

ONTARIO ENERGY BOARD

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

AND IN THE MATTER OF an Application by Peterborough Distribution Inc. for an Order or Orders approving rates for smart meter cost recovery to be implemented on May 1, 2012;

A P P L I C A T I O N

The Applicant, Peterborough Distribution Inc. (PDI), an Ontario corporation with its head office located in the City of Peterborough, is an electricity distributor licensed by the Ontario Energy Board (ED-2002-0504). The Applicant carries on the business of distributing electricity within the City of Peterborough, the Town of Norwood and the Village of Lakefield.

PDI 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. PDI is not seeking recovery of incremental costs to be incurred in 2012.

PDI is requesting a two year monthly Smart Meter Disposition Rider of \$0.75 for Residential customers and \$2.45 for General Service < 50 kW customers. In addition, PDI is requesting a Smart Meter Incremental Revenue Requirement Rate Rider of \$1.46 for Residential customers and \$5.11 for General Service < 50 kW customers for the period May 1, 2012 to April 30, 2013.

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:

PDI is the electricity distributor licenced by the Ontario Energy Board to serve the City of Peterborough, the Town of Norwood and the Village of Lakefield. PDI is incorporated under the Business Corporations Act (Ontario). The sole shareholder of PDI is The Corporation of the City of Peterborough.

Contact Information

John Stephenson

President and CEO

Telephone: 705-748-9301 x 1280

Fax: 705-748-4358

Email: @peterboroughutilities.ca

Robert Kent

Manager, Finance and Regulatory Compliance

Telephone: 705-748-9301 x 1272

Fax: 705-748-4358

Email: @peterboroughutilities.ca

This application is being filed by PDI for smart meter cost recovery for the implementation of smart meters in the LDC's service area. The cost recovery is based on actual costs incurred to December 31, 2011. PDI is not seeking recovery of forecasted cost for 2012.

PDI is specifically requesting the following:

1. Smart Meter Disposition Rate Rider (per metered customer per month) of \$0.75 for Residential customers and \$2.45 for General Service < 50 kW customers for a two year period (May 1, 2012 to April 30, 2014). This Rate Rider reflects the Net Deferred Revenue Requirement of \$779,715 being the difference between the Deferred Incremental Revenue Requirement from 2006 to December 31, 2011 and the Smart Meter Funding Adder Revenues collected from 2006 to May of 2012;
2. Smart Meter Incremental Revenue Requirement Rate Rider (per metered customer per month) of \$1.46 for Residential customers and \$5.11 for General Service < 50 kW customers. This Rate Rider reflects the Incremental Revenue Requirement for the period May 1, 2012 to April 30, 2013 of \$770,557.
3. PDI is not requesting recovery of the stranded meter costs 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). PDI expects to seek recovery of the stranded meter costs as part of its next cost of service application.

Bill Impact Summary

PDI has submitted the 2012 IRM3 Rate Application under Board File Number EB-2011-0194. Under this IRM3 Application, distribution rate adjustments and overall bill impacts for Residential and General Service customers have the following effect:

Table #1: Bill Impacts – Residential & GS<50kW Customers without Smart Meter RR

Class	kWh	Distribution Impact	Total Bill Impact
Residential	800	-9.61%	-1.89%
GS<50kW	2,000	-8.48%	-1.50%

Bill Impacts shown above do not take into consideration the costs attributed to the Smart Meter Disposition Rate Rider or the Smart Meter Incremental Revenue Requirement Rate Rider referred to above. Once these Rate Riders are applied, the distribution rate adjustments and overall bill impacts for Residential and General Service customers will have the following effect:

Table #2: Bill Impacts – Residential & GS<50kW Customers with Smart Meter RR

Class	kWh	Distribution Impact	Total Bill Impact
Residential	800	0.09%	0.28%
GS<50kW	2,000	6.57%	1.45%

2. Status of Implementation of Smart Meters

PDI has installed a total of 34,924 as of December 31, 2011 which represents 99.8% of total meters. This application seeks the recovery of the revenue requirements in respect of these smart meters as follows:

Table #3: Smart Meter Capital & OM&A

Rate Filings	Total
Minimum Functionality - Capital	5,535,936
Minimum Functionality - OM&A	172,347
Minimum Functionality	5,708,283
Beyond Minimum Functionality - Capital	0
Beyond Minimum Functionality - OM&A	0
Beyond Minimum Functionality	0
Total	5,708,283

3. Recovery of Smart Meter Funding:

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

- In the **2006** Decision and Order (EB-2005-0406 Peterborough, EB-2005-0408 Lakefield, EB-2005-0407 Asphodel-Norwood), the OEB ordered that, in accordance with the Generic Decision \$0.30 per month, per residential customer be added to PDI's revenue requirement. A monthly fixed charge of \$0.26 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-2007-0571), PDI received approval to continue the \$0.26 per metered customer per month smart metering funding charge for the 2007 IRM rate year.
- In the **2008** Decision and Order (EB-2007-0886), PDI received approval to continue the \$0.26 per metered customer per month smart metering funding charge for the 2008 IRM rate year.
- In the **2009** Decision and Order (EB-2008-0241), PDI received approval to increase the smart meter funding adder to \$1.00 per metered customer per month.
- In its **2010** Decision and Order (EB-2009-0241), PDI received approval to continue the smart meter funding adder of \$1.00 per metered customer per month.
- In its **2011** Decision and Order (EB-2010-0109), PDI received approval from the Board to continue the \$1.00 per metered customer per month smart meter funding adder.

4. Project Overview:

Appendix 1 is the installation services vendor selection report prepared by Util-Assist which outlines the various stages of the project and the due diligence undertaken at each step. The report, prepared on behalf of PDI Smart Meter Steering Committee, outlines the details of each process, the RFPs undertaken, evaluations and the award of contracts.

PDI 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 are outlined in Appendix 1 and include:

- Participation 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
- Installation Service Provider RFP and award of contracts.

The RFPs are included in the Appendices; however the evaluations for each RFP are included in the confidential materials which have been provided.

5. Project Specifics:

a. AMI Selection:

Based on the London Hydro AMI RFP process PDI was awarded Elster Metering ("Elster") as the preferred vendor by the Fairness Commissioner. Attached as Appendix 7 is a copy of the Fairness Commissioner Attestation Letter.

b. Meter Deployment:

PDI was authorized to install smart meters by virtue of paragraph 8 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 Advanced Metering Infrastructure (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).

Prior to 2010 staff installed smart meters and early in 2010, PDI employed Olameter Inc. to mass install a majority of the single phase residential-type meters. Olameter installed 28,812 residential and GS<50 meters. As of the filing of this application, 34,924 smart meters have been installed while approximately 43 commercial meters remain to be installed. PDI expects to complete these installations in the first quarter of 2012.

c. Operational Data Store (ODS) Functionality:

With the implementation of the AMI system a need was recognized for an application that supported full integration with the MDM/R and enabled staff to audit, validate, interact with and gain valuable business information from the wealth of meter data being collected. The AMI system, while fully capable of collecting meter read data and forwarding that raw data to the MDM/R, does not provide all of the functionality necessary to interpret and/or leverage the information it is providing in an educated and meaningful fashion.

An RFP was issued for an operational data store (ODS) in July 18, 2008. Following the RFP process, shortlisted vendors delivered software demonstrations, leading to the selection of Elster as the preferred vendor with their ODS application. Appendix 4 contains the RFP for the award of contract.

The primary requirements and features of the operational data store (ODS) are:

a) **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.

b) **AMI SLA Audit** - Audit and reporting / real-time notification capabilities to monitor AMI performance and therefore ensure that data collection and submission service-level agreements (SLAs) with the centralized MDM/R are consistently met.

c) **Read Re-submission** - The ODS will provide a data repository to facilitate backfilling reads after a meter installation, front-filling reads after a meter removal, and replacing reads labeled as NVE (Needs Verification or Edit) by the IESO MDM/R system. The ODS will provide a mechanism for meter data editing and VEE (Validation, Estimation and Editing) 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.

d) **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.

- e) **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.
- f) **Revenue Protection** – LDCs will be able to identify and respond to meter tampers which historically would have resulted in unidentified theft of power
- g) **Outage Reporting** - Real-time outage information to facilitate faster response time, and therefore improved system reliability

6. Business Process Redesign

Throughout the latter half of 2010, 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. Actual business process redesign is an ongoing process leading up to and after cutover.

7. 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. It was fully expected that existing systems could be modified to accommodate as illustrated by the successful implementation of time of use billing in other LDCs. 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.

8. Integration with MDM/R

To assist with the integration to the provincial Meter Data Management Repository (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. AS2

connectivity software to facilitate data integration with the MDM/R was selected and installed in June, 2010 and connectivity testing was completed with the IESO in 2010. The project plan called for Unit Testing to begin June 2011, this is now scheduled to be completed on February 7, 2012 and System Integration (SIT) and Qualification Testing (QT) on May 2, 2011, in preparation for cutover to live data transfer with the MDMR on February 27, 2012. The ability to meet these targeted 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. PDI is not seeking recovery of MDM/R integration costs as part of the Smart Meter Recovery Application.

9. Transition to Time of Use Pricing

In mid-2010, the Ontario Government articulated an expectation that 1 million RPP customers would be billed using TOU pricing by the summer of 2011, rising to 3.6 million customers by June 2012. On June 24, 2011, the Ontario Energy Board issued a proposed determination regarding mandated time-of-use 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 those of its RPP customers that have eligible TOU meters using TOU pricing. PDI's mandated date for time-of-use billing was January 1, 2012 for all residential and general service <50kW customers. PDI is not able to meet the January 1, 2012 mandated deadline and has targeted July 12, 2012 for the TOU date based upon an MDMR go-live to v7.2 of March 30, 2012. PDI requested an extension in the TOU go-live date but was advised by the Board that it wasn't necessary as the delay was caused by the IESO.

10. Customer Education

In the fall of 2009, PDI held information sessions for customers, to acquaint them with installation of smart meters and TOU pricing. Following installation, PDI provided customers with a letter and a booklet outlining how smart meters would work and providing customers with energy conservation tips and techniques. Installation of meters was first rolled out to the residential customer base as it is the largest. GS<50kW customers followed in 2010. Additionally, PDI will be issuing another notice in the “connections” news letter to remind customers that TOU billing will commence July 12, 2012 and that tracking of customer consumption will start in May 2012. PDI will be providing the following customer education/engagement initiatives in 2012.

a. Shadow Billing, (February/March 2012)

PDI will provide Residential and GS < 50 kW customers with a “Shadow Bill” indicating what the customer’s bill would have been had then been on TOU rates. This will provide proactive information to the customer of the impact and benefits of TOU billing and the opportunity to adjust consumption patterns.

b. Customer Information Package (February/March 2012)

A customer information package will be sent directly to all Residential and GS< 50 kW customers containing a TOU brochure detailing how customers can shift load and take advantage of TOU rates. The package will also include TOU magnets that customers can place on appliances to remind them of the TOU hour changes that occur.

c. Town Hall Meetings (April 2012)

PDI will conduct Town Hall Meetings to provide customers TOU information and to answer any questions that there may be regarding the changeover to TOU rates. Staff will also be demonstrating the web presentment tool to ensure customers are aware of the resources available to them and to assist them in fully understanding the change in TOU billing.

11. Web Presentment

Recognizing the requirement of the Provincial Government to provide data to customers within 24 hours and the need to tie this requirement into the customer information PDI secured the services of

Lowfoot for the web presentment of TOU data. Lowfoot provides next day customer hourly data presented through a Customer Self Serve Web Portal. In addition to the standard features of most web presentment tools, Lowfoot allows the customer the ability to choose a simple view of their TOU data or select a “Social Network” phase where the customer is benchmarked against other customers based upon their consumption reduction or the load that was shifted to off peak. The customer also receives an individual baseline consumption report based upon their historical consumption allowing Lowfoot to reward the customer when their consumption is below the baseline and inform them when they go above it. The rewards are actual cash awards or air miles paid by Lowfoot. Customers can also exchange energy conservation tips through the social network functionality.

12. Annual Security Audit:

With the mass deployment of AMI systems, security of the AMI network is critical to prevent utilities from becoming susceptible to new levels of potential security breaches and to ensure customer privacy and acceptance of the network. By installing network infrastructure in the field, there is now a requirement for additional security measures in order 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 becoming commonplace in the media. The minimum Functional Specification for an Advanced Metering Infrastructure (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 early 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 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 PDI, completing a security audit at a NERC, NIST (Network Information Security & Technology) or comparable level would be a cost-prohibitive exercise. Therefore a consortium of Ontario Util-Assist LDC customers has worked together in the issuance of the November 2010 “Smart Meter Network Security Audit Services” Request for Proposal.

The objective of the RFP is to select an audit partner who would complete a security audit of the Elster AMI systems for consortium members with Elster technology in place, and to the work with Elster towards the implementation of viable countermeasures to resolve all security concerns. The selected audit firm has completed an in-depth security review of the PDI Elster solution. The technology audit firm reviewed the technology at other participating utilities to confirm that the Elster AMI systems are configured to the same standard as that declared as the standard for the group audit. Audit included end-to-end testing from the meter to the utility systems and home area network.

13. Copies of Agreements

The following agreements are being filed with the Board Secretary on a confidential basis:

Advanced Metering Infrastructure Services Agreement between PDI and Elster.;
Smart Meter Installation Agreement between PDI, and Olameter Inc.; and
Operational Data Store Agreement between PDI and Harris;
RFP evaluations which include the pricing from each vendor.

Elster, Olameter Inc. and Harris are corporations which are engaged in 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 of Elster, Olameter and Harris respectively, since 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 that these are among the factors that 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, PDI requests that these Agreements be kept confidential.

PDI is prepared to provide copies of the Agreements to parties' counsel and experts or consultants provided that they have executed the Board's form of Declaration and Undertaking with respect to confidentiality and that they comply with the Practice Direction, subject to PDI's right to object to the Board's acceptance of a Declaration and Undertaking from any person. In keeping with the requirements of the Practice Direction, PDI is filing confidential unredacted versions of the Agreements under separate cover, in a sealed envelope marked "Confidential".

14. Justification for Functionality that Exceeds Minimum Functionality:

PDI's smart meter cost recovery application does not include cost for functionality that exceeds minimum functionality.

15. Cost Variance:

A summary comparison of actual costs to budget is provided in the table on the following page.

Table 4: Budget to Actual Cost Summary

RATE FILING		Actual	Budget	Variance
1.1	Advanced Metering Communication Devices (AMCD)	4,765,268	4,700,500	64,768
1.2	Advanced Metering Regional Collector (AMRC)	240,464	184,000	56,464
1.3	Advanced Metering Control Computer (AMCC)	259,500	225,000	34,500
1.4	Wide Area Network (WAN)	43,560	5,000	38,560
1.5	Other AMI Capital Cost Related to Minimum Functionality	227,144	287,000	(59,856)
Total Smart Meter Capital Costs		5,535,936	5,401,500	134,436
2.1	Advanced Metering Communication Devices (AMCD)	31,093	0	31,093
2.2	Advanced Metering Regional Collector (AMRC)	10,177	0	10,177
2.3	Advanced Metering Control Computer (AMCC)	22,347	0	22,347
2.5	Other AMI Capital Cost Related to Minimum Functionality	108,730	0	108,730
Total Smart Meter OM&A Costs		172,347	0	172,347
Total Smart Meter Recovery		5,708,283	5,401,500	306,783

a. Capital Cost Analysis:

Actual capital costs incurred for the minimum functionality totaled \$5,553,936 as compared to a budget of \$5,401,500 which results in the capital portion of the project being over budget by \$134,436 or 2.5%. US exchange rate fluctuations resulted in approximately \$457 thousand of increased cost, otherwise the entire project including OM&A costs would have come in under budget. It is also important to note that the budget was derived in June 2008 with the assistance of Util-Assist.

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 AMCC. Depending on memory capacity, Meter Reads stored in the AMCD may be transferred at a preprogrammed time for intermediary storage in the 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 cost includes repairs to customer owned equipment as well as program management fees, other professional fees and AMI interface costs.

b. Operations and Maintenance Cost Analysis:

Operating and Maintenance costs related to minimum functionality total \$172,347 vs. budget costs of \$0, resulting in an over budget variance of \$172,347. The reclassification of costs to the MDM/R and TOU costs from Smart Meter budgets is reflected in this variance.

c. Stranded Meter Costs

PDI is not seeking disposition of its stranded meter costs in this Application. PDI 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 and the Board's January 16, 2007 letter to distributors on stranded meter costs related to the installation of smart meters, reproduced as Appendix B to the Guideline.

16. Smart Meter Rate Rider:

PDI is therefore requesting a one year Smart Meter Disposition Rate Rider of \$0.75 per Residential and \$2.45 per General Service Less Than 50kW customers per month. In addition PDI is requesting a Smart Meter Incremental Revenue Requirement Rate Rider of \$1.46 for Residential customers and \$5.11 for General Service Less Than 50kW customers as calculated in accordance with the following:

PDI has completed the Smart Meter Model Version 2.17 in accordance with the instructions released by Board staff, 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 PDI. 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, PDI would submit the following calculations based on a similar approach approved by the Board in PowerStream's 2010 smart meter application (EB-2010-0209). The following outlines how the smart meter costs should be allocated to rate class and smart meter rider be developed for each rate class.

- (i) Allocation of the total revenue requirement for 2012, using the following cost allocation methodology:
 - Allocation of the return (deemed interest plus return on equity) and amortization based on a CWMC (i.e. Customer Weighted Meter Cost) that reflects the average cost of installing smart meters for the Residential and General Service < 50 kW classes. The average PDI cost of installing a smart meter for the Residential class is \$86.99 and \$303.80 for the General Service < 50 kW class.
 - Allocate the OM&A based on the number of meters installed for each class.
 - Allocate PILs based on the revenue requirement allocated to each class before PILs
- (ii) Sum the allocated amounts and calculate the percentages of costs allocated to customer rate classes.
- (iii) Subtract the revenues generated from the smart meter funding adder from the overall revenue requirement.
- (iv) Allocate the amount calculated in part (iii) by using the allocation factors derived in part (ii)

- (v) To calculate the smart meter disposition rider, divide the allocated amount by rate class derived in part
- (vi) (iv) by the number of customers in each class, and then divide by 24 to reflect the number of months in a two year period.

The following table shows the result of the above allocation method for the Smart Meter Disposition Rate Rider

Table 5: Smart Meter Disposition Rate Rider By Rate Class

Smart Meter Actual Cost Recovery Rate Rider - SMDR Calculated by Rate Class			
	Total	Residential	GS < 50
Allocators			
PDI Average Smart Meter Unit Cost		\$ 86.99	\$ 303.80
Smart Meter Cost	\$ 3,820,561	\$ 2,729,311	\$ 1,091,250
Allocation of Smart Meter Costs	100.00%	71.44%	28.56%
Number of meters installed	34,967	31,375	3,592
Allocation of Number of meters installed	100.00%	89.73%	10.27%
Total Return (deemed interest plus return on equity)	\$ 931,588	\$ 665,502	\$ 266,085
Amortization	\$ 1,092,698	\$ 780,596	\$ 312,102
OM&A	\$ 172,347	\$ 154,643	\$ 17,704
Total Before PILs	\$ 2,196,633	\$ 1,600,741	\$ 595,892
PILs	\$ 119,853	\$ 87,340	\$ 32,513
Total Revenue Requirement 2006 to 2011	\$ 2,316,486	\$ 1,688,080	\$ 628,405
	100.00%	72.87%	27.13%
Smart Meter Rate Adder Revenues	(\$1,475,639)		
Carrying Charge	(\$61,133)		
Smart Meter True-up	\$ 779,714	\$ 568,197	\$ 211,517
Metered Customers	34,967	31,375	3,592
Rate Rider to Recover Smart Meter Costs - 2 yrs	\$ 0.93	\$ 0.75	\$ 2.45

The following table provides the Smart Meter Incremental Revenue Requirement Rate Rider by rate class using the allocation outlined above however the recovery period is over one year.

Table 6: 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
Allocators			
PDI Average Smart Meter Unit Cost		\$ 86.99	\$ 303.80
Smart Meter Cost	\$ 3,820,561	\$ 2,729,311	\$ 1,091,250
Allocation of Smart Meter Costs	100.00%	71.44%	28.56%
Number of meters installed	34,967	31,375	3,592
Allocation of Number of meters installed	100.00%	89.73%	10.27%
Total Return (deemed interest plus return on equity)	\$ 294,429	\$ 210,333	\$ 84,097
Amortization	\$ 410,764	\$ 293,439	\$ 117,325
OM&A	\$ -	\$ -	\$ -
Total Before PILs	\$ 705,193	\$ 503,772	\$ 201,421
PILs	\$ 65,363	\$ 46,694	\$ 18,669
Total Revenue Requirement 2006 to 2011	\$ 770,556	\$ 550,466	\$ 220,091
Metered Customers	34,967	31,375	3,592
Rate Rider to Recover Smart Meter Costs -1 yr	\$ 1.84	\$ 1.46	\$ 5.11

The following table summarizes the Rate Riders applied for within this Application in comparison to the funding adder included in PDI's rates up to April 30, 2012:

RESIDENTIAL, (\$'s)			
	30-Apr-12	1-May-12	Variance
Funding Adder to April 30, 2012	1.00	-	(1.00)
Disposition Rider	-	0.75	0.75
Incremental Revenue Rate Rider	-	1.46	1.46
Smart Meter Rate Change	1.00	2.21	1.21

GENERAL SERVICE < 50, (\$'s)			
	30-Apr-12	1-May-12	Variance
Funding Adder to April 30, 2012	1.00	-	(1.00)
Disposition Rider	-	2.45	2.45
Incremental Revenue Rate Rider	-	5.11	5.11
Smart Meter Rate Change	1.00	7.56	6.56

As illustrated above in Table #2, once these Rate Riders are applied, Residential customers will see an increase of 0.09% on distribution rates and a 0.28% increase as a total bill impact. General Service <50kW customers will see an increase of 6.57% on the distribution rates and a 1.45% increase as a total bill impact.

17. CONCLUSION:

PDI 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. PDI has achieved economies of scale where possible and has acted prudently in obtaining best possible pricing.

PDI, in determining the Smart Meter Disposition and the Smart Meter Incremental Revenue Requirement rate riders has excluded \$663,377 of internal labour cost, thereby reducing the reported smart meter capital cost of \$6,199,313 to \$5,535,936.

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

18. Appendix:

Appendix 1	Util-Assist, Installation Services Vendor Selection Report September 22, 2008
Appendix 2	Util-Assist, Wide Area Network (WAN) Solutions and Services, Vendor Selection Report September 22, 2008
Appendix 3	Util-Assist, Operational Data Storage (ODS) Vendor Section Report, October 21, 2008
Appendix 4	Olameter, Single Phase Smart Meter Installation Contract, September 30, 2008
Appendix 5	N. Harris Computer Corporation, Software License and Support Agreement, March 20, 2009
Appendix 6	Bell Wireless Data Solutions Custom Data Solution Agreement, Dated December 5, 2008
Appendix 7	Attestation Letter of the Fairness Commissioner

Confidential Materials Filed with Board

Vendor Selection Report
WAN Selection Report
ODS Vendor Selection Report
Olameter Installation Contract
N.Harris Software and Support Agreement
Bell Wireless Data Solutions Agreement

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'RK' followed by a long horizontal stroke.

Robert Kent, CGA
Manager, Finance and Regulatory Compliance
Telephone (705) 748-9301 ext 1272
Fax (705) 748-4358
e-mail rkent@peterboroughutilities.ca



Ontario Energy Board

Smart Meter Model

Choose Your Utility:

Parry Sound Power Corporation
 Peterborough Distribution Incorporated

Application Contact Information

Name: Robert Kent

Title: Manager of Finance and Regulatory Compliance

Phone Number: 705-748-9301 ext 1272

Email Address: rkent@peterboroughutilities.ca

We are applying for rates effective: May 1, 2012

Last COS Re-based Year: 2009

Legend

DROP-DOWN MENU

INPUT FIELD

CALCULATION FIELD

Copyright

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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.



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
		Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	Forecast	
Smart Meter Capital Cost and Operational Expense Data									
Smart Meter Installation Plan									
Actual/Planned number of Smart Meters installed during the Calendar Year									
Residential		1,088	1,538	1,089	26,811	545	295	9	31375
General Service < 50 kW		55	86	69	2,001	1,120	203	58	3592
Actual/Planned number of Smart Meters installed (Residential and GS < 50 kW only)		1143	1624	1158	28812	1665	498	67	34967
Percentage of Residential and GS < 50 kW Smart Meter Installations Completed		3.27%	7.91%	11.22%	93.62%	98.38%	99.81%	100.00%	100.00%
Actual/Planned number of GS > 50 kW meters installed		0	0	3	14	108	28	243	396
Other (please identify)									0
Total Number of Smart Meters installed or planned to be installed		1143	1624	1161	28826	1773	526	310	35363
1 Capital Costs									
1.1 ADVANCED METERING COMMUNICATION DEVICE (AMCD)									
		Asset Type <small>Asset type must be selected to enable calculations</small>							
1.1.1 Smart Meters (may include new meters and modules, etc.)	Smart Meter	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	Forecast	\$
		191,808	168,734	395,901	2,808,802	408,303	50,738		4,024,286
1.1.2 Installation Costs (may include socket kits, labour, vehicle, benefits, etc.)	Smart Meter	12,070	39,888	192,736	468,104	23,594	4,590		740,982
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)		\$ 203,878	\$ 208,622	\$ 588,637	\$ 3,276,906	\$ 431,897	\$ 55,328	\$ -	\$ 4,765,268
1.2 ADVANCED METERING REGIONAL COLLECTOR (AMRC) (includes LAN)									
		Asset Type							
1.2.1 Collectors	Smart Meter	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	Forecast	\$
			20,656		160,303				180,959
1.2.2 Repeaters (may include radio licence, etc.)									\$ -
1.2.3 Installation (may include meter seals and rings, collector computer hardware, etc.)	Smart Meter				59,505				\$ 59,505
Total Advanced Metering Regional Collector (AMRC) (Includes LAN)		\$ -	\$ 20,656	\$ -	\$ 219,808	\$ -	\$ -	\$ -	\$ 240,464

1.3 ADVANCED METERING CONTROL COMPUTER (AMCC)

1.3.1 Computer Hardware

1.3.2 Computer Software

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

Audited Actual

Audited Actual

Audited Actual

Audited Actual

Audited Actual

Forecast

Forecast

\$ 44,877

\$ 214,623

\$ -

\$ 259,500

Asset Type

Audited Actual

Audited Actual

Audited Actual

Audited Actual

Audited Actual

Forecast

Forecast

\$ 43,560

\$ 43,560

1.4 WIDE AREA NETWORK (WAN)

1.4.1 Activation Fees

Total Wide Area Network (WAN)**Asset Type**

Audited Actual

Audited Actual

Audited Actual

Audited Actual

Audited Actual

Forecast

Forecast

\$ 17,301

\$ 9,703

\$ 105,146

\$ -

\$ 94,994

\$ -

1.5 OTHER AMI CAPITAL COSTS RELATED TO MINIMUM FUNCTIONALITY

1.5.1 Customer Equipment (including repair of damaged equipment)

1.5.2 AMI Interface to CIS

1.5.3 Professional Fees

1.5.4 Integration

1.5.5 Program Management

1.5.6 Other AMI Capital

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

Audited Actual

Audited Actual

Audited Actual

Audited Actual

Audited Actual

Forecast

Forecast

\$ -

\$ -

\$ -

\$ -

\$ 5,535,936

1.6 CAPITAL COSTS BEYOND MINIMUM FUNCTIONALITY

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

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

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

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

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

2 OM&A Expenses

2.1 ADVANCED METERING COMMUNICATION DEVICE (AMCD)

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

2.1.2 Other (please specify)

Total Incremental AMCD OM&A Costs

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

2.2.1 Maintenance

2.2.2 Other (please specify)

Total Incremental AMRC OM&A Costs

2.3 ADVANCED METERING CONTROL COMPUTER (AMCC)

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

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

2.3.2 Other (please specify)

Total Incremental AMCC OM&A Costs

2.4 WIDE AREA NETWORK (WAN)

2.4.1 WAN Maintenance

2.4.2 Other (please specify)

Total Incremental AMRC OM&A Costs

2.5 OTHER AMI OM&A COSTS RELATED TO MINIMUM FUNCTIONALITY

2.5.1 Business Process Redesign

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

2.5.3 Program Management

2.5.4 Change Management (may include training, etc.)

2.5.5 Administration Costs

2.5.6 Other AMI Expenses

(please specify)

Total Other AMI OM&A Costs Related to Minimum Functionality

TOTAL OM&A COSTS RELATED TO MINIMUM FUNCTIONALITY

2.6 OM&A COSTS RELATED TO BEYOND MINIMUM FUNCTIONALITY

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

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

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

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

Total OM&A Costs Beyond Minimum Functionality

Total Smart Meter OM&A Costs

	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	Forecast	
				31,093				\$ 31,093
								\$ -
	\$ -	\$ -	\$ -	\$ 31,093	\$ -	\$ -	\$ -	\$ 31,093
				10,177				\$ 10,177
								\$ -
	\$ -	\$ -	\$ -	\$ 10,177	\$ -	\$ -	\$ -	\$ 10,177
								\$ -
				1,502	20,845			\$ 22,347
								\$ -
	\$ -	\$ -	\$ -	\$ 1,502	\$ 20,845	\$ -	\$ -	\$ 22,347
								\$ -
								\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
								\$ -
								\$ -
								\$ -
				38,877	69,853			\$ 108,730
								\$ -
	\$ -	\$ -	\$ -	\$ 38,877	\$ 69,853	\$ -	\$ -	\$ 108,730
	\$ -	\$ -	\$ -	\$ 81,649	\$ 90,698	\$ -	\$ -	\$ 172,347
	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast		
								\$ -
								\$ -
								\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ 81,649	\$ 90,698	\$ -	\$ -	\$ 172,347

3 Aggregate Smart Meter Costs by Category

3.1	Capital									
3.1.1	Smart Meter	\$ 203,878	\$ 229,278	\$ 609,089	\$ 3,653,674	\$ 433,551	\$ 93,703	\$ -	\$ 5,223,173	
3.1.2	Computer Hardware	\$ -	\$ -	\$ 11,200	\$ 17,767	\$ 15,910	\$ -	\$ -	\$ 44,877	
3.1.3	Computer Software	\$ -	\$ -	\$ -	\$ 248,761	\$ 19,125	\$ -	\$ -	\$ 267,886	
3.1.4	Tools & Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
3.1.5	Other Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
3.1.6	Applications Software	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
3.1.7	Total Capital Costs	<u>\$ 203,878</u>	<u>\$ 229,278</u>	<u>\$ 620,289</u>	<u>\$ 3,920,202</u>	<u>\$ 468,586</u>	<u>\$ 93,703</u>	<u>\$ -</u>	<u>\$ 5,535,936</u>	
3.2	OM&A Costs									
3.2.1	Total OM&A Costs	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 81,649</u>	<u>\$ 90,698</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 172,347</u>	



Peterborough Distribution Incorporated

	2006	2007	2008	2009	2010	2011	2012 and later
Cost of Capital							
Capital Structure¹							
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			4.50%	1.33%	1.33%	1.33%	1.33%
Long-term Debt Rate (actual/embedded/deemed) ²	6.04%	6.04%	6.04%	6.59%	6.59%	6.59%	6.59%
Target Return on Equity (ROE)	9.0%	9.00%	9.00%	8.01%	8.01%	8.01%	8.01%
Return on Preferred Shares	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WACC	7.52%	7.52%	7.42%	6.99%	6.95%	6.95%	6.95%
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
 Capital Tax (until July 1st, 2010)

36.12%	36.12%	33.50%	33.00%	31.00%	28.25%	26.25%
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
 - rate (%)
 Computer Hardware - years
 - rate (%)
 Computer Software - years
 - rate (%)
 Tools & Equipment - years
 - rate (%)
 Other Equipment - years
 - rate (%)

15	15	15	15	15	15	15
6.67%	6.67%	6.67%	6.67%	6.67%	6.67%	6.67%
5	5	5	5	5	5	5
20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
5	5	5	5	5	5	5
20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

CCA Rates

Smart Meters - CCA Class
 Smart Meters - CCA Rate

47	47	47	47	47	47	47
8%	8%	8%	8%	8%	8%	8%

Computer Equipment - CCA Class
 Computer Equipment - CCA Rate

45	50	50	50	50	50	50
45%	55%	55%	55%	55%	55%	55%

General Equipment - CCA Class
 General Equipment - CCA Rate

Applications Software - CCA Class
 Applications Software - CCA Rate

45	50	50	50	50	50	50
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 straight line basis and has the "half-year" rule applied.



Peterborough Distribution Incorporated

	2006	2007	2008	2009	2010	2011	2012 and later
Net Fixed Assets - Smart Meters							
Gross Book Value							
Opening Balance		\$ 203,878	\$ 433,156	\$ 1,042,245	\$ 4,695,919	\$ 5,129,470	\$ 5,223,173
Capital Additions during year (from Smart Meter Costs)	\$ 203,878	\$ 229,278	\$ 609,089	\$ 3,653,674	\$ 433,551	\$ 93,703	\$ -
Retirements/Removals (if applicable)							
Closing Balance	\$ 203,878	\$ 433,156	\$ 1,042,245	\$ 4,695,919	\$ 5,129,470	\$ 5,223,173	\$ 5,223,173
Accumulated Depreciation							
Opening Balance		-\$ 6,796	-\$ 28,030	-\$ 77,210	-\$ 268,483	-\$ 595,996	-\$ 941,084
Amortization expense during year	-\$ 6,796	-\$ 21,234	-\$ 49,180	-\$ 191,272	-\$ 327,513	-\$ 345,088	-\$ 348,212
Retirements/Removals (if applicable)							
Closing Balance	-\$ 6,796	-\$ 28,030	-\$ 77,210	-\$ 268,483	-\$ 595,996	-\$ 941,084	-\$ 1,289,295
Net Book Value							
Opening Balance	\$ -	\$ 197,082	\$ 405,126	\$ 965,035	\$ 4,427,436	\$ 4,533,474	\$ 4,282,089
Closing Balance	\$ 197,082	\$ 405,126	\$ 965,035	\$ 4,427,436	\$ 4,533,474	\$ 4,282,089	\$ 3,933,878
Average Net Book Value	\$ 98,541	\$ 301,104	\$ 685,080	\$ 2,696,236	\$ 4,480,455	\$ 4,407,782	\$ 4,107,984
Net Fixed Assets - Computer Hardware							
Gross Book Value							
Opening Balance		\$ -	\$ -	\$ 11,200	\$ 28,967	\$ 44,877	\$ 44,877
Capital Additions during year (from Smart Meter Costs)	\$ -	\$ -	\$ 11,200	\$ 17,767	\$ 15,910	\$ -	\$ -
Retirements/Removals (if applicable)							
Closing Balance	\$ -	\$ -	\$ 11,200	\$ 28,967	\$ 44,877	\$ 44,877	\$ 44,877
Accumulated Depreciation							
Opening Balance	\$ -	\$ -	\$ -	-\$ 1,120	-\$ 5,137	-\$ 12,521	-\$ 21,497
Amortization expense during year	-\$ -	-\$ 1,120	-\$ 1,120	-\$ 4,017	-\$ 7,384	-\$ 8,975	-\$ 8,975
Retirements/Removals (if applicable)							
Closing Balance	\$ -	\$ -	-\$ 1,120	-\$ 5,137	-\$ 12,521	-\$ 21,497	-\$ 30,472
Net Book Value							
Opening Balance	\$ -	\$ -	\$ -	\$ 10,080	\$ 23,830	\$ 32,356	\$ 23,381
Closing Balance	\$ -	\$ -	\$ 10,080	\$ 23,830	\$ 32,356	\$ 23,381	\$ 14,405
Average Net Book Value	\$ -	\$ -	\$ 5,040	\$ 16,955	\$ 28,093	\$ 27,868	\$ 18,893
Net Fixed Assets - Computer Software (including Applications Software)							
Gross Book Value							
Opening Balance		\$ -	\$ -	\$ -	\$ 248,761	\$ 267,886	\$ 267,886
Capital Additions during year (from Smart Meter Costs)	\$ -	\$ -	\$ -	\$ 248,761	\$ 19,125	\$ -	\$ -
Retirements/Removals (if applicable)							
Closing Balance	\$ -	\$ -	\$ -	\$ 248,761	\$ 267,886	\$ 267,886	\$ 267,886
Accumulated Depreciation							
Opening Balance	\$ -	\$ -	\$ -	\$ -	-\$ 24,876	-\$ 76,541	-\$ 130,118
Amortization expense during year	-\$ -	-\$ -	-\$ -	-\$ 24,876	-\$ 51,665	-\$ 53,577	-\$ 53,577
Retirements/Removals (if applicable)							
Closing Balance	\$ -	\$ -	\$ -	-\$ 24,876	-\$ 76,541	-\$ 130,118	-\$ 183,695
Net Book Value							
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ 223,885	\$ 191,345	\$ 137,768
Closing Balance	\$ -	\$ -	\$ -	\$ 223,885	\$ 191,345	\$ 137,768	\$ 84,191
Average Net Book Value	\$ -	\$ -	\$ -	\$ 111,942	\$ 207,615	\$ 164,557	\$ 110,979

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

Peterborough Distribution Incorporated

	2006	2007	2008	2009	2010	2011	2012 and Later
Average Net Fixed Asset Values (from Sheet 4)							
Smart Meters	\$ 98,541	\$ 301,104	\$ 685,080	\$ 2,696,236	\$ 4,480,455	\$ 4,407,782	\$ 4,107,984
Computer Hardware	\$ -	\$ -	\$ 5,040	\$ 16,955	\$ 28,093	\$ 27,868	\$ 18,893
Computer Software	\$ -	\$ -	\$ -	\$ 111,942	\$ 207,615	\$ 164,557	\$ 110,979
Tools & Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Net Fixed Assets	\$ 98,541	\$ 301,104	\$ 690,120	\$ 2,825,133	\$ 4,716,164	\$ 4,600,207	\$ 4,237,856
Working Capital							
Operating Expenses (from Sheet 2)	\$ -	\$ -	\$ -	\$ 81,649	\$ 90,698	\$ -	\$ -
Working Capital Factor (from Sheet 3)	15%	15%	15%	15%	15%	15%	15%
Working Capital Allowance	\$ -	\$ -	\$ -	\$ 12,247	\$ 13,605	\$ -	\$ -
Incremental Smart Meter Rate Base	\$ 98,541	\$ 301,104	\$ 690,120	\$ 2,837,380	\$ 4,729,768	\$ 4,600,207	\$ 4,237,856
Return on Rate Base							
Capital Structure							
Deemed Short Term Debt	\$ -	\$ -	\$ -	\$ 113,495	\$ 189,191	\$ 184,008	\$ 169,514
Deemed Long Term Debt	\$ 49,271	\$ 150,552	\$ 367,834	\$ 1,495,299	\$ 2,648,670	\$ 2,576,116	\$ 2,373,199
Equity	\$ 49,271	\$ 150,552	\$ 322,286	\$ 1,228,586	\$ 1,891,907	\$ 1,840,083	\$ 1,695,142
Preferred Shares	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capitalization	\$ 98,541	\$ 301,104	\$ 690,120	\$ 2,837,380	\$ 4,729,768	\$ 4,600,207	\$ 4,237,856
Return on							
Deemed Short Term Debt	\$ -	\$ -	\$ -	\$ 1,509	\$ 2,516	\$ 2,447	\$ 2,255
Deemed Long Term Debt	\$ 2,976	\$ 9,093	\$ 22,217	\$ 98,540	\$ 174,547	\$ 169,766	\$ 156,394
Equity	\$ 4,434	\$ 13,550	\$ 29,006	\$ 98,410	\$ 151,542	\$ 147,391	\$ 135,781
Preferred Shares	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Return on Capital	\$ 7,410	\$ 22,643	\$ 51,223	\$ 198,459	\$ 328,605	\$ 319,604	\$ 294,429
Operating Expenses	\$ -	\$ -	\$ -	\$ 81,649	\$ 90,698	\$ -	\$ -
Amortization Expenses (from Sheet 4)							
Smart Meters	\$ 6,796	\$ 21,234	\$ 49,180	\$ 191,272	\$ 327,513	\$ 345,088	\$ 348,212
Computer Hardware	\$ -	\$ -	\$ 1,120	\$ 4,017	\$ 7,384	\$ 8,975	\$ 8,975
Computer Software	\$ -	\$ -	\$ -	\$ 24,876	\$ 51,665	\$ 53,577	\$ 53,577
Tools & Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Amortization Expense in Year	\$ 6,796	\$ 21,234	\$ 50,300	\$ 220,165	\$ 386,562	\$ 407,641	\$ 410,764
Incremental Revenue Requirement before Taxes/PILs	\$ 14,206	\$ 43,877	\$ 101,523	\$ 500,273	\$ 805,865	\$ 727,245	\$ 705,193
Calculation of Taxable Income							
Incremental Operating Expenses	\$ -	\$ -	\$ -	\$ 81,649	\$ 90,698	\$ -	\$ -
Amortization Expense	\$ 6,796	\$ 21,234	\$ 50,300	\$ 220,165	\$ 386,562	\$ 407,641	\$ 410,764
Interest Expense	\$ 2,976	\$ 9,093	\$ 22,217	\$ 100,050	\$ 177,064	\$ 172,213	\$ 158,648
Net Income for Taxes/PILs	\$ 4,434	\$ 13,550	\$ 29,006	\$ 98,410	\$ 151,542	\$ 147,391	\$ 135,781
Grossed-up Taxes/PILs (from Sheet 7)	\$ 2,330.05	\$ 6,540.55	\$ 12,192.86	\$ 19,599.41	\$ 26,977.39	\$ 52,212.75	\$ 65,363.11
Revenue Requirement, including Grossed-up Taxes/PILs	\$ 16,536	\$ 50,418	\$ 113,716	\$ 519,873	\$ 832,843	\$ 779,457	\$ 770,557



Ontario Energy Board

Smart Meter Model

Peterborough Distribution Incorporated

For PILs Calculation

UCC - Smart Meters

	2006 Audited Actual	2007 Audited Actual	2008 Audited Actual	2009 Audited Actual	2010 Audited Actual	2011 Forecast	2012 and later Forecast
Opening UCC	\$ -	\$ 195,722.88	\$ 400,171.93	\$ 952,883.62	\$ 4,384,179.97	\$ 4,449,654.53	\$ 4,183,637.05
Capital Additions	\$ 203,878.00	\$ 229,278.00	\$ 609,089.00	\$ 3,653,674.00	\$ 433,551.00	\$ 93,703.00	\$ -
Retirements/Removals (if applicable)							
UCC Before Half Year Rule	\$ 203,878.00	\$ 425,000.88	\$ 1,009,260.93	\$ 4,606,557.62	\$ 4,817,730.97	\$ 4,543,357.53	\$ 4,183,637.05
Half Year Rule (1/2 Additions - Disposals)	\$ 101,939.00	\$ 114,639.00	\$ 304,544.50	\$ 1,826,837.00	\$ 216,775.50	\$ 46,851.50	\$ -
Reduced UCC	\$ 101,939.00	\$ 310,361.88	\$ 704,716.43	\$ 2,779,720.62	\$ 4,600,955.47	\$ 4,496,506.03	\$ 4,183,637.05
CCA Rate Class	47	47	47	47	47	47	47
CCA Rate	8%	8%	8%	8%	8%	8%	8%
CCA	\$ 8,155.12	\$ 24,828.95	\$ 56,377.31	\$ 222,377.65	\$ 368,076.44	\$ 359,720.48	\$ 334,690.96
Closing UCC	\$ 195,722.88	\$ 400,171.93	\$ 952,883.62	\$ 4,384,179.97	\$ 4,449,654.53	\$ 4,183,637.05	\$ 3,848,946.08

UCC - Computer Equipment

	2006 Audited Actual	2007 Audited Actual	2008 Audited Actual	2009 Audited Actual	2010 Audited Actual	2011 Forecast	2012 and later Forecast
Opening UCC	\$ -	\$ -	\$ -	\$ 8,120.00	\$ 196,886.80	\$ 113,999.44	\$ 51,299.75
Capital Additions Computer Hardware	\$ -	\$ -	\$ 11,200.00	\$ 17,767.00	\$ 15,910.00	\$ -	\$ -
Capital Additions Computer Software	\$ -	\$ -	\$ -	\$ 248,761.00	\$ 19,125.00	\$ -	\$ -
Retirements/Removals (if applicable)							
UCC Before Half Year Rule	\$ -	\$ -	\$ 11,200.00	\$ 274,648.00	\$ 231,921.80	\$ 113,999.44	\$ 51,299.75
Half Year Rule (1/2 Additions - Disposals)	\$ -	\$ -	\$ 5,600.00	\$ 133,264.00	\$ 17,517.50	\$ -	\$ -
Reduced UCC	\$ -	\$ -	\$ 5,600.00	\$ 141,384.00	\$ 214,404.30	\$ 113,999.44	\$ 51,299.75
CCA Rate Class	45	50	50	50	50	50	50
CCA Rate	45%	55%	55%	55%	55%	55%	55%
CCA	\$ -	\$ -	\$ 3,080.00	\$ 77,761.20	\$ 117,922.37	\$ 62,699.69	\$ 28,214.86
Closing UCC	\$ -	\$ -	\$ 8,120.00	\$ 196,886.80	\$ 113,999.44	\$ 51,299.75	\$ 23,084.89

UCC - General Equipment

	2006 Audited Actual	2007 Audited Actual	2008 Audited Actual	2009 Audited Actual	2010 Audited Actual	2011 Forecast	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 Forecast	2012 and later Forecast
INCOME TAX							
Net Income	\$ 4,434.35	\$ 13,549.67	\$ 29,005.75	\$ 98,409.72	\$ 151,541.78	\$ 147,390.62	\$ 135,780.90
Amortization	\$ 6,795.93	\$ 21,234.47	\$ 50,300.03	\$ 220,164.93	\$ 386,562.07	\$ 407,640.70	\$ 410,764.13
CCA - Smart Meters	-\$ 8,155.12	-\$ 24,828.95	-\$ 56,377.31	-\$ 222,377.65	-\$ 368,076.44	-\$ 359,720.48	-\$ 334,690.96
CCA - Computers	\$ -	\$ -	\$ 3,080.00	-\$ 77,761.20	-\$ 117,922.37	-\$ 62,699.69	-\$ 28,214.86
CCA - Applications Software	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CCA - Other Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Change in taxable income	\$ 3,075.16	\$ 9,955.19	\$ 19,848.47	\$ 18,435.80	\$ 52,105.04	\$ 132,611.15	\$ 183,639.21
Tax Rate (from Sheet 3)	36.12%	36.12%	33.50%	33.00%	31.00%	28.25%	26.25%
Income Taxes Payable	\$ 1,110.75	\$ 3,595.81	\$ 6,649.24	\$ 6,083.81	\$ 16,152.56	\$ 37,462.65	\$ 48,205.29
ONTARIO CAPITAL TAX							
Smart Meters	\$ 197,082.07	\$ 405,125.60	\$ 965,034.57	\$ 4,427,436.43	\$ 4,533,474.47	\$ 4,282,089.37	\$ 3,933,877.83
Computer Hardware	\$ -	\$ -	\$ 10,080.00	\$ 23,830.30	\$ 32,355.90	\$ 23,380.50	\$ 14,405.10
Computer Software (Including Application Software)	\$ -	\$ -	\$ -	\$ 223,884.90	\$ 191,345.20	\$ 137,768.00	\$ 84,190.80
Tools & Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Rate Base	\$ 197,082.07	\$ 405,125.60	\$ 975,114.57	\$ 4,675,151.63	\$ 4,757,175.57	\$ 4,443,237.87	\$ 4,032,473.73
Less: Exemption							
Deemed Taxable Capital	\$ 197,082.07	\$ 405,125.60	\$ 975,114.57	\$ 4,675,151.63	\$ 4,757,175.57	\$ 4,443,237.87	\$ 4,032,473.73
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)	\$ 591.25	\$ 911.53	\$ 2,194.01	\$ 10,519.09	\$ 3,567.88	\$ -	\$ -
Change in Income Taxes Payable	\$ 1,110.75	\$ 3,595.81	\$ 6,649.24	\$ 6,083.81	\$ 16,152.56	\$ 37,462.65	\$ 48,205.29
Change in OCT	\$ 591.25	\$ 911.53	\$ 2,194.01	\$ 10,519.09	\$ 3,567.88	\$ -	\$ -
PILs	\$ 1,701.99	\$ 4,507.35	\$ 8,843.24	\$ 16,602.91	\$ 19,720.44	\$ 37,462.65	\$ 48,205.29
Gross Up PILs							
Tax Rate	36.12%	36.12%	33.50%	33.00%	31.00%	28.25%	26.25%
Change in Income Taxes Payable	\$ 1,738.80	\$ 5,629.01	\$ 9,998.85	\$ 9,080.32	\$ 23,409.51	\$ 52,212.75	\$ 65,363.11
Change in OCT	\$ 591.25	\$ 911.53	\$ 2,194.01	\$ 10,519.09	\$ 3,567.88	\$ -	\$ -
PILs	\$ 2,330.05	\$ 6,540.55	\$ 12,192.86	\$ 19,599.41	\$ 26,977.39	\$ 52,212.75	\$ 65,363.11



Ontario Energy Board

Smart Meter Model

Peterborough Distribution Incorporated

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)
2006 Q1			Jan-06	2006	Q1	\$ -		0.00%	\$ -	\$ -		
2006 Q2	4.14%	4.68%	Feb-06	2006	Q1	\$ -		0.00%	\$ -	\$ -		
2006 Q3	4.59%	5.05%	Mar-06	2006	Q1	\$ -		0.00%	\$ -	\$ -		
2006 Q4	4.59%	4.72%	Apr-06	2006	Q2	\$ -		4.14%	\$ -	\$ -		
2007 Q1	4.59%	4.72%	May-06	2006	Q2	\$ -	\$ 960.00	4.14%	\$ -	\$ 960.00		
2007 Q2	4.59%	4.72%	Jun-06	2006	Q2	\$ 960.00	\$ 7,589.00	4.14%	\$ 3.31	\$ 8,552.31		
2007 Q3	4.59%	5.18%	Jul-06	2006	Q3	\$ 8,549.00	\$ 8,611.00	4.59%	\$ 32.70	\$ 17,192.70		
2007 Q4	5.14%	5.18%	Aug-06	2006	Q3	\$ 17,160.00	\$ 9,093.00	4.59%	\$ 65.64	\$ 26,318.64		
2008 Q1	5.14%	5.18%	Sep-06	2006	Q3	\$ 26,253.00	\$ 8,663.00	4.59%	\$ 100.42	\$ 35,016.42		
2008 Q2	4.08%	5.18%	Oct-06	2006	Q4	\$ 34,916.00	\$ 8,353.00	4.59%	\$ 133.55	\$ 43,402.55		
2008 Q3	3.35%	5.43%	Nov-06	2006	Q4	\$ 43,269.00	\$ 8,965.00	4.59%	\$ 165.50	\$ 52,399.50		
2008 Q4	3.35%	5.43%	Dec-06	2006	Q4	\$ 52,234.00	\$ 8,153.00	4.59%	\$ 199.80	\$ 60,586.80	\$ 61,087.92	
2009 Q1	2.45%	6.61%	Jan-07	2007	Q1	\$ 60,387.00	\$ 9,449.00	4.59%	\$ 230.98	\$ 70,066.98		
2009 Q2	1.00%	6.61%	Feb-07	2007	Q1	\$ 69,836.00	\$ 8,085.00	4.59%	\$ 267.12	\$ 78,188.12		
2009 Q3	0.55%	5.67%	Mar-07	2007	Q1	\$ 77,921.00	\$ 9,071.00	4.59%	\$ 298.05	\$ 87,290.05		
2009 Q4	0.55%	4.66%	Apr-07	2007	Q2	\$ 86,992.00	\$ 8,750.00	4.59%	\$ 332.74	\$ 96,074.74		
2010 Q1	0.55%	4.34%	May-07	2007	Q2	\$ 95,742.00	\$ 8,753.00	4.59%	\$ 366.21	\$ 104,861.21		
2010 Q2	0.55%	4.34%	Jun-07	2007	Q2	\$ 104,495.00	\$ 8,720.00	4.59%	\$ 399.69	\$ 113,614.69		
2010 Q3	0.89%	4.66%	Jul-07	2007	Q3	\$ 113,215.00	\$ 8,744.00	4.59%	\$ 433.05	\$ 122,392.05		
2010 Q4	1.20%	4.01%	Aug-07	2007	Q3	\$ 121,959.00	\$ 9,099.00	4.59%	\$ 466.49	\$ 131,524.49		
2011 Q1	1.47%	4.29%	Sep-07	2007	Q3	\$ 131,058.00	\$ 8,038.00	4.59%	\$ 501.30	\$ 139,597.30		
2011 Q2	1.47%	4.29%	Oct-07	2007	Q4	\$ 139,096.00	\$ 9,487.00	5.14%	\$ 595.79	\$ 149,178.79		
2011 Q3	1.47%	4.29%	Nov-07	2007	Q4	\$ 148,583.00	\$ 8,446.00	5.14%	\$ 636.43	\$ 157,665.43		
2011 Q4	1.47%	4.29%	Dec-07	2007	Q4	\$ 157,029.00	\$ 8,160.00	5.14%	\$ 672.61	\$ 165,861.61	\$ 110,002.46	
2012 Q1	1.47%	4.29%	Jan-08	2008	Q1	\$ 165,189.00	\$ 9,858.00	5.14%	\$ 707.56	\$ 175,754.56		
2012 Q2	1.47%	4.29%	Feb-08	2008	Q1	\$ 175,047.00	\$ 8,139.00	5.14%	\$ 749.78	\$ 183,935.78		
2012 Q3	1.47%	4.29%	Mar-08	2008	Q1	\$ 183,186.00	\$ 8,035.00	5.14%	\$ 784.65	\$ 192,005.65		
2012 Q4	1.47%	4.29%	Apr-08	2008	Q2	\$ 191,221.00	\$ 9,639.00	4.08%	\$ 650.15	\$ 201,510.15		
			May-08	2008	Q2	\$ 200,860.00	\$ 8,833.00	4.08%	\$ 682.92	\$ 210,375.92		
			Jun-08	2008	Q2	\$ 209,693.00	\$ 8,822.00	4.08%	\$ 712.96	\$ 219,227.96		
			Jul-08	2008	Q3	\$ 218,515.00	\$ 9,141.00	3.35%	\$ 610.02	\$ 228,266.02		
			Aug-08	2008	Q3	\$ 227,656.00	\$ 8,810.00	3.35%	\$ 635.54	\$ 237,101.54		
			Sep-08	2008	Q3	\$ 236,466.00	\$ 8,558.00	3.35%	\$ 660.13	\$ 245,684.13		
			Oct-08	2008	Q4	\$ 245,024.00	\$ 8,875.00	3.35%	\$ 684.03	\$ 254,583.03		
			Nov-08	2008	Q4	\$ 253,899.00	\$ 8,560.00	3.35%	\$ 708.80	\$ 263,167.80		
			Dec-08	2008	Q4	\$ 262,459.00	\$ 8,907.00	3.35%	\$ 732.70	\$ 272,098.70	\$ 114,496.24	
			Jan-09	2009	Q1	\$ 271,366.00	\$ 9,217.00	2.45%	\$ 554.04	\$ 281,137.04		
			Feb-09	2009	Q1	\$ 280,583.00	\$ 8,107.00	2.45%	\$ 572.86	\$ 289,262.86		
			Mar-09	2009	Q1	\$ 288,690.00	\$ 9,728.00	2.45%	\$ 589.41	\$ 299,007.41		
			Apr-09	2009	Q2	\$ 298,418.00	\$ 8,605.00	1.00%	\$ 248.68	\$ 307,271.68		
			May-09	2009	Q2	\$ 307,023.00	\$ 8,416.00	1.00%	\$ 255.85	\$ 315,694.85		
			Jun-09	2009	Q2	\$ 315,439.00	\$ 9,713.00	1.00%	\$ 262.87	\$ 325,414.87		
			Jul-09	2009	Q3	\$ 325,152.00	\$ 12,832.00	0.55%	\$ 149.03	\$ 338,133.03		
			Aug-09	2009	Q3	\$ 337,984.00	\$ 30,388.00	0.55%	\$ 154.91	\$ 368,526.91		
			Sep-09	2009	Q3	\$ 368,372.00	\$ 32,803.00	0.55%	\$ 168.84	\$ 401,343.84		
			Oct-09	2009	Q4	\$ 401,175.00	\$ 34,503.00	0.55%	\$ 183.87	\$ 435,861.87		
			Nov-09	2009	Q4	\$ 435,678.00	\$ 32,675.00	0.55%	\$ 199.69	\$ 468,552.69		
			Dec-09	2009	Q4	\$ 468,353.00	\$ 34,606.00	0.55%	\$ 214.66	\$ 503,173.66	\$ 235,147.71	
			Jan-10	2010	Q1	\$ 502,959.00	\$ 34,742.00	0.55%	\$ 230.52	\$ 537,931.52		
			Feb-10	2010	Q1	\$ 537,701.00	\$ 29,228.00	0.55%	\$ 246.45	\$ 567,175.45		
			Mar-10	2010	Q1	\$ 566,929.00	\$ 40,221.00	0.55%	\$ 259.84	\$ 607,409.84		
			Apr-10	2010	Q2	\$ 607,150.00	\$ 31,128.00	0.55%	\$ 278.28	\$ 638,556.28		
			May-10	2010	Q2	\$ 638,278.00	\$ 33,022.00	0.55%	\$ 292.54	\$ 671,592.54		
			Jun-10	2010	Q2	\$ 671,300.00	\$ 36,438.00	0.55%	\$ 307.68	\$ 708,045.68		
			Jul-10	2010	Q3	\$ 707,738.00	\$ 34,627.00	0.89%	\$ 524.91	\$ 742,889.91		
			Aug-10	2010	Q3	\$ 742,365.00	\$ 34,697.00	0.89%	\$ 550.59	\$ 777,612.59		
			Sep-10	2010	Q3	\$ 777,062.00	\$ 34,713.00	0.89%	\$ 576.32	\$ 812,351.32		
			Oct-10	2010	Q4	\$ 811,775.00	\$ 33,072.00	1.20%	\$ 811.78	\$ 845,658.78		
			Nov-10	2010	Q4	\$ 844,847.00	\$ 34,947.00	1.20%	\$ 844.85	\$ 880,638.85		
			Dec-10	2010	Q4	\$ 879,794.00	\$ 34,914.00	1.20%	\$ 879.79	\$ 915,587.79	\$ 417,552.55	
			Jan-11	2011	Q1	\$ 914,708.00	\$ 36,750.00	1.47%	\$ 1,120.52	\$ 952,578.52		
			Feb-11	2011	Q1	\$ 951,458.00	\$ 31,883.00	1.47%	\$ 1,165.54	\$ 984,506.54		
			Mar-11	2011	Q1	\$ 983,341.00	\$ 38,236.00	1.47%	\$ 1,204.59	\$ 1,022,781.59		
			Apr-11	2011	Q2	\$ 1,021,577.00	\$ 33,649.00	1.47%	\$ 1,251.43	\$ 1,056,477.43		
			May-11	2011	Q2	\$ 1,055,226.00	\$ 36,560.00	1.47%	\$ 1,292.65	\$ 1,093,078.65		
			Jun-11	2011	Q2	\$ 1,091,786.00	\$ 34,841.00	1.47%	\$ 1,337.44	\$ 1,127,964.44		
			Jul-11	2011	Q3	\$ 1,126,627.00	\$ 33,363.00	1.47%	\$ 1,380.12	\$ 1,161,370.12		
			Aug-11	2011	Q3	\$ 1,159,990.00	\$ 36,793.50	1.47%	\$ 1,420.99	\$ 1,198,204.49		
			Sep-11	2011	Q3	\$ 1,196,783.50	\$ 35,097.01	1.47%	\$ 1,466.06	\$ 1,233,346.57		



Ontario Energy Board

Smart Meter Model

Peterborough Distribution Incorporated

This worksheet calculates the funding adder revenues.

Account 1555 - Sub-account Funding Adder Revenues

Interest Rates	Approved Deferral and Variance Accounts	CWIP				Opening Balance	Funding Adder	Interest		Closing Balance	Annual amounts	Board Approved Smart Meter Funding Adder (from Tariff)
			Date	Year	Quarter	(Principal)	Revenues	Rate	Interest			
			Oct-11	2011	Q4	\$ 1,231,880.51	\$ 33,410.98	1.47%	\$ 1,509.05	\$ 1,266,800.54		
			Nov-11	2011	Q4	\$ 1,265,291.49	\$ 35,058.00	1.47%	\$ 1,549.98	\$ 1,301,899.47		
			Dec-11	2011	Q4	\$ 1,300,349.49	\$ 35,058.00	1.47%	\$ 1,592.93	\$ 1,337,000.42	\$ 436,990.79	
			Jan-12	2012	Q1	\$ 1,335,407.49	\$ 35,058.00	1.47%	\$ 1,635.87	\$ 1,372,101.36		
			Feb-12	2012	Q1	\$ 1,370,465.49	\$ 35,058.00	1.47%	\$ 1,678.82	\$ 1,407,202.31		
			Mar-12	2012	Q1	\$ 1,405,523.49	\$ 35,058.00	1.47%	\$ 1,721.77	\$ 1,442,303.26		
			Apr-12	2012	Q2	\$ 1,440,581.49	\$ 35,058.00	1.47%	\$ 1,764.71	\$ 1,477,404.20		
			May-12	2012	Q2	\$ 1,475,639.49		1.47%	\$ 1,807.66	\$ 1,477,447.15		
			Jun-12	2012	Q2	\$ 1,475,639.49		1.47%	\$ 1,807.66	\$ 1,477,447.15		
			Jul-12	2012	Q3	\$ 1,475,639.49		1.47%	\$ 1,807.66	\$ 1,477,447.15		
			Aug-12	2012	Q3	\$ 1,475,639.49		1.47%	\$ 1,807.66	\$ 1,477,447.15		
			Sep-12	2012	Q3	\$ 1,475,639.49		1.47%	\$ 1,807.66	\$ 1,477,447.15		
			Oct-12	2012	Q4	\$ 1,475,639.49		1.47%	\$ 1,807.66	\$ 1,477,447.15		
			Nov-12	2012	Q4	\$ 1,475,639.49		1.47%	\$ 1,807.66	\$ 1,477,447.15		
			Dec-12	2012	Q4	\$ 1,475,639.49		1.47%	\$ 1,807.66	\$ 1,477,447.15	\$ 161,494.45	
Total Funding Adder Revenues Collected						\$ 1,475,639.49			\$ 61,132.63	\$ 1,536,772.12	\$ 1,536,772.12	



Ontario Energy Board

Smart Meter Model

Peterborough Distribution Incorporated

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%	-	-

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	-	\$ 3,507.48		3,507.48	1.00%	-	-
Jul-09	2009	Q3	3,507.48	\$ 8,868.78		12,376.26	0.55%	1.61	1.61
Aug-09	2009	Q3	12,376.26	\$ -		12,376.26	0.55%	5.67	7.28
Sep-09	2009	Q3	12,376.26	\$ 10,463.28		22,839.54	0.55%	5.67	12.95
Oct-09	2009	Q4	22,839.54	\$ 5,310.36		28,149.90	0.55%	10.47	23.42
Nov-09	2009	Q4	28,149.90	\$ 5,345.85		33,495.75	0.55%	12.90	36.32
Dec-09	2009	Q4	33,495.75	\$ 48,153.89		81,649.64	0.55%	15.35	51.67
Jan-10	2010	Q1	81,649.64	\$ -		81,649.64	0.55%	37.42	89.10
Feb-10	2010	Q1	81,649.64	\$ 23,427.87		105,077.51	0.55%	37.42	126.52
Mar-10	2010	Q1	105,077.51	\$ 10,897.42		115,974.93	0.55%	48.16	174.68
Apr-10	2010	Q2	115,974.93	\$ 5,514.16		121,489.09	0.55%	53.16	227.84
May-10	2010	Q2	121,489.09	\$ 5,553.68		127,042.77	0.55%	55.68	283.52
Jun-10	2010	Q2	127,042.77	\$ 5,566.65		132,609.42	0.55%	58.23	341.75
Jul-10	2010	Q3	132,609.42	\$ 5,583.17		138,192.59	0.89%	98.35	440.10
Aug-10	2010	Q3	138,192.59	\$ 5,113.36		143,305.95	0.89%	102.49	542.59
Sep-10	2010	Q3	143,305.95	\$ 5,210.85		148,516.80	0.89%	106.29	648.88
Oct-10	2010	Q4	148,516.80	\$ 5,230.80		153,747.60	1.20%	148.52	797.39
Nov-10	2010	Q4	153,747.60	\$ 5,248.05		158,995.65	1.20%	153.75	951.14
Dec-10	2010	Q4	158,995.65	\$ 13,351.76		172,347.41	1.20%	159.00	1,110.14
Jan-11	2011	Q1	172,347.41			172,347.41	1.47%	211.13	1,321.26
Feb-11	2011	Q1	172,347.41			172,347.41	1.47%	211.13	1,532.39
Mar-11	2011	Q1	172,347.41			172,347.41	1.47%	211.13	1,743.51
Apr-11	2011	Q2	172,347.41			172,347.41	1.47%	211.13	1,954.64
May-11	2011	Q2	172,347.41			172,347.41	1.47%	211.13	2,165.76
Jun-11	2011	Q2	172,347.41			172,347.41	1.47%	211.13	2,376.89
Jul-11	2011	Q3	172,347.41			172,347.41	1.47%	211.13	2,588.02
Aug-11	2011	Q3	172,347.41			172,347.41	1.47%	211.13	2,799.14
Sep-11	2011	Q3	172,347.41			172,347.41	1.47%	211.13	3,010.27
Oct-11	2011	Q4	172,347.41			172,347.41	1.47%	211.13	3,221.39
Nov-11	2011	Q4	172,347.41			172,347.41	1.47%	211.13	3,432.52
Dec-11	2011	Q4	172,347.41			172,347.41	1.47%	211.13	3,643.64
Jan-12	2012	Q1	172,347.41			172,347.41	1.47%	211.13	3,854.77
Feb-12	2012	Q1	172,347.41			172,347.41	1.47%	211.13	4,065.89
Mar-12	2012	Q1	172,347.41			172,347.41	1.47%	211.13	4,277.02
Apr-12	2012	Q2	172,347.41			172,347.41	1.47%	211.13	4,488.15
May-12	2012	Q2	172,347.41			172,347.41	1.47%	211.13	4,699.27
Jun-12	2012	Q2	172,347.41			172,347.41	1.47%	211.13	4,910.40
Jul-12	2012	Q3	172,347.41			172,347.41	1.47%	211.13	5,121.52
Aug-12	2012	Q3	172,347.41			172,347.41	1.47%	211.13	5,332.65
Sep-12	2012	Q3	172,347.41			172,347.41	1.47%	211.13	5,543.77
Oct-12	2012	Q4	172,347.41			172,347.41	1.47%	211.13	5,754.90

	Nov-12	2012	Q4	172,347.41		172,347.41	1.47%	211.13	5,966.02
	Dec-12	2012	Q4	172,347.41		172,347.41	1.47%	211.13	6,177.15
				\$ 172,347.41	\$ -	\$ 172,347.41			



Ontario Energy Board

Smart Meter Model

Peterborough Distribution Incorporated

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	\$ -	\$ 6,795.93	\$ 6,795.93	\$ 3,397.97	4.37%	\$ 148.32
2007	\$ -	\$ 21,234.47	\$ 28,030.40	\$ 17,413.17	4.73%	\$ 823.21
2008	\$ -	\$ 50,300.03	\$ 78,330.43	\$ 53,180.42	3.98%	\$ 2,116.58
2009	\$ 81,649.00	\$ 220,164.93	\$ 380,144.37	\$ 229,237.40	1.14%	\$ 2,607.58
2010	\$ 90,698.00	\$ 386,562.07	\$ 857,404.43	\$ 618,774.40	0.80%	\$ 4,934.73
2011	\$ -	\$ 407,640.70	\$ 1,265,045.13	\$ 1,061,224.78	1.47%	\$ 15,600.00
2012	\$ -	\$ 410,764.13	\$ 1,675,809.27	\$ 1,470,427.20	1.47%	\$ 21,615.28
Cumulative Interest to 2011						\$ 26,230.41
Cumulative Interest to 2012						\$ 47,845.69



Ontario Energy Board

Smart Meter Model

Peterborough Distribution Incorporated

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

Check if
applicable

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

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

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

	2006	2007	2008	2009	2010	2011	2012 and later	Total
Deferred and forecasted Smart Meter Incremental Revenue Requirement (from Sheet 5)	\$ 16,536.27	\$ 50,418.02	\$ 113,715.81	\$ 519,872.79	\$ 832,842.84	\$ 779,457.41	\$ 770,556.51	\$ 3,083,399.66
Interest on Deferred and forecasted OM&A and Amortization Expense (Sheet 8A/8B) (Check one of the boxes below)	\$ -	\$ -	\$ -	\$ 51.67	\$ 1,058.46	\$ 2,533.51		\$ 3,643.64
<input checked="" type="checkbox"/> Sheet 8A (Interest calculated on monthly balances)	\$ -	\$ -	\$ -	\$ 51.67	\$ 1,058.46	\$ 2,533.51		\$ 3,643.64
<input type="checkbox"/> Sheet 8B (Interest calculated on average annual balances)								\$ -
SMFA Revenues (from Sheet 8)	\$ 60,387.00	\$ 104,802.00	\$ 106,177.00	\$ 231,593.00	\$ 411,749.00	\$ 420,699.49	\$ 140,232.00	\$ 1,475,639.49
SMFA Interest (from Sheet 8)	\$ 700.92	\$ 5,200.46	\$ 8,319.24	\$ 3,554.71	\$ 5,803.55	\$ 16,291.30	\$ 21,262.45	\$ 61,132.63
Net Deferred Revenue Requirement	-\$ 44,551.65	-\$ 59,584.44	-\$ 780.43	\$ 284,776.75	\$ 416,348.75	\$ 345,000.13	\$ 609,062.06	\$ 1,550,271.18
Number of Metered Customers (average for 2012 test year)							34967	

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	\$ 2,316,486.79	
SMFA Revenues collected from 2006 to 2012 test year (inclusive) Plus Simple Interest on SMFA Revenues	\$ 1,536,772.12	
Net Deferred Revenue Requirement	\$ 779,714.67	
SMDR May 1, 2012 to April 30, 2014	\$ 0.93	Match
Check: Forecasted SMDR Revenues	\$ 780,463.44	

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

Incremental Revenue Requirement for 2012	\$ 770,556.51	
SMIRR	\$ 1.84	Match
Check: Forecasted SMIRR Revenues	\$ 772,071.36	



Funding and Cost Recovery Mechanisms

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

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

Cost of Service Applications

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

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

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

Stand-alone Applications

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

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

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

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

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

Costs Beyond Minimum Functionality

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

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

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

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

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

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

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

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

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

O.Reg. 425/06 defines smart meter deployment as pertaining to residential and small general service customers. The Functional Specification sets the required minimum level of functionality for the 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 presentation may be recoverable, but the distributor will have to support these costs and will have to demonstrate how they are required for the smart meter deployment program and that they are incremental to the distributor's normal operating costs.

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

Cost Allocation

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

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

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

Stranded Meters

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

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

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

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

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

Appendix 7



PRP International, Inc.

Fairness Advisory Services

May 30, 2008

Mr. Larry Doran
President and CEO
Peterborough Distribution Inc.
1867 Ashburnham Drive, P.O. Box 4125 Station Main
Peterborough, ON K9J 6Z5

Dear Mr. Doran:

Subject: Attestation of the Fairness Commissioner
Advanced Metering Infrastructure RFP, August 2007
London Hydro & Consortium of LDCs Smartmetering Project

PRP International, Inc. is pleased to submit its letter report of the Fairness Commissioner for the noted Request for Proposal (RFP) evaluation and selection phase. This judgment is being provided for the information and use of each Consortium LDC Sponsor, in their consideration of the report from the Evaluation Phase, for this competitive transaction.

"It is the judgment of PRP International, Inc., as the Fairness Commissioner, that the determinations of the two (2) highest ranked Proponents for the Peterborough Distribution Inc. requirements are:

- Elster Metering, as the recommended Preferred Proponent, based on its highest ranking, and*
- KTI/Sensus Limited being the second ranked Proponent.*

These determinations were made in a fair (objective and competent) manner and consistent with the evaluation and selection processes set out in the RFP, issued August 14, 2007."

A detailed report for your records will be submitted to you, by August 31, 2008. Should you have any questions or require clarification of any matter contained in this letter report, please contact the undersigned.

Yours truly,

Peter Sorensen
President

cc: Mr. Gary Rainis, RFP Project Director