.43
SMFA Interest (from Sheet 8)	$ 319.74	$ 2,488.95	$ 4,022.17	$ 1,783.89	$ 2,827.25	$ 6,916.78	$ 12,211.75	$ 30,570.53
Net Deferred Revenue Requirement	-$ 29,072.18	-$ 53,535.30	-$ 55,951.13	-$ 136,451.41	$ 102,864.18	$ 314,536.30	$ 248,366.09	$ 390,756.55
Number of Metered Customers (average for 2012 test year)							16287	

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

Years for collection or refunding	2	
Deferred Incremental Revenue Requirement from 2006 to December 31, 2011 plus Interest on OM&A and Amortization	$ 836,410.18	
SMFA Revenues collected from 2006 to 2012 test year (inclusive) Plus Simple Interest on SMFA Revenues	$ 914,303.96	
Net Deferred Revenue Requirement	-$ 77,893.78	
SMDR — May 1, 2012 to April 30, 2013	-$ 0.20	Match
Check: Forecasted SMDR Revenues	-$ 78,177.60	

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

Incremental Revenue Requirement for 2012	$ 468,650.33	
SMIRR	$ 2.40	Match
Check: Forecasted SMIRR Revenues	$ 469,065.60	

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	• 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	• 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	• 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 AMI 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 AMI 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 AMI 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 AMI 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.

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[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.