December 13, 2011

Delivered by Courier and RESS

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, Ontario
M4P 1E4

Dear Ms. Walli:

Re: EB-2011-0417- Horizon Utilities Corporation
2011 Smart Meter Prudence Application

Horizon Utilities Corporation ("Horizon Utilities") is a licensed electricity distributor serving customers in Hamilton and St. Catharines. Horizon Utilities Horizon Utilities was one of the original twelve licensed distributors authorized by regulation in 2007 to conduct Smart Meter activities in the province of Ontario and has played an active role in helping to fulfill Ontario's mandated Smart Meter objectives. Horizon Utilities was a party to the Ontario Energy Board's (the "Board's") combined proceeding in relation to smart meters (EB-2007-0063); has been proactive in accomplishing the Smart Meter program goals; and has effectively managed the installation of over 230,000 meters in its service area.

Horizon Utilities has received funding for the Smart Meter program through the collection of a funding adder. The following summarizes the Smart Meter Funding Adders ("SMFA") approved by the Board to date. These amounts have been charged monthly to all customers.

- In 2005, the Board approved an initial SMFA of $0.39 (EB-2005-0375)
- In 2007, the SMFA was revised to $0.82 (EB-2007-0538)
- In 2009, the SMFA was revised to $1.56 (EB-2009-0158)
- In 2011, the SMFA was revised to $2.14 (EB-2010-0292)

Each change reflected the ongoing investment by Horizon Utilities in the Smart Meter program. Horizon Utilities has not included Smart Meter assets in the rate base of previous Cost of Service Applications, nor has the Board included them in its Decisions on such Cost of Service Applications, and Horizon Utilities has not previously filed a Smart Meter Prudence Application.

In the Board's Decision approving the current rate adder (EB-2010-0292), the Board stated that *"the Board expects that Horizon will file, at its earliest opportunity, a stand-alone application to seek a prudence review and disposition of capital and operating costs for its installed smart meters"*. In light of the foregoing, Horizon Utilities is filing this Application for a prudence review and the recovery of the revenue requirement to April 30, 2012 related to Smart Meter costs from 2006 to the end of 2011. Horizon Utilities is proposing an implementation date of May 1, 2012 in order to coincide with the expiry of the current monthly SMFA of $2.14 per customer and the Board's semi-annual Regulated Price Plan adjustments such that Horizon Utilities' customers will experience fewer rate changes in 2012.

Accordingly, please find accompanying this letter two hard copies of the above-captioned Application. A PDF version of this application is also being filed electronically through the Board's web portal, together with electronic copies (in EXCEL format) of the completed Board model.

We also note that certain documents mentioned in the Application are being filed in confidence, pursuant to the Board's *Practice Direction on Confidential Filings*, for the reasons set out in the Application. Horizon Utilities is prepared to provide copies of the documents 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 Horizon Utilities' right to object to the Board's acceptance of a Declaration and Undertaking from any person. The confidential material will be delivered in an envelope marked "confidential", under separate cover.

This Application has been prepared in accordance with the Board's guidelines and requirements.

Yours truly,

Original signed by Indy J. Butany-DeSouza

Indy J. Butany-DeSouza
Vice-President, Regulatory Affairs
Horizon Utilities Corporation
Tel: (905) 317-4765

EB-2011-0417

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

AND IN THE MATTER OF an Application by Horizon Utilities Corporation to the Ontario Energy Board for an Order or Orders approving or fixing just and reasonable rates with respect to Smart Meters, effective May 1, 2012.

Title of Proceeding:	An Application by **HORIZON UTILITIES CORPORATION** for an Order or Orders approving or fixing just and reasonable rates with respect to Smart Meters, effective May 1, 2012.
Applicant's Name:	**HORIZON UTILITIES CORPORATION** ("Horizon Utilities")
Applicant's Address for Service:	55 John Street North PO Box 2249, Station LCD 1 Hamilton, Ontario L8N 3E4

HORIZON UTILITIES CORPORATION
2011 SMART METER PRUDENCE APPLICATION
FILED: December 13, 2011

CONTACT INFORMATION:

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APPENDICES

1.0 APPLICATION

Horizon Utilities Corporation ("Horizon Utilities") is a licensed electricity distributor that is rate regulated by the Ontario Energy Board ("OEB" or "the Board") under the *Ontario Energy Board Act, 1998.* Horizon Utilities holds Electricity Distribution License No. ED-2006-0031 and provides service to customers in the cities of Hamilton and St. Catharines.

In this Smart Meter Prudence Application, hereinafter referred to as the "Application", Horizon Utilities seeks the following:

- The Board's determination that all Smart Meter capital ($27,343,350) and operating expenditures ($5,265,133) to December 31, 2011 are prudent;
- A Smart Meter Disposition Rider ("SMDR") to recover the deferred revenue requirement through April 30, 2012 related to Smart Meters installed through December 31, 2011, net of Smart Meter Funding Adder revenue collected to April 30, 2012;
- A Smart Meter Incremental Rate Rider ("SMIRR") to recover the annual revenue requirement associated with Smart Meters installed from the inception of the Smart Meter program through to December 31, 2011. The SMIRR will include: OM&A expenses; depreciation; cost of debt consistent with the Board approved debt rate in the last Cost of Service application (EB-2010-0131), PILs, and the Maximum Allowable Return on Equity ("MARE") consistent with the Board approved MARE in the last Cost of Service application. The SMIRR will be in place from May 1, 2012 until the implementation date for new rates as determined in Horizon Utilities' next Cost of Service Application; and
- A new deferral account to record the revenue requirement on new Smart Meter expenditures for residential and General Service ("GS")<50 kW customer classes in 2012 and future years until the next rebasing in 2015. This deferral account will record the revenue requirement associated with new capital expenditures after the December 31, 2011. These costs are not included in the above SMDR and SMIRR recoveries.

On June 23, 2004 the Ontario government mandated that all Residential and GS<50 kW customers have a Smart Meter installed by the target date of December 31, 2010. As per the Board's Final Determination Under Section 1.2.1 of the Standard Supply Service Code to

Mandate Time-Of-Use ("TOU") pricing for Regulated Price Plan Consumers (EB-2010-0218, the "Final Determination"), TOU billing was required to be in place for all Residential and GS<50 kW customers of Horizon Utilities by June 2011. Horizon Utilities substantially completed its installation of Smart Meters and began billing these classes of customers on a TOU basis well in advance of the required date. This assisted in the promotion of the Ministry of Ontario's mandate and highlighted the benefits of TOU regarding the environment, generation build avoidance, and customer cost containment advantages of the overall Smart Meter and TOU rate initiative to customers.

Horizon Utilities was one of the original twelve licensed distributors authorized by regulation to conduct Smart Meter activities in the province of Ontario and has played an active role in helping to fulfill Ontario's mandated Smart Meter objectives. Horizon Utilities has been proactive in accomplishing the Smart Meter program goals and has effectively managed the installation of over 230,000 meters as demonstrated by the achievement of a low average unit cost as compared to industry benchmark levels.

This Application has been prepared in accordance with the Board's guidelines and requirements as follows:

- The August 8, 2007 Decision with Reasons (EB-2007-0063), which was the Board's combined proceeding in relation to Smart Meter costs for twelve distributors (including Horizon Utilities) that were at that time authorized to conduct Smart Meter activities (the "Combined Proceeding");
- The Board's Smart Meter Funding and Cost Recovery Guideline (G-2008-0002) issued October 22, 2008;
- The Smart Meter Model and instructions issued by the Board on September 13, 2011, and subsequently updated by Board staff on November 11, 2011 (the "Model"); and
- Previous Board decisions.

Throughout the duration of the program, Horizon Utilities has also complied with the ongoing reporting requirements with respect to Smart Meter costs and installation progress.

Horizon Utilities has received funding for the Smart Meter program through the collection of a funding adder. The following summarizes the Smart Meter Funding Adders ("SMFA") approved by the Board to date. These amounts have been charged monthly to all customers.

- In 2005, the Board approved an initial SMFA of $0.39 (EB-2005-0375)
- In 2007, the SMFA was revised to $0.82 (EB-2007-0538)
- In 2009, the SMFA was revised to $1.56 (EB-2009-0158)
- In 2011, the SMFA was revised to $2.14 (EB-2010-0292)

Each change in the SMFA reflected the ongoing investment by Horizon Utilities in the Smart Meter program. Horizon Utilities has not included Smart Meter assets in the rate base of previous Cost of Service Applications, nor has the Board included them in its Decisions on such Cost of Service Applications; Horizon Utilities has not previously filed a Smart Meter Prudence Application.

Horizon Utilities has met the Province's timetable for implementing Smart Meters in all material respects. Horizon Utilities commenced its Smart Meter conversion program in 2006 and substantially completed its mass deployment of Smart Meters for the single phase Residential and GS<50 kW customers in 2009. Horizon Utilities forecasts that as of December 31, 2011, 230,713 Smart Meters will have been installed in its licensed service territory. This will leave hard to reach ("HTR") Residential and GS<50 kW meters outstanding. At the end of 2011, Horizon Utilities will have completed 98.7% of installations for customers in these classes. The remaining HTR Residential and GS<50 kW single-phase meters are planned to be installed in 2012. The remaining GS<50 kW three-phase meters will be converted to Smart Meters as they require re-verification (between 2012 and 2015), as prescribed by *the Electricity and Gas Inspection Act, R.S.C, 1985.*

Horizon Utilities was one of the first LDCs to test system compatibility and file integrations with the Independent Electricity System Operator ("IESO") to develop the provincial Meter Data Management and Repository ("MDM/R"). Horizon Utilities began the registration of Smart Meters with the MDM/R in July 2009 and continued with further registrations based on the IESO approved approach. Registration was completed for all installed meters by the end of the first quarter of 2011. Further details concerning Smart Meter Implementation by year and customer class is included in Table 2 of this Application.

In the Board's Decision approving the current rate adder (EB-2010-0292), the Board stated that *"the Board expects that Horizon will file, at its earliest opportunity, a stand-alone application to seek a prudence review and disposition of capital and operating costs for its installed smart*

meters". In light of the foregoing, Horizon Utilities is filing this Application for a prudence review and the recovery of the revenue requirement to April 30, 2012 related to Smart Meter costs from 2006 to the end of 2011. Horizon Utilities is proposing an implementation date of May 1, 2012 in order to coincide with the expiry of the current monthly SMFA of $2.14 per customer and the Board's semi-annual Regulated Price Plan adjustments such that Horizon Utilities' customers will experience fewer rate changes in 2012.

The overall effect of the SMDR and the SMIRR will result in monthly bill impacts as follows:

- a typical 800 kWh per month Residential customer will have a net decrease of $0.56 or 0.46%,
- a typical GS<50 kW customer with a monthly electricity consumption of 2,000 kWh will have a net increase of $1.72 or 0.60%, and
- a typical GS>50 kW customer with a monthly demand of 2,500 kW and electricity consumption of 1,100,000 kWh will have a net increase of $3.37 or 0.003%

These impacts are derived based on the SMDR and the SMIRR related increases of $1.58 for Residential customers, $3.86 for GS<50 kW, and $5.51 for GS>50 kW customers, each offset by the expiry of the current monthly rate adder of $2.14 on April 30, 2012.

Horizon Utilities respectfully requests that this Application be disposed of by way of a written hearing. In the event that the Board determines that it is necessary to convene an oral hearing in respect of this Application, Horizon Utilities will then advise the Board as to the members of the witness panel(s). It is anticipated that any witness panel(s) will be composed of Horizon Utilities personnel.

Horizon Utilities requests that the Board provide reasons in writing for its final decision and order(s) in this proceeding. This request is made pursuant to subsection 17(1) of the *Statutory Powers Procedure Act*.

Horizon Utilities requests that a copy of all documents filed with the Board in this proceeding be served on the Applicant as follows:

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2.0 MANAGER'S SUMMARY

Horizon Utilities hereby applies for approval of the capital expenditures ($27,343,350) and operating costs ($5,265,133) related to its Smart Meter deployment. The recovery of these costs is being applied for as follows:

- A Smart Meter Disposition Rider ("SMDR") charge by customer class over a 12 month period, which represents the variance between a) the deferred revenue requirement for the years 2006 through April 30, 2012 for the installed meters up to December 31, 2011, and b) the Smart Meter Funding Adder (SMFA) collected to April 30, 2012 (based on actual amounts collected to September 30, 2011 and projected amounts from October 1 2011 to April 30, 2012),
- A Smart Meter Incremental Revenue Requirement ("SMIRR") charge by customer class, which is calculated as a proxy for the incremental change in the distribution rates that the actual expenditures would have generated had they been incorporated into the revenue requirement calculation, and,
- A deferral account to record the revenue requirement associated with new Smart Meter capital expenditures for Residential and GS<50kW customer classes from January 1, 2012 until the next Cost of Service Application.

The two riders referenced above are to be implemented May 1, 2012. Entries in the deferral account would commence effective January 2012.

The SMDR is calculated using the Board's Model issued September 13, 2011, and subsequently updated by Board staff on November 11, 2011. This Model is included in this Application in Appendix 2.1. Board approved cost of capital parameters are used for all years to calculate the deferred revenue requirement. The notes included with the Model state that *"The Board expects that the majority (i.e. 90% or more) of costs for which the distributor is seeking recovery will be audited"*. Horizon Utilities confirms that 93% of the costs submitted for disposition are included in the audited financial statements to December 31, 2010. The derivation of this amount is provided in Table 1 below:

Table 1 – Determination of Percentage of Applied for Smart Meter Costs Audited

Year	OM&A	Capital	Total	Cumulative	Audited?	% of Cumulative Costs Audited
2006	$99,285	-	$99,285	$99,285	Y	100%
2007	$814,248	$7,679,949	$8,494,197	$8,593,482	Y	100%
2008	$689,859	$10,547,661	$11,237,520	$19,831,002	Y	100%
2009	$1,219,599	$6,043,663	$7,263,262	$27,094,264	Y	100%
2010	$1,150,191	$2,239,719	$3,389,910	$30,484,174	Y	100%
2011	$1,291,951	$832,359	$2,124,310	$32,608,484	N	
2012	$292,221	-	$292,221	$32,900,705	N	93%

All OM&A costs up to April 30, 2012 are included in the calculation of the SMDR. The SMIRR calculation includes all costs after the implementation date of May 1, 2012. At the time of this filing, 93% ($30,484,174/$32,900,705 per Table 1) of all costs have been audited. Horizon Utilities anticipates being able to provide 2011 audited results during the course of the disposition of this Application. This will result in more than 99% of the costs subject to the prudence review having been audited.

Capital and operating costs are consistent with amounts previously reported to the Board for all prior years. The expenditures for all years up to and including 2010 are based on audited results. The costs for 2011 are based on actual expenditures to September 30, 2011, with projections to December 31, 2011. These amounts will be subject to audit early in 2012. As noted above, Horizon Utilities will have actual audited results available for 2011 during the disposition of this Application. In order to calculate the SMDR, the deferred revenue requirement as calculated from the Board Model is offset by the Smart Meter Funding Adder revenue collected. SMFA collections and the revenue requirement calculations for January to April 2012 will continue to be forecasted values. Since the SMFA is billed to all customers and very little growth is expected in the first four months of 2012, these amounts can be estimated with a high degree of accuracy. As Horizon Utilities can confirm that 93% of the expenditures included in the SMDR are audited at the time of filing and 99% will be audited in advance of the Board rendering a Decision on this Application, it is requested that these amounts be considered final. This circumstance was anticipated and is referred to in the Model notes as the

"stub" period as follows: *"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 SMDR true up is calculated consistent with other applications approved by the Board. The details of the calculations can be found in Appendix 2.1. The revenue requirement for each year is calculated in the Model provided by the Board. The revenue requirement is offset monthly by the amount of SMFA collected from customers and carrying charges are calculated on the balance.

Horizon Utilities requests that the SMDR true-up be recovered from customers in the same manner as the SMIRR described below in Table 8.

The SMIRR is for 2012 and future years until rebasing occurs in 2015, and is calculated on the Smart Meter rate base as at December 31, 2011. The SMIRR will be collected from Residential, GS<50 kW, and GS>50 kW customers, in a manner consistent with the investments in assets attributed to these customer classes. Appendix 2.2 contains the Model used for the calculation of the SMIRR.

As part of this Application, Horizon Utilities also requests the approval of a new deferral account. This account will remain in effect until the next Cost of Service Application at which time final disposition will be requested. This account is requested to record the revenue requirement associated with the estimated capital cost of $2,729,880 of installing the remaining Residential and GS<50 kW Smart Meters in 2012, 2013 and 2014. The capital cost of future installations of meters in the GS>50 kW class will not be included in this account. The final disposition of this account will be requested in the next Cost of Service Application, which Horizon Utilities anticipates filing for electricity distribution rates effective January 1, 2015. These expenditures are not included in the current rate base or the two riders above.

The overall effect of the SMDR and the SMIRR will result in monthly bill impacts as follows:

- a typical 800 kWh per month Residential customer will have a net decrease of $0.56 or 0.46%,
- a typical GS<50 kW customer with a monthly electricity consumption of 2,000 kWh will have a net increase of $1.72 or 0.60%, and
- a typical GS>50 kW customer with a monthly demand of 2,500 kW and electricity consumption of 1,100,000 kWh will have a net increase of $3.37 or 0.003%

These impacts are derived based on the SMDR and the SMIRR related increases of $1.58 for Residential customers, $3.86 for GS<50 kW, and $5.51 for GS>50 kW customers; each of which is offset by the expiry of the current monthly funding adder of $2.14 on April 30, 2012. Horizon Utilities is not asking for recovery of stranded meter costs at this time and continues to include these costs in its 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). This is also consistent with the treatment in the guidance provided by the Board in the Model instructions. The net book value of remaining stranded meters will be brought forward for disposition as part of Horizon Utilities' next Cost of Service Application.

3.0 SMART METER PROGRAM STATUS

Horizon Utilities completed the mass deployment of Smart Meters in 2009 and subsequently continued with the execution of the remainder of the Smart Metering Implementation Plan ("SMIP"). This continuation included the installation of HTR Residential and GS<50 kW single-phase meters. By the end of 2011, it is forecasted that 215,739 Residential, 13,583 GS<50 kW, and 1,391 GS>50 kW Smart Meters will have been installed in Horizon Utilities' service territory. This will bring Horizon Utilities' total Smart Meter installations to 230,713 or 97.4% of all metering points.

At the end of 2011, Horizon Utilities expects to have approximately 350 HTR Residential Smart Meter installations and 4,920 GS<50 kW Smart Meter installations remaining. The Residential HTR Smart Meters are being addressed by Horizon Utilities by increasing the level of assertiveness of the contact program to increase awareness, to access customers' premises, and by utilizing alternative metering technologies as they become available to resolve confined space constraints and unusual configurations. The HTR Customer Contact plan includes an additional site visit in an attempt to change the meter, telephone call attempts, a door-hanger communication, and follow-up letter stating that should the meter not be converted to a Smart Meter, the account could be subject to restrictions and possible disconnection of the electricity supply. The remaining GS<50 kW meters will be converted to Smart Meters when such require re-verification (between 2012 and 2015), as prescribed by the *Electricity and Gas Inspection Act*, R.S.C. 1985. In this way, Horizon Utilities will reduce duplication of efforts and related costs and maintain a smooth distribution schedule for future re-verifications.

As per the Horizon Utilities' SMIP, and as previously described to the Board in Horizon Utilities' most recent Smart Meter Funding Adder Application (EB-2010-0292), Horizon Utilities has been installing Smart Meters for all GS>50 kW customers as such meters have come due for re-verification. In this way, customers will be able to receive hourly electricity consumption data without the necessity of installing and maintaining a dedicated phone line service as is required for an interval meter. Further, Horizon Utilities receives real time meter data for these customers which provides ongoing insight into the status and performance of the meter at their location. Through the billing process, Horizon Utilities will be able to avoid estimated bills and will forego true-ups on the bill. Additionally, depending on the location of the meter at the customer site, Horizon Utilities will be able to avoid onerous and sometimes challenging manual meter reading. Such maximizes operational efficiencies in the automated meter reading processes.

Table 2 below provides the number of Smart Meters installed by customer class for each year with actual results for 2007 through 2010. 2011 is based on year-to-date September 30, 2011 actual installations plus a forecast for the balance of the year.

Table 2 - Smart Meter Implementation

Customer Class	Total Connections (December 31, 2011)	2007	2008	2009	2010	2011 Forecast	% of target completed
Residential	216,089	57,976	134,170	210,410	214,501	215,739	99.8%
GS <50	18,503	2,405	5,566	8,729	11,539	13,583	73.4%
Total Residential and GS <50	**234,592**	**60,381**	**139,736**	**219,139**	**226,040**	**229,322**	**98.7%**
GS >50	2,165	260	601	943	1,185	1,391	64.2%
Total	**236,757**	**60,641**	**140,337**	**220,082**	**227,225**	**230,713**	97.4%
% complete		25.6%	59.3%	93.0%	96.0%	97.4%	

Note:
Number of meters may not equal number of customers due to inclusion of inactive accounts.

4.0 PROCUREMENT OF SMART METERS AND INSTALLATION SERVICES

Horizon Utilities has diligently and prudently managed the procurement and installation of Smart Meters. Where it made sense to do so, there was collaboration with other LDCs with respect to procurement and there was sharing of knowledge regarding implementation challenges and successes to maximize cost efficiency through the implementation of new processes and

technologies. Horizon Utilities is one of the twelve licensed distributors that were authorized by regulation to conduct Smart Meter activities. Those twelve distributors participated in the Board's 2007 Combined Proceeding with respect to Smart Meters (EB-2007-0063, referred to below as the "Combined Proceeding"). On page 1 of the Board's Decision in the Combined Proceeding, the Board explained the purpose of the proceeding as follows:

> *In January of 2007, twelve licensed distributors authorized by Ontario Regulation 427/06 to conduct discretionary metering activities filed applications pursuant to section 78 of the Ontario Energy Board Act, 1998 for the approval of distribution rates. These applications included a Smart Metering Rate Adder to be effective as of May 1, 2007.*
>
> *The twelve distributors are Chatham-Kent Hydro Inc., Enersource Hydro Mississauga Inc., Horizon Utilities Corporation, Hydro One Brampton Networks Inc., Hydro One Networks Inc., Hydro Ottawa Limited, Middlesex Power Distribution Corporation, Milton Hydro Distribution Inc., PowerStream Inc., Tay Hydro Electric Distribution Co. Inc., Toronto Hydro-Electric System Limited, and Veridian Connections Inc.*
>
> *The Board issued a Notice of Combined Proceeding establishing this proceeding to determine the prudence and recovery of costs associated with Smart Metering activities for the twelve licensed distributors referred to above, and a thirteenth licensed distributor, Newmarket Hydro Limited, that has been authorized by regulation to conduct discretionary metering activities.*

In 2006, based on the *Report of the Board to the Minister of Energy on the Smart Meter Implementation Plan* (dated January 26, 2005), Horizon Utilities collaborated with the Coalition of Large Distributors ("CLD") to establish vendor selection options, leading to a joint procurement process. The Board determined that the procurement process used by the CLD was prudent, as detailed on page 4 of the *Smart Meter Funding and Cost Recovery Guideline* (G-2008-0002). In 2007, Horizon Utilities initiated an RFP process that resulted in contracts with Elster Canadian Meter Company Inc. ("Elster") to procure its Energy Axis Advanced Metering Infrastructure ("AMI") system. In 2008, Toronto Hydro Electric System Limited ("THESL") issued a new request for proposal ("RFP") for metering. From this RFP, THESL obtained a new and reduced per unit pricing arrangement from Elster. Elster agreed to provide the same pricing arrangement to Horizon Utilities.

The cost of meters declined over the course of the Smart Meter Implementation period due to increasing strength in the Canadian dollar. Horizon Utilities' average installed capital cost per meter compares favourably to the sector average capital cost as derived from the "Sector Market Meter Audit Review Report" issued by the Regulatory Audit and Accounting group of the Board on March 31, 2010. This was possible through efforts to maximize efficiencies including

the leveraging of technology to create a paperless workforce automation system, outsourcing of the Smart Meter deployment, and the following of a mass deployment plan. Table 3 below compares Horizon Utilities' average cost per meter with the sector.

Table 3 - Comparison of Average Cost per Meter with Sector

	Horizon Utilities	OEB Report
Capital Expenditure	$27,343,350	$570,339,200
Total Smart Meters Installed	230,713	3,053,931
Capital Expenditure per Smart Meter	$118.52	$186.76

In 2007, as part of the early implementation phase of the Smart Meter installation, Horizon Utilities completed an RFP and subsequently utilized the services of Ozz Electric Incorporated ("Ozz") for installation of meters. Since the Smart Meter installation market had matured with experience, Horizon Utilities issued a second RFP in 2008 to evaluate new potential service providers for meter installation services and to ensure that Horizon Utilities was garnering competitive market price for these services. As a result of the second evaluation, Olameter Incorporated ("Olameter") was selected for the installation of Horizon Utilities' Residential and GS<50 kW Smart Meters.

Horizon Utilities concentrated efforts to minimize installation and meter purchase costs throughout the mass deployment of Smart Meters. This included negotiating a low cost per meter based on group purchasing power with the CLD, as well as receiving manufacturer's cost reductions throughout the initiative as the supplier realized production volume benefits.

Horizon Utilities developed an efficient installation process that was streamlined through the use of new technologies. Electronic service orders were dispatched through mobile hand-held devices which eliminated paper service orders and the need for manual processing. Efficiencies were also gained through automated uploading of Smart Metering installation files to the required systems, thereby reducing the potential for manual data entry errors and reducing the need for some back office manual functions.

Suppliers of both meters and meter services were retained through competitive processes in order to help ensure optimal pricing while at the same time delivering required services and functionality. The following supplier agreements are being filed with this Application in

Appendices 5, 6, 7, and 8 on a confidential basis pursuant to the OEB's *Practice Direction on Confidential Filings* (the "Practice Direction"):

- Appendix 5 - Advanced Metering Infrastructure Services Agreement between Horizon Utilities and Elster;
- Appendix 6 - Smart Metering Installation Agreement between Horizon Utilities and Olameter;
- Appendix 7 - Smart Meter Pricing contract between Horizon Utilities and Elster; and,
- Appendix 8 - Smart Metering Installation Agreement between Horizon Utilities and Ozz

These suppliers are engaged in competitive businesses and disclosure of the terms of these agreements could reasonably be expected to prejudice the economic interests of, significantly prejudice the competitive positions of, cause undue financial loss to, and be injurious to the financial interests of Elster, Ozz, and Olameter respectively, since it would enable their competitors to ascertain the scope and pricing of services provided by these companies. 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. This approach is also consistent with the Board's treatment of commercially sensitive smart meter-related documents in the Combined Smart Meter Proceeding. Accordingly, Horizon Utilities requests that these Agreements be kept confidential.

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

5.0 SMART METER COSTS

In this Application, Horizon Utilities is seeking recovery of costs related to the 230,713 Smart Meters installed in the Horizon Utilities' service territory to December 31, 2011. The costs relate to the purchase and installation of Smart Meters to that date and are consistent with Horizon Utilities' audited financial statements as of December 31, 2010. The audited financial statements for 2011 are expected to become available during the adjudication of this Application. Specifically, accounts 1555 and 1556 were established consistent with the Board's direction and balances in these accounts have been reported to the Board on a quarterly basis throughout the duration of the program. These accounts form part of the annual audited financial statements and form the basis for the cost analysis that supports the OEB smart meter model. Details of the component balances of both of these Smart Meter accounts can be found in Appendix 4.

5.1 CAPITAL EXPENDITURES

Table 4 below provides actual capital expenditure results for 2007 through 2010. The 2011 forecast is based on year-to-date September 30, 2011 actual results plus a forecast of expenditures for the balance of the year.

Table 4 - Capital Expenditure by OEB Category

Capital Costs		2006	2007	2008	2009	2010	2011	Total
		Actual	Actual	Actual	Actual	Actual	Forecast	
RELATED TO MINIMUM FUNCTIONALITY								
Smart Meters		-	$7,110,911	$9,522,752	$4,453,912	$938,959	$610,235	$22,636,768
Installation Costs		-	$140,411	$446,528	$1,329,751	$342,843	$92,076	$2,351,609
Workforce Automation Hardware		-	$110,554	$45,029	-	$9,205	-	$164,787
Sub-Total		**-**	**$7,361,875**	**$10,014,308**	**$5,783,663**	**$1,291,007**	**$702,311**	**$25,153,164**
Collector		-	$277,500	$450,000	$260,000	$88,725	$113,305	$1,189,530
Repeaters			-	-	-	-	$6,711	$6,711
Computer Equipment		-	$3,314	$24,467	-	$358,705	-	$386,487
Other (Tools & Equipment)		-	$905	$7,955	-	$13,691	-	$22,551
Total for Minimum Functionality*	**A**	**-**	**$7,643,595**	**$10,496,731**	**$6,043,663**	**$1,752,128**	**$822,327**	**$26,758,443**
Total for Beyond Minimum Functionality	**B**	-	$36,354	$50,930	-	$487,591	$10,032	$584,907
Total Smart Meter Capital Costs	**C= A+B**	**-**	**$7,679,949**	**$10,547,661**	**$6,043,663**	**$2,239,719**	**$832,359**	**$27,343,350**
Cumulative Smart Meter Capital Costs	**D**	**-**	**$7,679,949**	**$18,227,610**	**$24,271,273**	**$26,510,991**	**$27,343,350**	

*An amount of $898,649 for the Smart Meters of GS>50 kW customer class is included in the Minimum Functionality total above. This is a different treatment from the Board Model as in the view of Horizon Utilities, the cost of the installation of these meters should not be categorized as being beyond minimum functionality, but included as part of the core functionality of the Smart Meter initiative.

Horizon Utilities will have completed 99.8% of its Residential, 73.4% of its GS<50 kW, and 64.2% of its GS>50 kW Smart Meter installations by the end of 2011. As previously discussed, Residential HTR meters remain outstanding for conversion, which are planned for completion in 2012. Horizon Utilities uses an outside service provider, selected through a competitive bid process, for Smart Meter installations. The remaining GS<50 kW meters will be replaced by 2015 as they come due for re-verification.

Horizon Utilities has 430 collectors forming the communications "backbone" for its Smart Meters. The backbone was strategically mapped to minimize the amount of redundant coverage and limit the number of collectors required.

In 2009, the mapping of the metering communications backbone was undertaken to improve data collection efficiency and meet the performance requirement of 98% successful collection and transmission of meter reads as detailed by the Ministry of Energy's *Functional Specification for an Advanced Metering Infrastructure*. The results of the analysis identified instances where certain collectors needed to be relocated or additional collector installations were required. In collaboration with the manufacturer, it was determined that a collector upgrade was required to improve the efficiency of the meter data collection process, stabilize communications, and to

enable an upgrade of the meter firmware. Ongoing efforts to complete the required collector enhancements and meter firmware upgrades will continue through 2012.

In order to address the need to process data for meter specific scenarios, including meter multipliers and three-phase meter types, additional system enhancements to Horizon Utilities' Customer Information System ("CIS") system and meter management processes were required. Such enhancements could not be completed until the Smart Meter Entity ("SME") defined the MDM/R interface requirements. Horizon Utilities continues to participate in industry working groups, composed of both utilities and the SME, in order to implement the developed solutions.

Smart Meter data is the source data for customer billing and related cash processes. The integrity of such important data must be maintained on a continuous and uninterrupted basis. In order to manage related disaster recovery and business continuity, back up redundancy servers have been implemented at Horizon Utilities' disaster recovery data centre.

5.2 OPERATIONS, MAINTENANCE AND ADMINISTRATION ("OM&A")

Horizon Utilities successfully migrated Residential and GS<50 kW customers to TOU rates by June 2011, in accordance with the Board's Final Determination to Mandate Time-of-Use Pricing (EB-2010-0218). Table 5 below summarizes OM&A cost per meter identifying actual results for 2006 through 2010. The 2011 forecast is based on year-to-date September 30, 2011 actual results plus a forecast of expenditures for the balance of the year.

Table 5 – OM&A Cost per Meter

OM&A	2006	2007	2008	2009	2010	2011	Total
	Actual	Actual	Actual	Actual	Actual	Forecast	
Annual Smart Meter OM&A Costs	$99,285	$814,248	$689,859	$1,219,599	$1,150,191	$1,291,951	$5,265,133
Cumulative Smart Meter OM&A Costs	$99,285	$913,533	$1,603,392	$2,822,991	$3,973,182	$5,265,133	
Cumulative Number of Meters Installed	-	60,641	140,337	220,082	227,225	230,713	
Cumulative Cost per Meter		$15.06	$11.43	$12.83	$17.49	$22.82	

Table 6 summarizes actual OM&A costs in OEB categories for 2006 through 2010. The 2011 forecast is based on year-to-date September 30, 2011 actual results plus a forecast of expenditures for the balance of the year.

Table 6 - Schedule of OM&A Costs by OEB Category

OM&A	2006	2007	2008	2009	2010	2011	Total
	Actual	Actual	Actual	Actual	Actual	Forecast	
Smart Meter Maintenance	-	$315,219	$138,575	$170,125	$169,876	$148,421	$942,217
Collector Maintenance	-	$28,704	$23,688	$57,422	$44,457	$63,986	$218,258
Computer Hardware Maintenance	-	$19,467	$59,220	-	-	-	$78,688
Computer Software Maintenance	-	$88,046	$83,857	$90,471	$188,946	$256,390	$707,711
Other (Data Maintenance)	-	-	-	-	$117,005	$243,392	$360,396
WAN Maintenance	-	$42,708	$63,935	$148,132	$96,528	$155,104	$506,407
Business Process Redesign	-	$58,795	$52,893	$125,518	$135,013	$151,816	$524,034
Customer Communication	-	$156,254	$90,617	$268,317	$84,631	-	$599,818
Program Management	$17,634	$9,404	$45,935	$118,680	$73,411	$31,534	$296,599
Change Management	-	$19,494	$16,769	$77,814	$87,391	$85,396	$286,864
Administration Costs	$81,651	$76,156	$114,371	$11,061	$19,501	$36,304	$339,043
Total for Minimum Functionality	**$99,285**	**$814,248**	**$689,859**	**$1,067,540**	**$1,016,759**	**$1,172,343**	**$4,860,035**
Total beyond Minimum Functionality	**-**	**-**	**-**	**$152,058**	**$133,432**	**$119,608**	**$405,098**
Total Smart Meter OM&A Costs	**$99,285**	**$814,248**	**$689,859**	**$1,219,599**	**$1,150,191**	**$1,291,951**	**$5,265,133**

A challenge with a vast network of meters and communication devices has been to optimize the AMI system components to ensure consistent retrieval of meter reads and associated data. The Ministry of Energy's *"Functional Specification for an Advanced Metering Infrastructure (Version 2)"* indicates that AMI systems must read meters with a 98% daily success rate. Horizon Utilities has focused its efforts to meet this regulated target, including software upgrades to the AMI system, the installation of additional collection units to enhance the communications backbone, and software and hardware upgrades to collectors and modems.

After internal testing and the completion of an initial business process review, Horizon Utilities completed System Integration Testing ("SIT") and Qualification Testing ("QT") with the MDM/R in 2009. Horizon Utilities confirmed connectivity with the MDM/R by registering 10,000 initial metering points in July of 2009. An incremental approach to enrolments has been undertaken since the original implementation, with 230,713 meter points forecasted to be registered by December 31, 2011. Additional programming and business process reviews are on-going to support changes to the MDM/R's Technical Interface Specifications document ("TIS").

Throughout 2011 and 2012, the functionality of Horizon Utilities' CIS billing system is being expanded to accommodate the management of Smart Meters with unique scenarios such as multipliers greater than 1, where the data collection is in 15-minute intervals and for customers with 50 to 200 kilowatts of demand.

The deployment of Smart Meters and the implementation of TOU rates have required additional incremental human resources. An external project management firm was retained in 2009 to assist internal staff to manage the project thereby ensuring that deliverables from multiple departments were met as per the project timelines. In addition, three new permanent positions were created in 2010 to manage the meter data collection process through the AMI.

A Call Centre strategy for TOU Implementation was developed in 2008 to address the deployment of TOU rates and in contemplation of common industry assumptions regarding call volume expectations. Recommendations resulting from such strategic planning included the acquisition of five full time contract staff to support the expected escalation in call volumes and back fill for daily functions for the added training requirements for full time staff through the TOU migration period. Horizon Utilities has maintained the standard of 65% of calls answered within 30 seconds as required by the OEB throughout the implementation of Smart Meters and migration to TOU rates. The ability to respond to customer queries and ensure accessibility to the utility during times of change is critical to the success of a new initiative.

Horizon Utilities invested in training to address new processes associated with the utilization of the MDM/R and expansion of TOU rates, as project team functions moved to the production environment. Horizon Utilities developed a comprehensive training program to enable its employees to support new business systems and processes as well as the development of new procedures, processes, and general Smart Metering and TOU work instructions. The training components offered in Customer Service included a general TOU backgrounder for all Customer Service employees, three call-centre specific training modules, MDM/R Graphic User Interface ("GUI") training, MDM/R user training, AMI user training, and TOU billing training.

Horizon Utilities began implementing its Time-of-Use Customer Communications Plan (the "Communications Plan") in 2009. The Plan provided for educational materials for Residential and Commercial customers and the introduction of the Horizon Utilities' TOU Community Road show. Copies of communication materials provided to Horizon Utilities' customers are provided in Appendix 9 and include:

- a brochure announcing that "Horizon is moving to TOU rates", which was included with every customer invoice in 2009 or early 2010;

- a direct mail package including a letter of explanation: “Introducing TOU rates” brochure and two cling-films. Such is provided 30 to 45 days in advance of the account migration to TOU rates;
- a bill insert titled “It’s time to think differently”, included with the customer’s last conventional bill;
- a brochure titled “Managing on TOU rates” included with the first TOU bill;
- the “Smart Metering Booklet” which was used by the TOU Community Road Show;
- and a flyer of the status of the Smart Metering implementation for Horizon Utilities and how the customer can access their Smart Metering data on-line.

The communications materials are customized to support Residential or General Service customers, as the case may be. The materials were designed to provide customers with an awareness and understanding of the installation of a Smart Meter at their location, the benefits of Smart Metering, TOU rates, and to inform customers of tools that are available to assist them. Such tools, including web presentment features as provided on the Horizon Utilities website, provide simple and helpful energy shifting and conserving tips and inform customers of the available conservation and demand management initiatives.

Customer education, awareness, and utility accessibility were important to the successful implementation of TOU rates. Horizon Utilities engaged a research firm to measure the success of the above materials in achieving customer education and awareness through a 3-phase survey. Customers were randomly selected and surveyed in stages following each of: i) receiving the initial brochure; ii) receiving the direct mail package, and iii) after receiving two TOU invoices. The results indicated that Horizon Utilities’ customers have an increasing awareness of TOU rates based on their staged receipt of the education materials and that they were able to recall key messages therein. Most customers (79%) were aware that they were invoiced on TOU rates and 100% of these customers recalled at least one key message about the benefits of TOU rates without any prompting from the surveyor.

The implementation of the Customer Communications Plan was completed in 2011 for both Residential and GS<50 kW customers. Horizon Utilities expects to continue distributing Smart Meter and TOU information packages at customer’s premises as the remaining Smart Meter installations occur.

The TOU Community Road Show has participated in more than 80 events in 2009 through 2011. Specially trained Horizon Utilities staff delivered the well-received Road Show at community malls, big box stores, and community centres; talking with thousands of customers throughout the Horizon Utilities service territory. This team was available to inform customers about TOU rates, demonstrate the web presentment system, and advise customers of conservation tips and programs to assist them in managing their electricity costs.

Horizon Utilities' website is also a valuable source of information for customers. The website has undergone revision to support the Smart Metering and TOU roll-outs. It includes maps that detail roll-out areas and timeframes; copies of the communication brochures some of which are provided in as many as 19 different languages; Smart Metering web presentment features which allow customers to view multiple displays of their households' Smart Metering data; and tools and tips for both the Residential and General Service sectors to support their migration and understanding of TOU rates.

This multi-channel communication strategy provided Horizon Utilities' customers with the information and tools to facilitate their acceptance of the industry changes of Smart Meters and TOU rates. Without this robust platform, Horizon Utilities would not likely have been able to manage Call Centre volumes or ramp up the migration of TOU rates to comply with the Ministry of Energy expectation.

ANNUAL EXPENDITURE ANALYSIS – 2006 TO 2011

The following provides further analysis of expenditures associated with Horizon Utilities' Smart Meter implementation from 2006 to 2011.

2006

Cost summary: $0 (Capital); $99,285 (OM&A)

In this year, Horizon Utilities commenced a meter backbone pilot, which included: data communications development, the acquisition of AMI technology; and substantive training of Horizon Utilities' staff. Capital expenditures related to the AMI technology were purchased through the third tranche of the Market Adjusted Revenue Requirement (MARR) funding as approved by the Board in EB-2004-0523 and EB-2004-0488. Additionally in 2006, Horizon Utilities developed an early stage communication plan associated with Smart Meter information for customers.

In order to properly support the mass deployment of Smart Meters, Horizon Utilities developed processes that would help organize and manage the installation of the Smart Meters, recognizing that mass deployment was an activity that would only be carried out once on this scale. Horizon Utilities established a project team that evaluated paperless field installation order systems capable of handling over 2,000 service orders per week. Horizon Utilities selected the 'FieldWorker' software that enabled Horizon Utilities' first technology evaluation pilot, which commenced in early 2006.

Web presentment was required in order for customers to view their TOU usage online, which is critical for their understanding and acceptance of the TOU mandate. Through this time period, Horizon Utilities used Kinetiq software for web presentment. This software had practical limitations, which led to the development of an in-house CIS system to support the data management for Horizon Utilities' customers.

In an effort to minimize costs and to ensure consistent messaging to customers in Ontario, Horizon Utilities worked with the Ministry of Energy, the CLD working group, and other distributors on a standard customer communication package. This included door hangers, pre-implementation information inserts, and general Smart Meter technology information.

2007

Cost summary: $7,679,949 (Capital); $814,248 (OM&A)

In 2007, Horizon Utilities shifted into production mode with the commencement of the mass deployment of Smart Meters resulting in 60,641 installations by the end of that year. Horizon Utilities' principal focus was on the meter installation process, although internal data management and TOU billing plans began to be addressed. A CLD TOU Technical team was assembled and started working on issues to be addressed.

Early in 2007, Horizon Utilities' selected the Elster Group to supply the Smart Meters and collector hardware. Horizon Utilities further selected Olameter Incorporated for the installation of meters. Both vendors were selected through the CLD RFP process. In 2007, 111 collectors were installed to support the mass deployment of Smart Meters.

During this time, communications regarding the benefits of smart meters and TOU rates were made available to all customers. Customers were advised in advance of their Smart Meter installation and were left a Smart Meter Information Package at the time of the installation.

Horizon Utilities also began to provide information on its smart meter deployment progress to the media through press releases.

Late in the year, Horizon Utilities began utilizing the data collected from customers' Smart Meters to perform initial TOU billing tests and to build initial business processes.

2008

Cost summary: $10,547,661 (Capital); $689,859 (OM&A)

Horizon Utilities continued with its mass deployment with further installations of 79,696 Smart Meters and 180 collectors throughout its service territory. By the end of 2008, progress with AMI enabled in-house TOU billing analysis for the first time. Horizon Utilities commenced work on parallel billing in 2008 through 2009 in order to analyze the customer impacts of what would be billed on a TOU basis in comparison to actual billing and thereby determine the impact of TOU rates on a customer.

Horizon Utilities began work to integrate with the MDM/R to send and receive metering and data files as well as to build the business processes required to support MDM/R management and TOU billing.

Horizon Utilities continued to provide ongoing operational and issue identification input to the SME through participation in various working groups including: the Validation, Estimating and Editing Sub Committee of the IESO, Smart Metering System Implementation Plan (“SMSIP”) AMI Working Group, SMSIP CIS Working Group and the SMSIP Joint AMI/CIS Working Group. Further, Horizon Utilities continued its development of internal systems to comply with O. Reg. 453/06 - MDM/R technical interface specification. This work was undertaken in order to facilitate the management of data for billing and to enable web presentment to all customers with a Smart Meter within 48 hours of the Smart Meter installation. Horizon Utilities began employee TOU training, which continued throughout the year. Planning and development for the creation of training plans and customer communication strategies also commenced in 2008.

2009

Cost summary: $6,043,663 (Capital); $1,219,599 (OM&A)

Horizon Utilities installed an additional 79,745 Smart Meters in 2009, resulting in the substantial completion of deployment in that year. Of that total, 30,000 Smart Meters were acquired in the latter part of 2008 at considerable savings through further purchases under THESL's RFP in addition to ongoing declines in US exchange rates.

The building of the communications backbone continued with 104 additional collectors. The AMI hardware was updated for the production system and a disaster recovery system was implemented at a secondary location.

In 2009, Horizon Utilities undertook considerable work with the MDM/R to develop mutual processes to transmit data. Horizon Utilities was one of the first LDC's to complete integration and qualification testing with the IESO and moved into its production environment in June of 2009. This was followed by 10,000 meter point registrations with the MDM/R in July of 2009 to enable the migration of these customers to TOU rates later in the year. An external project management consultant was retained to assist with the coordination of the meter reading and billing process review and to provide overall business process reengineering. This included the coordination of departmental cross-functional processes to ensure that the Smart Meter system reached the level of stabilization required to support TOU billing. An employee training program was developed and executed in preparation for the commencement of the Customer Communication Plan. The Customer Communication Plan was developed and its implementation began in 2009; this included the development and distribution of communication materials as well as the commencement of the roll out of the TOU Community Road Show.

2010

Cost summary: $2,239,719 (Capital); $1,150,191 (OM&A)

In 2010, Horizon Utilities purchased all of the remaining single-phase meters required to complete deployment of the HTR residential program. Horizon Utilities installed 4,091 HTR and 2,810 poly-phase Smart Meters in 2010.

The stabilization of the communication infrastructure continued with mapping of the collectors and metering systems to identify communication deficiencies. This resulted in the requirement to install 25 new collectors and 3 repeaters to improve daily read responses. In addition,

approximately 100 collectors were upgraded to the current hardware version to provide further enhanced system capabilities.

The MDM/R underwent two upgrades, which further required downstream upgrades of Horizon Utilities' integrated systems and files.

Horizon Utilities continued to execute its communication plan to educate customers about TOU rates, communicating to and supporting each customer prior to their migration to TOU rates through: a series of four brochures; website information; and increased Call Centre support as customers began to receive their first TOU bills.

An aggressive TOU conversion schedule was followed, which resulted in approximately 157,000 Residential customers migrating to TOU rates by the end of 2010, with relatively minor concerns expressed by customers.

2011

Cost summary: $832,359 (Capital); $1,291,951 (OM&A)

Horizon Utilities installed 1,238 Residential HTR, 2,044 GS<50 kW, and 206 GS>50 kW Smart Meters in 2011.

The stabilization of the communication infrastructure continued with a second additional internal mapping of the collectors and metering systems to further identify communication deficiencies. This resulted in the installation of 2 new collectors and 3 repeaters to improve daily communication capabilities. The remaining 330 hardware collector upgrades were undertaken to enhance system capabilities. This was a required calibration effort to ensure the reliability of meter reads.

The MDM/R underwent an upgrade, which further required conforming upgrades to Horizon Utilities' integrated systems and files.

Horizon Utilities continued to execute its Plan to educate commercial GS<50 kW customers about TOU rates.

The Residential migration to TOU rates was completed in January 2011 and the commercial migration began immediately thereafter in February. Horizon Utilities successfully achieved the Ministry of Energy's mandate to bill customers with a Smart Meter on TOU rates by migrating 226,694 customers by the end of June 2011.

6.0 EXPENDITURES BEYOND MINIMUM FUNCTIONALITY

Horizon Utilities has incurred OM&A costs of $405,098 and Capital costs of $584,907 which meet the Board's criteria for being identified as expenditures beyond minimum functionality. The total of these expenditures represents 3% of total smart meter program spending. This notwithstanding, Horizon Utilities submits that these expenditures were necessary and, as such, Horizon Utilities is requesting these amounts be approved for recovery as being prudently incurred. A description and rationale for these costs is provided as follows.

As an early adopter of Smart Meters and the implementation and promotion of TOU rates, Horizon Utilities has incurred costs to deliver functionality which is under the jurisdiction of the SME, pursuant to O. Reg. 393/07 and O. Reg. 425/06. Horizon Utilities was one of the first LDCs to work with the IESO toward the testing and refinement of the MDM/R. Horizon Utilities has dedicated significant resources and work product to the development of interfacing and integrating systems, processes and related transaction activities.

Capital Costs Beyond Minimum Functionality

As one of the first utilities in Ontario to begin billing customers on TOU rates, it was necessary to incur costs related to TOU rate implementation, CIS system upgrades, web presentation, and integration with the MDM/R. These investments were necessary for Horizon Utilities to meet customer expectations and the provincial mandate of TOU implementation.

Expenditures related to the development and implementation of CIS enhancements and the creation of meter data management processes and procedures have been incurred to allow Horizon Utilities to participate in the testing of the MDM/R with the IESO, to manage the volume of data as supplied by the AMI system, and to perform variance analysis between systems. Such enhancements have enabled customer confidence in Smart Meters and TOU through the early detection of meter communication issues, reducing the volume of estimated reads and increasing billing accuracy.

Additional outstanding programming has been required to ensure compliance with Measurement Canada's legislation, as prescribed by *the Electricity and Gas Inspection Act*, R.S.C. 1985*,* in which utilities are required to display end-of-interval registered reads on invoices for TOU billed customers. Horizon Utilities is participating in industry working groups including the "Cumulative Register Reading Working Group", which are composed of both

utilities and the SME in order to implement the developed solutions and achieve compliance with Smart Meter legislation.

Reengineering of processes and existing systems has been critical to the success of the Smart Metering project at Horizon Utilities and instrumental in avoiding negative impacts to its customers or employees.

The aforementioned enhancements were also required to facilitate the creation of a user friendly web presentment tool for Horizon Utilities' customers. Horizon Utilities began providing web presentment services to all customers with a Smart Meter in 2008, thus providing timely information, such as usage charts, as to the customer value of a Smart Meter. Web presentment is an important channel for customer information and such functionality was not available from the IESO at the time. Customer feedback to the web presentment tool has been positive with customers tending to review their data two or three times each month. Web presentment has been a valuable education component for customers and Call Centre employees alike, allowing customers to understand their usage patterns and to be used as a tool for queries about high bills.

OM&A Costs Beyond Minimum Functionality

To maximize efficiencies and position Horizon Utilities for successful completion of this program, this project was undertaken as a single integrated function. Horizon Utilities did not incur OM&A costs related to the deployment of Smart Meters to customers other than Residential and GS<50 kW. Horizon Utilities has incurred operating costs related to the implementation of TOU rates, CIS system upgrades, web presentation, and integration with the MDM/R. The aforementioned components that are, by definition, above minimum functionality, were integral fundamental components of a successful Smart Metering implementation for Horizon Utilities as an early supporter of the Ministry of Energy's direction and as one of the first utilities to collaborate with the SME. Through this integrated approach to the management of this initiative, Horizon Utilities has successfully achieved the Ministry of Energy's mandate to bill customers with a Smart Meter on TOU rates. Horizon Utilities considers the entire customer education platform of smart metering materials, information regarding TOU rates and web presentment to be part of a successful Smart Meter program.

Operating costs related to beyond minimum functionality stem primarily from the development and reengineering of processes and systems that will help to avoid and minimize future costs.

In addition, the implementation of a robust and informative customer communications plan to educate customers regarding TOU rates will result in future customer value.

Horizon Utilities' communication strategy was developed as an integral element of the Smart Meter program to educate customers. The implementation of the communication strategy throughout 2010 and 2011 was a continuation of the original plan envisioned in 2008.

The Ministry of Energy's mandate on the installation of Smart Meters and implementation of TOU rates was to provide customers with transparency on their electricity consumption and to drive future behaviour changes, including the movement of consumption from peak periods to off peak. Horizon Utilities believes that the fulfillment of the Ministry of Energy vision to drive customer behaviour changes required a multi-phase communication strategy leveraging a variety of channels.

As such, the Horizon Utilities' Plan included web presentment, ongoing updating of information on its website, a series of four brochures of communication materials and a TOU Community Road Show.

Horizon Utilities' customer acceptance of Smart Meters and TOU rates was facilitated by its expanded communication program and repeated messaging regarding the benefits of the Ministry of Energy initiative as demonstrated in the results of the Horizon Utilities TOU Communication Survey completed in 2010. The results of this survey showed that after receiving the series of TOU communication materials, 94% of the customers surveyed consider themselves knowledgeable about TOU rates. Particularly in the service territories of distributors where there was an early adoption of Smart Meters and TOU rates, it was important to educate customers on the meter installation, the new rate structure, and to provide timely web presentment of data to meet the Ministry of Energy's envisioned goals for the Smart Meter program.

Horizon Utilities' communications materials provide customers with information on the installation of the Smart Meter, the value of understanding their household consumption, and importance and ability to manage their future electricity bills on TOU rates. The constant flow of information has provided positive reinforcement to the Smart Meter program. Customer education and understanding of this initiative has been critical to its acceptance and to the realization of benefits of the Smart Meter program.

In conclusion, Horizon Utilities has not included any of the aforementioned costs beyond minimum functionality in its most recent rebasing (EB-2010-0131) and therefore seeks recovery of these amounts at this time.

Treatment of Smart Meter Costs for GS>50 kW Customer Class

Horizon Utilities has incurred $898,649 in capital costs to provide Smart Meters to the GS>50 kW customer class. Consistent with the guidance provided by the Board, Horizon Utilities has reported these costs as the 'Expenditures Beyond Minimum Functionality" in the model that was provided on September 13, 2011 and subsequently updated by Board staff on November 11, 2011. However, it is the view of Horizon Utilities that the cost of these meters should not be categorized as being beyond minimum functionality, but included as part of the core functionality of the Smart Meter initiative. As per the Horizon Utilities SMIP (Appendix 1) and as detailed in Horizon Utilities' two most recent Smart Meter Adder Applications (EB-2009-0158 and EB-2010-292), Horizon Utilities included the migration of the GS>50 kW customer class to Smart Meters. It is forecasted that there will be 1,391 Smart Meters in this customer class as of December 31, 2011. Horizon Utilities suggests that this is a proactive and cost effective approach consistent with the objectives of Bill 150, the "Green Energy Act".

The installation of Smart Meters to the GS>50 kW customers will maximize operational efficiencies through automated meter reading and enable accurate and timely rate classification reviews for customers with varying demand. The installation of a Smart Meter is also beneficial to the customer and is often preferred to the installation of an interval meter. A Smart Meter does not require the installation and maintenance of a dedicated phone line service as is required for an interval meter, and the expense associated with the line is therefore avoided. However, the smart meter provides valuable hourly data and enables the customer to make knowledgeable decisions regarding electricity use. The installation of Smart Meters to this customer segment is expected to lead to a reduction in meter reading costs due to leveraging of the AMI and automated meter reading processes.

On a regular basis there are customer reclassifications between the GS<50kW class and GS>50kW class impacting those customers who pass through the threshold. These reclassifications are facilitated by customers in the GS>50kW category having a Smart Meter prior to reclassification. Horizon Utilities notes that the costs of providing meters to the GS>50kW customer class will be borne by only those customers in that class.

7.0 STRANDED METER COSTS

Horizon Utilities is not seeking disposition of the stranded costs of its conventional meters. Horizon Utilities continues to recover these costs by including the net book value of stranded meters in its rate base for rate-making purposes, as advised by the Board in the Model issued on September 13, 2011 and subsequently updated by Board staff on November 11, 2011.

Horizon Utilities' continues to amortize the stranded meters over the remaining amortization period and charges this expense to account 5705 Amortization Expense. The net book value of remaining stranded meters will be brought forward for disposition as part of Horizon Utilities next Cost of Service Application.

8.0 SMART METER DISPOSITION RIDER CALCULATION

Table 7 summarizes the revenue requirement associated with Smart Meters installed by Horizon Utilities from 2007 to 2011, and the Smart Meter funding adders collected from May 1, 2006 and projected until April 30, 2012.

Horizon Utilities is seeking approval of the Smart Meter costs in this Application and of the transfer of the approved amounts from the Smart Meter deferral accounts to the appropriate fixed asset, revenue, and expense accounts.

As shown in Table 7, the amount of $348,687 represents the difference between the revenue requirement to April 30, 2012 related to the Smart Meter costs to December 31, 2011 and the corresponding Smart Meter adders collected and projected to April 30, 2012.

Table 7 – Calculation of True-up amount for SMDR

Smart Meter Disposition Rider		Amount
Smart Meter Revenue Requirement -2006		$100,652
Smart Meter Revenue Requirement -2007		$1,408,706
Smart Meter Revenue Requirement -2008		$2,612,729
Smart Meter Revenue Requirement -2009		$4,342,860
Smart Meter Revenue Requirement -2010		$4,796,718
Smart Meter Revenue Requirement -2011		$5,174,156
Smart Meter Revenue Requirement -2012		$1,576,316
Revenue Requirement Total	**A**	$20,012,136
Smart Meter Rate Adder	**B**	($19,619,642)
Carrying Cost	**C**	($43,807)
Smart Meter True-up	**D=A+B+C**	$348,687

Horizon Utilities is proposing that the above amount of $348,687 be collected from the three customer classes that have installed Smart Meters, as a monthly fixed charge based on the same methodology that is used to calculate the SMIRR rate rider. Please see Table 9 in the following section. The proposed recovery time frame is over the period beginning May 1, 2012 through April 30, 2013. The calculation of the rate riders for each class is provided in Table 8.

Table 8 - Calculation of Smart Meter Disposition Rate Rider

Customer Class	# of Active Metered Customers (average 2012)	SMIRR Allocation (%)	True-up Amount Allocation	Monthly Charge
Residential	215,335	80.7%	$281,225	$0.11
GS< 50kW	17,970	16.4%	$57,108	$0.26
GS>50kW	2,281	3.0%	$10,353	$0.38
Total	**235,586**	**100%**	$348,687	

Details of the calculation of the SMDR are set out in the 2012 Smart Meter Cost Recovery Model in Appendix 2 of this Application.

9.0 SMART METER INCREMENTAL REVENUE REQUIREMENT RIDER CALCULATION

Horizon Utilities also is seeking a rate rider to recover the revenue requirement associated with Smart Meter investments approved in this Application as of December 31, 2011. This will

continue in rates until smart meters are included in the rate base in Horizon Utilities' next Cost of Service distribution rate application. The SMIRR is derived from the 2012 revenue requirement of $4,728,948 as calculated in the Model, attached as Appendix 2.

Horizon Utilities is proposing that the SMIRR be allocated across all classes of customers benefiting from the installation of a Smart Meter as a monthly fixed charge. The allocation of the revenue requirement is provided in Table 9.

Table 9 - Allocation of Revenue Requirement between Customer Classes

Customer Class	# of Active Metered Customers (average 2012)	Total Capital	Return	Amortization	OM&A	Subtotal	PILS	Total	% of Total
Residential	215,335	$21,312,019	$1,116,076	$1,594,413	$801,305	$3,511,795	$302,225	$3,814,020	80.7%
GS< 50kW	17,970	$5,081,495	$266,110	$380,161	$66,869	$713,139	$61,373	$774,512	16.4%
GS>50kW	2,281	$949,835	$49,741	$71,060	$8,488	$129,289	$11,126	$140,416	3.0%
Total	**235,586**	$27,343,349	$1,431,927	$2,045,634	$876,662	$4,354,223	$374,725	$4,728,948	100.0%

The revenue requirement for each year has been allocated between customer classes as follows:

- OM&A expenses have been allocated on the basis of the number of meters installed for each class.
- Return and Amortization have been allocated on the basis of the capital costs of the meters installed for each class.
- PILs have been allocated based on the revenue requirement derived for each class before PILs.

Horizon Utilities is proposing that the SMIRR be collected from the three customer classes that have installed Smart Meters, as a monthly fixed charge as shown in Table 10.

Table 10 - Calculation of Smart Meter Incremental Revenue Rider

Customer Class	# of Active Metered Customers (average 2012)	SMIRR Allocation	Annual Revenue Requirement Allocation	Monthly Charge
Residential	215,335	80.7%	$3,814,020	$1.48
GS< 50kW	17,970	16.4%	$774,512	$3.59
GS>50kW	2,281	3.0%	$140,416	$5.13
Total	**235,586**	**100%**	$4,728,948	

The monthly charge is derived by dividing the "SMIRR to be Collected" by the average number of customers, and further dividing by 12 months. The cost attributable to the Residential customers is substantially lower than the other classes due to the lower installed cost per meter.

10. RATE CHANGE SUMMARY AND BILL IMPACTS

Table 11 below summarizes the rate changes sought in this Application. All charges shown are monthly fixed charges.

Table 11 - Summary of Rate Changes

Customer Class	SMDR	SMIRR	Total	Less: Current Adder	Change
Residential	$0.11	$1.48	$1.58	($2.14)	($0.56)
GS< 50kW	$0.26	$3.59	$3.86	($2.14)	$1.72
GS>50kW	$0.38	$5.13	$5.51	($2.14)	$3.37

Table 12 below details the bill impacts as a result of the aforementioned proposed riders. Please see Appendix 3 for more information on bill impacts.

Table 12 - Summary of Bill Impacts

Customer Class	Billing Units	Average Monthly Volume	Distribution charges		Variance		Total Bill Charges		Variance	
			*Current	Proposed	$	%	*Current	Proposed	$	%
Residential	kWh	800	$25.79	$25.23	($0.56)	(2.15%)	$119.74	$119.18	($0.56)	(0.46%)
GS< 50kW	kWh	2,000	$44.78	$46.50	$1.72	3.83%	$284.80	$286.52	$1.72	0.60%
GS 50 to 4,999 kW	kW	2,500	$1,917.63	$1,921.00	$3.37	0.18%	$117,477.26	$117,480.63	$3.37	0.003%

*Current charges reflect those proposed in Horizon Utilities 2012 Electiricity Distribution Rate Application [EB-2011-0172].

The overall effect of the SMDR and the SMIRR will result in monthly bill impacts as follows:

- a typical 800 kWh per month Residential customer will have a net decrease of $0.56 or 0.46%,
- a typical GS<50 kW customer with a monthly electricity consumption of 2,000 kWh will have a net increase of $1.72 or 0.60%, and
- a typical GS>50 kW customer with a monthly demand of 2,500 kW and electricity consumption of 1,100,000 kWh will have a net increase of $3.37 or 0.003%

These impacts are derived based on the SMDR and the SMIRR related increases of $1.58 for Residential customers, $3.86 for GS<50 kW, and $5.51 for GS>50 kW customers, each offset by the expiry of the current monthly rate adder of $2.14 on April 30, 2012.

11. CONCLUSION

Horizon Utilities respectfully submits that the costs incurred to fulfill its obligations under the provincially mandated Smart Meter initiative, as described in this Application, were and continue to be necessary and prudently incurred in accordance with Board guidelines and otherwise subject to evidence provided with respect to expenditures exceeding minimum functionality. As referenced in Table 3, Horizon Utilities' cost per meter is substantially lower than that of the average cost per meter within the sector. The proposed riders are just and reasonable, the associated customer bill impacts are minimal, and it is appropriate that the Board approve these proposed riders and deferral account at this time, for implementation May 1, 2012.

All of which is respectfully submitted this 13th day of December, 2011

Original signed by Indy J. Butany-DeSouza

Indy J. Butany-DeSouza

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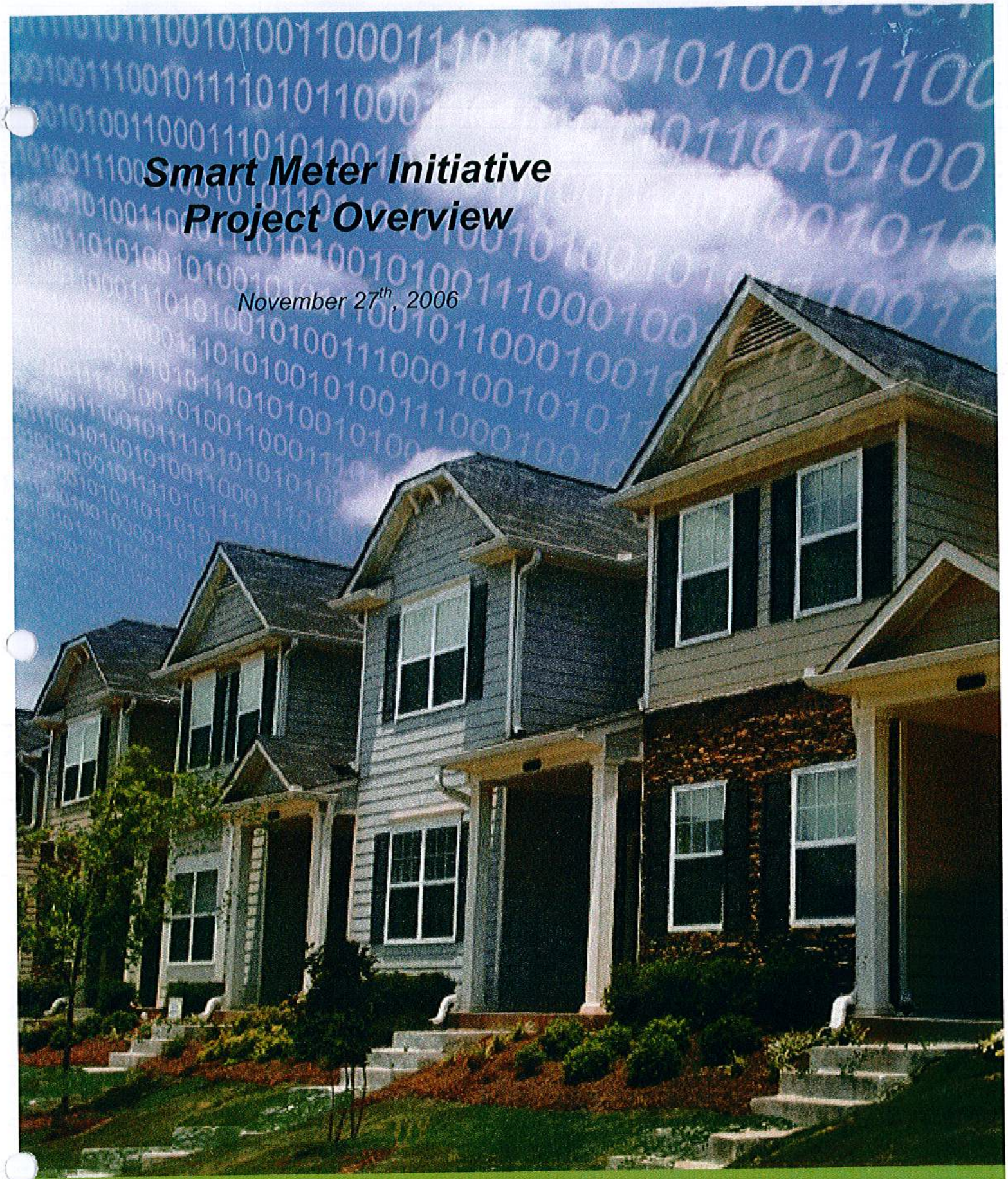
APPENDIX 1

SMART METER IMPLEMENTATION PLAN

Smart Meter Initiative
Project Overview

November 27th, 2006



Horizon Utilities Corporation

Executive Summary

As part of its energy conservation effort, the Ontario government has created a mandate for Ontario Local Distribution Companies to implement 800,000 smart meters by 2007 and replace all existing meters with smart meters by 2010. As a priority installation, Horizon Utilities Corporation (Horizon) has committed to the implementation of 50,000 Smart Meters by December 31, 2007 as their contribution to achieving the 2007 target. The implementation of Smart Meters will provide consumers with the ability to understand their detailed consumption pattern and this combined with Time-of-Use rates are intended to encourage a shift in consumption habits as a first step towards creating a conservation culture.

With the core team for this project assembled in 2005, the approach was to become educated on all aspects of the SMI through different working groups. As well as acquiring hands-on experience with systems appropriate to the Horizon territory, providing Operational (data collection processes) and Installation (3rd Party Service Provider) experience, the Smart Meter Team (SMT) worked in collaboration with the Coalition of Large Distributors (CLD), and the Ontario Utilities Smart Meter (OUSM) working group. An initiative of this scale required that the Horizon executive team create a detailed plan that satisfied the provincial directive and incorporated the knowledge to mitigate risk to the share holder as much as possible. Satisfying Horizon's due diligence requirements would entail an all-encompassing process, accounting for Planning, Implementation, Testing, and complete Back Office Integration. Hand-on experience complements the library of Information that was available to the team through their collaborative approach to the SMI, and was considered of value to the Horizon team.

With the need for mass deployment rapidly approaching, the CLD in conjunction with the Ministry of Energy (MOE) created and released an RFPQ which would result in 5 qualified AMI vendors and 5 qualified implementation companies for Phase 1 of this initiative.

RFPQ Qualified Vendors

AMI Vendors	Implementation Vendors
1. DCSI	1. CellNet
2. Elster	2. Honeywell
3. Itron	3. Olameter
4. Sensus	4. OZZ
5. Trilliant	5. PhaseCom

CLD members, as well as other approved Local Distribution Companies (Chatham-Kent Hydro, Milton Hydro, Newmarket Hydro) would have the right to enter into negotiations with any of these vendors to complete their selection process according to their specific needs. Horizon would honour the CLD RFPQ process and select Elster Metering as their phase one AMI provider, and enter into a negotiation process with the 5 qualified service vendors, eventually finding that OZZ Corporation most closely matched Horizon's requirements.

Horizon feels that the plan presented is representative of the detailed work completed thus far. While much has been accomplished, this initiative is just getting underway. By outlining the project approach and identifying potential problems and risks which may impede progress (Rate Recovery, Meter Base Repairs, Meter Disposal, etc), Horizon is sufficiently prepared to accommodate the established timelines, and has minimized any associated risk through extensive preparation, thereby ensuring the success of Horizon Utilities Corporation.

Smart Meter Initiative: Mandate Overview

SMI Status – AMI (Smart Meters)

The Provincial Government has mandated installing a smart electricity meter in every Ontario home by December 31, 2010, with the interim goal of 800,000 meters being deployed by December 31, 2007. This is an enormous undertaking for all Local Distribution Companies (LDCs); a project that will take months of planning and carefully managed execution. To accommodate the needs of the Ministry of Energy (MOE), Horizon will have to install approximately 225,000 meters by the end of 2010. Horizon Utilities has committed to install 50,000 meters in the Phase 1 deployment plans. (Appendix "E" refers to the Smart Meter Initiative Regulations)

The required infrastructure is new to this market; the rules that will be established will be unique, and will include performance requirements for utilities. With this infrastructure upgrade, utilities are presented with a one-time opportunity to enhance the Operational Efficiencies of their networks, thereby providing their end-consumers with value that surpasses that achieved in the past. (Appendix "D" refers to the Ministry of Energy's Minimum AMI Functional Requirements).

The procurement of assets and services required to accommodate the smart meter initiative would be controlled; a seamless approach being considered necessary in order to preserve the tight timelines put forth by the Ministry. With this requirement in mind the Ministry of Energy (and their Fairness Commissioner, retained to ensure a flawless process was utilized) worked with the CLD members to create a Request for Proposals, with an end goal of producing a list of qualified vendors (heretofore referred to as the CLD RFPQ process). The CLD RFPQ process identified 5 AMI vendors of record that authorized utilities would be able to use for smart meter procurement, and 5 installation service providers authorized for smart meter deployment. Subsequent to the CLD RFPQ process, the MOE also authorized utilities to employ vendors that were successful in the Hydro One procurement process. Providing that the procured AMI meets the minimum functional specifications, and the procurement activities authorized, costs would be eligible for recovery. However, any costs resulting from functionality considered beyond that outlined in the minimum functional specifications will need to be justified to the OEB. (Appendix "L" refers to the CLD RFPQ, and Appendix "M" to the Ministry's statements regarding cost recovery).

At this time LDCs not listed in the regulations are not permitted to move forward with an independent procurement process, although deploying pilots has been encouraged by the Ministry. Deploying pilots should serve to further increase industry knowledge regarding technologies which may be part of future procurements. Utilities not looking to "piggyback" on the CLD utility Phase 1 orders will have the option to wait for a second RFP process to be performed at a later date. (Appendix "N" refers to the Ministry requirements with regards to procurement processes).

SMI Status – AMI (Smart Sub-metering systems)

The industry recently received some clarification with regards to Sub-metering requirements (Appendix "O" references Sub-metering regulations). Only licensed parties will be able to install and/or operate smart sub-metering systems, and utilities will be required to install smart meters and/or smart sub-metering equipment into condominiums according to the same timelines as for

the remainder of the utility's residential population (Dec 31, 2010). As this is a recent development, and the timelines allow for some flexibility with regards to this relatively small population of customers, Horizon has opted to plan for the sub-metering requirements in Phase 2 of the SMI.

SMI Status - Meter Data Management & Repository (MDM/R)

As part of the smart meter initiative the Ministry has directed the creation of a centralized Smart Meter Entity (SME) to manage and store smart meter data for the province's LDCs, and has contracted the Independent Electric Systems Operator (IESO) to facilitate the development of this new entity. To control the potential infrastructure duplication throughout the province, the MOE has stated that "No distributor shall recover any costs associated with meter data functions to be performed by the Smart Metering Entity." (Appendix "P" refers to the Additional objectives of the IESO and Appendix "M" references the Ministry's regulations regarding cost recovery)

The MDM/R RFI was issued by the IESO on July 27 to vendors to obtain information from potential suppliers and/or operators for the Ontario Meter Data Management and Repository. This Request for Information (RFI) is a precursor to a Request for Proposal (RFP) which was issued later in 2006. The target timelines for establishing the MDM/R system are as follows:

- Issue RFP to pre-qualified vendors – end of August, 2006
- Response from vendors – October 05, 2006
- IESO selection of vendor – Early November, 2006
- Contract Signing – December, 2006
- Factory Acceptance/Site Acceptance Tests – March, 2007
- System Integration Tests – April, 2007
- User Acceptance Tests – April, 2007
- SMS Trials – May, 2007
- SMS Launch – June, 2007

Working Groups will be addressing the detailed interface issues between the AMI, MDM/R and CIS systems. For each issue they will assess which approach is less costly as well as assess the impact on the implementation schedule. Completed standards are expected near the end of the year, standards have to be developed after the vendor is chosen because the products vary. As one consortium, they need to address the transition from using current processes to the single MDM/R.

Stakeholder input will take place in two main forums, at the Program Advisory Committee (PAC) and in working groups. The PAC will be comprised of senior representatives drawn from a number of stakeholder organizations and will receive information on the conduct, progress and significant decisions made within SMSIP. The SMSIP Working Groups will be established to assist the SMSIP Team in the technical implementation of the MDM/R and interfaces to the AMI and the billing functions of distribution companies and their Customer Information Systems (CIS).

SMSIP Working Group meetings began Oct 4. The AMI to/from MDM/R Working Group will address the interactions between the Advanced Metering Infrastructure (AMI) and MDM/R which primarily deals with the input requirements to the MDM/R from the AMI and other systems. The MDM/R to/from CIS Working Group will address the interactions between the MDM/R and

Customer Information Systems (CIS) and billing functions which primarily deals with the delivery of Billing Quality data to the CIS.

The topic areas to be considered by the CIS Working Group will include:

- Transfer of billing quantities and meter reads for billing
- Meter Read data editing
- Technical interfaces
- Operational reporting and messaging
- Data presentment and reporting

Clearly the Smart Meter Initiative (SMI) is an all-encompassing program, with implications for every utility system. Many of the components of the SMI fall under the responsibility and control of the utility, while others will be in the hands of regulatory bodies. Regardless of who is in control of each component, a comprehensive, effective, and achievable implementation plan will need to consider all aspects. For Horizon to seamlessly integrate their chosen Smart Meters; their planning will need to take into consideration the functionality of all required systems, so that preparation for future integration has been properly considered. The following pages contain a carefully considered plan, which we feel accomplishes this need. Although Horizon will have full control over the selection and implementation of Smart Meters, this plan has considered all aspects of the initiative to make certain that proper time for testing and integration of all systems has been accounted for.

SMI Status - OEB Smart Meter Plan Filing

The OEB will require distributors to file their plans for smart meter deployment by December 15, 2006. If an LDC filed a smart meter plan with their 2006 rates application, the OEB made the decision to provide $3.50 per meter per month installed. If an LDC did not file a smart meter plan, the OEB allowed allocation of $0.30 per customer per month. Smart Meter revenue would be allocated to all metered customers, including both residential & non-residential consumers. The OEB will consider urgent rate relief applications for utilities that have advanced their smart meter implementation program. The submitted application should explain why the smart meter program cannot be funded through the normal asset financing arrangements of the utility. (Appendix "Q" refers to the OEB Plan Filing Requirements)

Horizon Utilities Preparation

To satisfy the due diligence requirements of a project of this magnitude, an all-inclusive process must be undertaken. Horizon's process would begin with education. To become educated on all aspects of the AMI initiative, Horizon has been involved in prominent working groups, including the CLD working group and the Ontario Utilities Smart Meter (OUSM) working group. These collaborative efforts would include sharing information on the success of AMI pilots installed in utilities across the province, and reporting on the Acceptance testing of 8 different AMI technologies. (Appendix "B" refers to the OUSM AMI Test Scripts)

As well as the study of AMI technology, the OUSM working group has also conducted research on 3rd Party Installation vendors (including best practices for safety), Meter Disposal options, Sub-metering systems, Customer Presentment packages, and the future need for Security measures within the new AMI networks. While the information made available through the AMI and Installation vendor studies would prove to be of immediate benefit, components of all studies

and research have influenced the comprehensive plan that Horizon has created, and presented herein.

Health and Safety

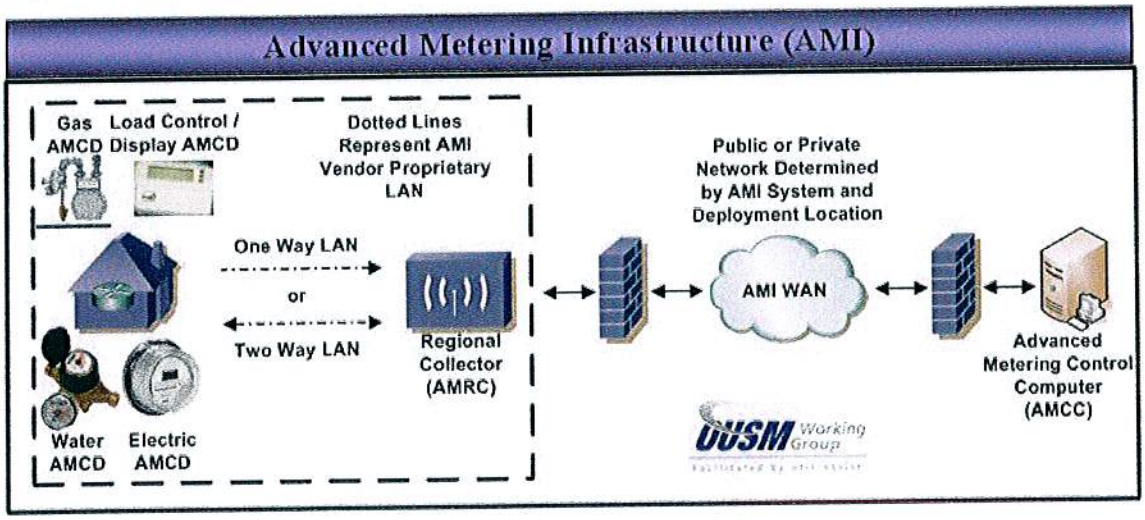
Horizon Utilities' number one requirement will always remain the health and safety of its employees and customers. All contract partners working with Horizon during the multiple phases of this initiative will be required to have extensive Health and Safety training. Their ability to provide the required training (according to Horizon's requirements) for successful on-time deployment must be approved and properly documented by both Horizon's Project Manager and Horizon's Health and Safety Officer.

To reflect a similar commitment to Health and Safety, all contracted vendor's manuals will contain comprehensive documentation (as a complement to Completed Training Programs) regarding On-The-Job Safety, Emergency Plans, Accident/Investigation Procedures, and Contact Numbers for any possible incident occurrences, as well as Hazard Assessment, Identification, and Control (including (but not limited to) Dangerous Animals, Slips/Trips/Falls, Workplace Violence, Confined Spaces, Unsafe Meter Bases).

Pilot: Technology Evaluation

As well as working with the prominent AMI working groups (CLD and OUSM), Horizon implemented 2 technology pilots. By implementing "Strategic Pilots" to perform in-depth analysis of technology, Horizon could attain a complete understanding of all the inherent strengths and weaknesses of different products. Acquiring insight into how different products deliver such components as time stamping of intervals, synchronization of register reads, network diagnostic components, etc, will ensure that the chosen products can deliver the requirements of the regulators as well as accomplish the unique requirements of Horizon Utilities Corporation. Acting collaboratively with the OUSM working group, Horizon was able to gain understanding of the base functionality and advanced feature sets of their own installed products, as well as the other prominent technologies available to the North American market.

Figure 1: AMI Overview



To accomplish these requirements Standard Test Scripts were created to evaluate the pilots that were created according to AMI Functional Specification Requirements. The sharing of test results (with fellow OUSM members) would help provide Horizon with the comfort and back up documentation to justify their pending AMI vendor selection. Horizon contributed to the OUSM working group, and enhanced their own understanding of the available technologies, by installing the Elster Energy Axis and Tantalus TUNet technologies. Summaries of what was found are listed below, and an evaluation report was created demonstrating what was learned during the process and to support decisions regarding technologies intended for mass deployment.

Technology Evaluation: Elster

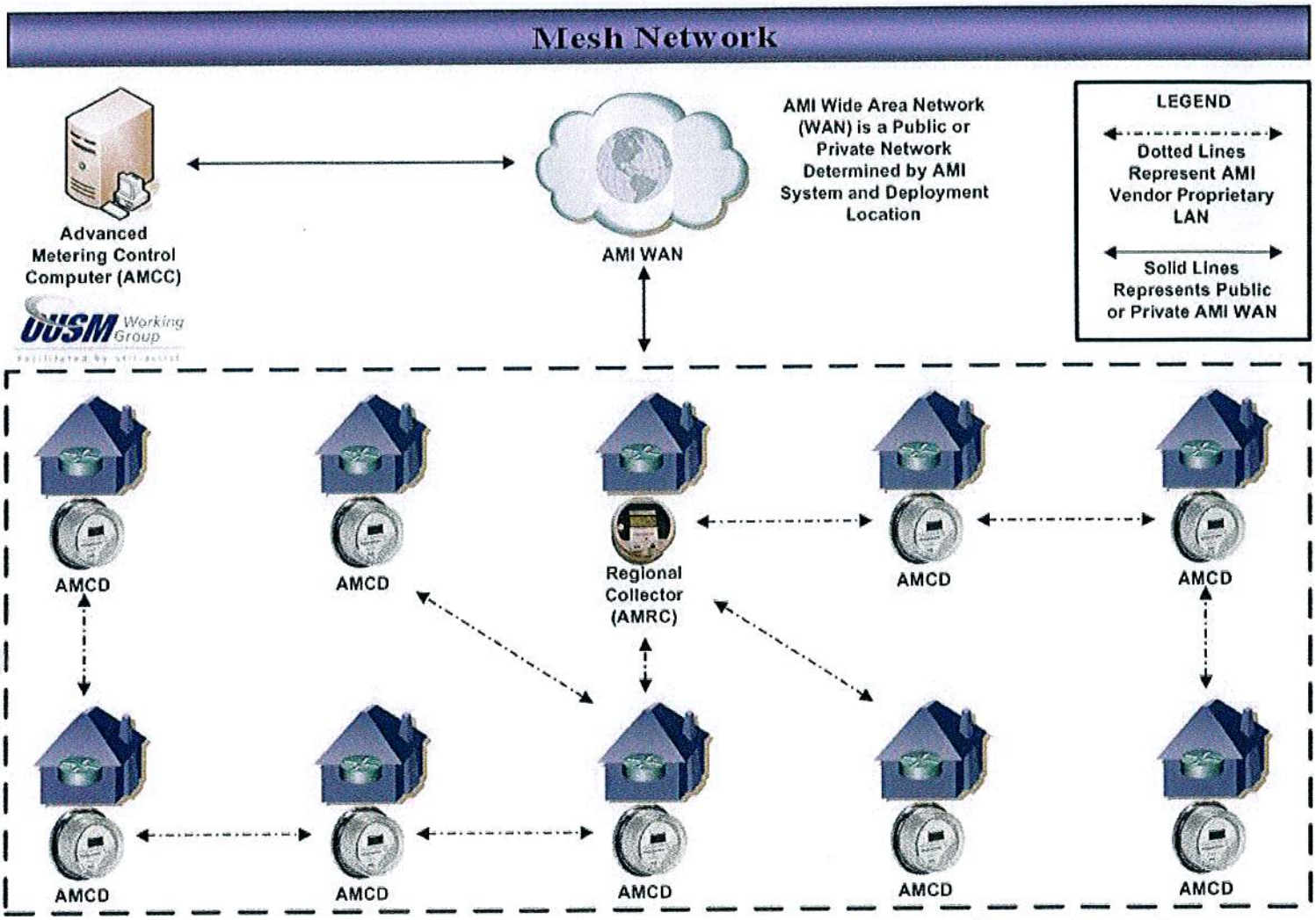
Elster is a controlled MESH, where the Elster REX meters act as repeaters forming communication pathways to the A3 Alpha AMRCs. The RF frequency is unlicensed 902 – 928 MHz powered by 0.25 watt radio modules. There are 480 intervals stored within the meter (20 days of hourly interval), with all data being exported by the AMCC to XML files, and stored as XML files. The AMCC accesses the XML files for reporting purposes. (Configuration information is stored in Oracle, but no usage information is held in a database).

As a controlled MESH, using relatively short range unlicensed radio to transmit data to the AMRC and consequently to the AMCC, Elster is an effective technology for use in dense urban areas. With limited range the technology is not meant to be used for sparse, or rural areas. With A3's being used as AMRCs, Elster's product is also very adaptable to commercial areas, and becomes cost effective for areas where there is commercial intermingled with residential properties, as the A3's are approved for metering applications as well as for repeaters. Elster has formed a relationship with SmartSynch and promotes that technology for the endpoints that can not be effectively integrated into their network.

Elster - Key Components

- Controlled MESH, 8 hops
- Unlicensed (902 – 928 MHz)
- 0.25 Watt
- 480 Intervals (10 days, hourly)
- System Memory: reads are exported and stored in XML
- Meter Battery: No
- AMRC Battery: Available as an option
- Network Health management provided through AMCC
- AMCC provides needed reporting
- WAN (GPRS, iDEN, CDPD, POTS, IP)
- Record Voltage with Register reads
- Remote Disconnect collar available
- No Load Shift capability
- Water/Gas reading capability
- System designed for shared infrastructure between neighboring utilities
- Outage Restoration: AMRC battery is an option (AMRC required to receive outage/restoration flags)

Figure 2: Elster Energy Axis Network Data Flow

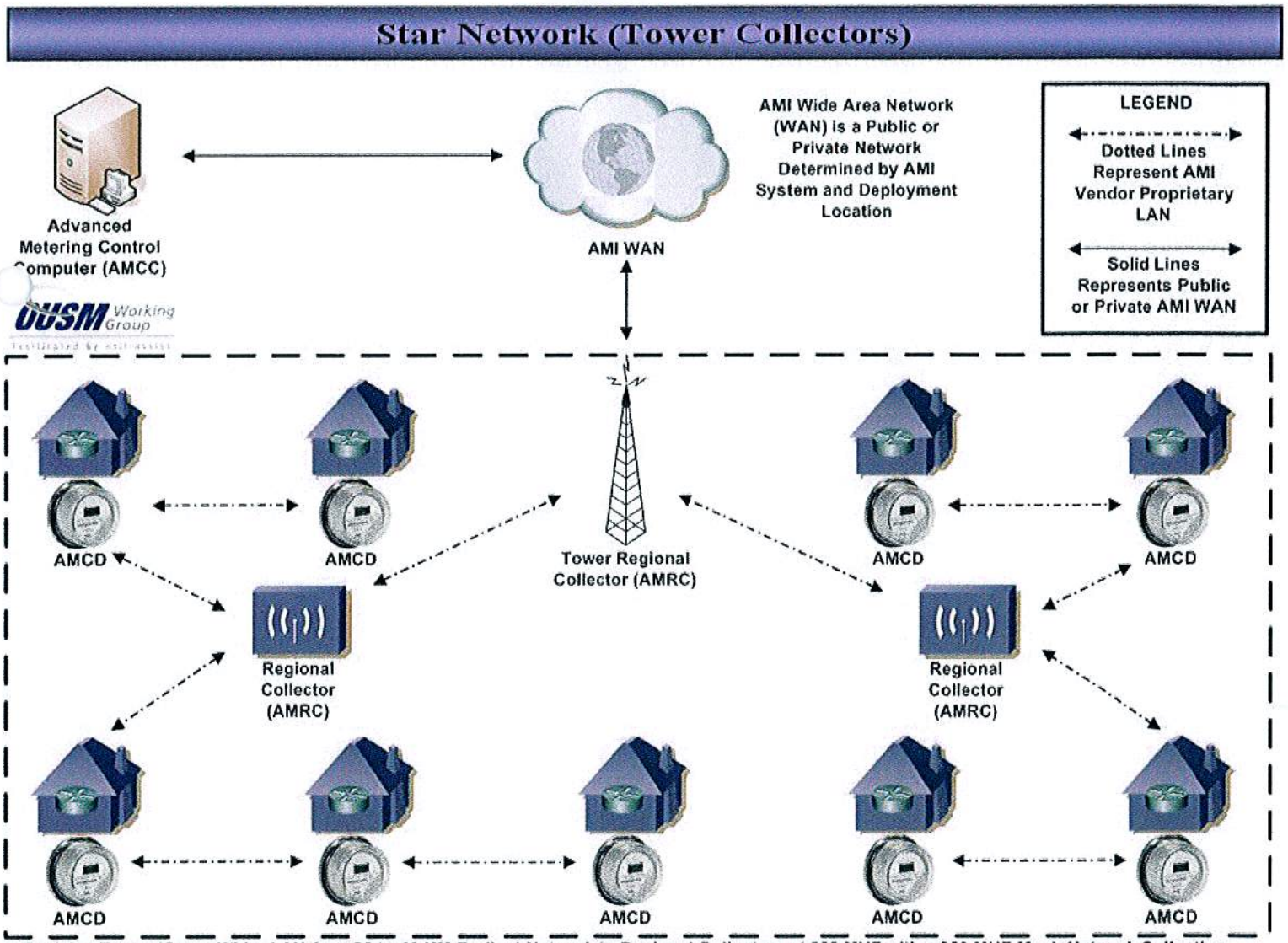


Elster Mesh Local Area Network with the Regional Collectors Built into the Metering Infrastructure (Proprietary Protocols)

Technology Evaluation: Tantalus

Tantalus combines a short range unlicensed LAN with a long range licensed WAN. The endpoints can MESH (max. 15 hops) through an unlicensed radio network (902 - 928 MHz) to what is referred to as a "Sharkfin" which is a "WAN Gateway". The Sharkfin receives the unlicensed radio signals and converts them to a 220 MHz (licensed) long range radio frequency for transmission (Point-to-Point) to the Towers (no storage at the Sharkfin). To take advantage of the "robustness" of the system, Tantalus recommends that the system be deployed such that the Network Server installed at the LDC's computer room has direct access to a Network Controller at an existing Tower through any available TCP/IP connection.

Figure 3: Tantalus Network Data Flow



Tantalus Tower (Cover Wider LAN Area 20 to 40 KM Radius) Network to Regional Collectors at 220 MHZ with a 900 MHZ Mesh Network Collecting and Transferring Data from AMCD to AMRC (Proprietary Protocols)

Tantalus' mesh LAN combined with their low frequency long range radio WAN makes Tantalus a network that can be implemented to effectively collect data in areas where there is a combination of urban and rural. The system has been designed to allow neighbouring utilities to share infrastructure, with options for the management of data (recommended solution is for utilities to form agreement with respect to collection of data, however there is the facility to keep data separate through the EnterpriseID, NetworkID, and MeterID fields).

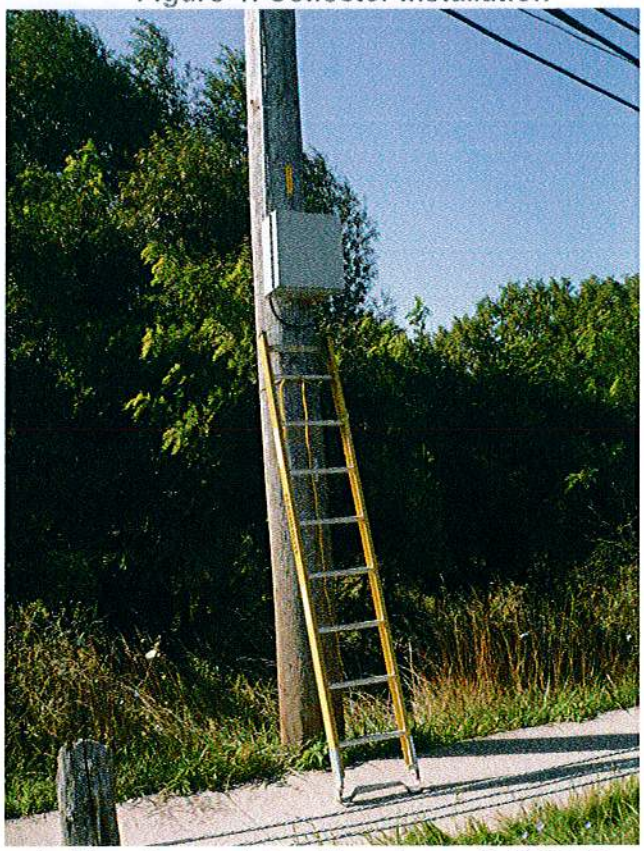
Tantalus - Key Components

- MESH LAN (15 hops), Point to Point WAN
- Unlicensed LAN, Proprietary WAN (to tower)
- 0.4 Watt
- Meter Memory (9, 20 days)
- System Memory: Scalable
- Meter Battery: No
- Collector Battery: No
- AMCC provides needed reporting
- Network Health management provided through AMCC
- Effective Outage Management capability
- Voltage is recorded
- Load Control capability
- No Load Shift capability
- No Water/Gas reading capability
- System designed for neighboring utilities to share infrastructure
- WAN (Tantalus recommends installing Tower at utility to allow TCP/IP connection.

Smart Meter Network WAN Tests

The Wide Area Networks (WAN) addressed in the smart metering system have unique and specific purposes. The AMI WAN will be dependant on the AMI vendor's solution and the geographical location of the AMI deployment. The AMI WAN is to connect the AMRC(s) to the AMCC. The MDM/R WAN will be based on the requirement of the smart meter entity and is the connection of the AMCC to the MDM/R and authorized utility, retailer and third parties access to the MDM/R. Depending on the infrastructure available in a utility's territory, some technologies may not be viable solutions (if available WAN is not compatible); alternatively the availability of particular WANs may make the business case of other solutions preferable.

Figure 4: Collector Installation



Through testing, some WAN implications can include:

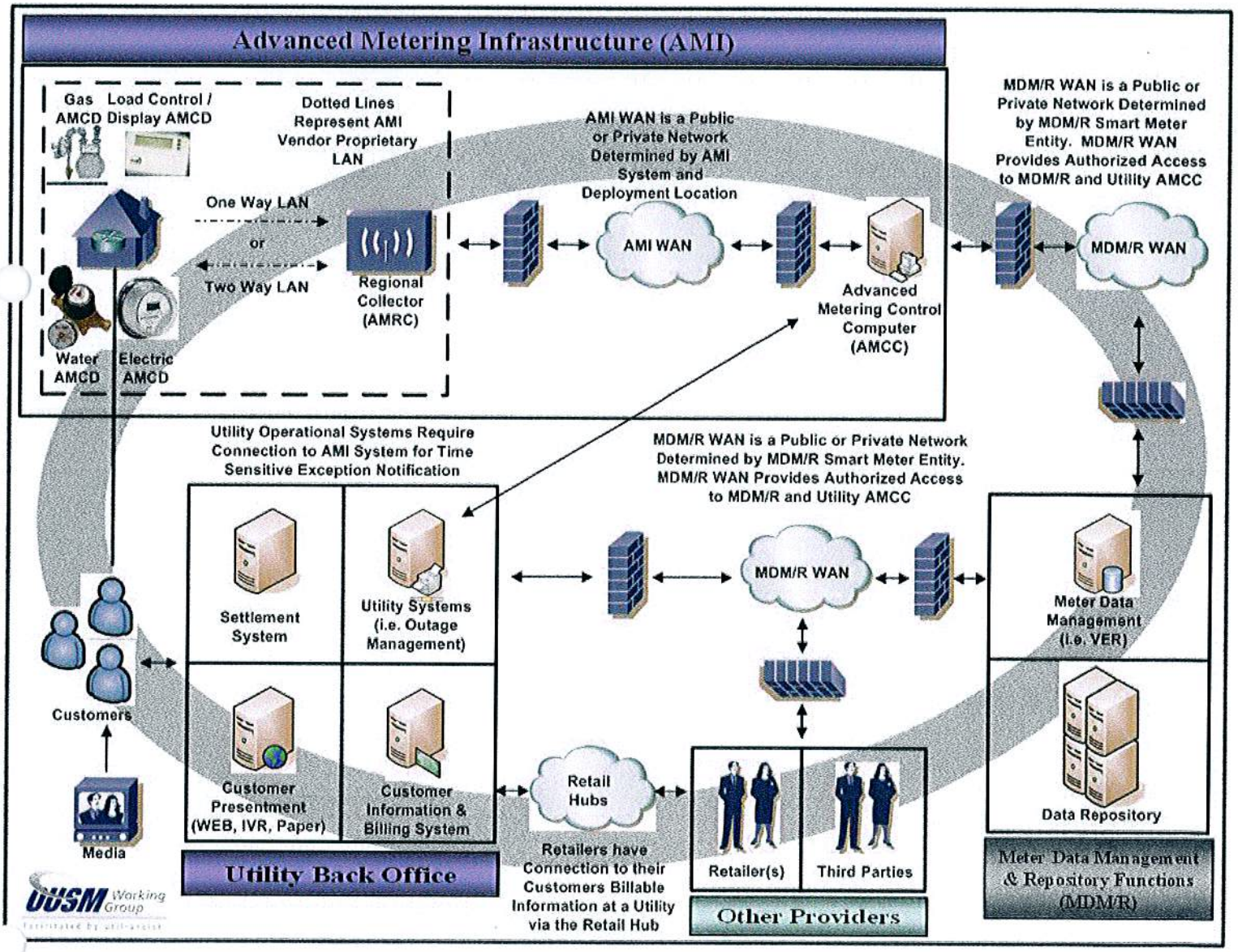
- It is generally accepted that POTS is slower than most available WANs. However it is a stable, reliable backhaul, that is available essentially everywhere. It does limit a technology's troubleshooting capabilities for Outage Management as the power to the phone line can be in question.
- GPRS in Ontario is not available with a static IP address. This can potentially (depending on design) affect the performance of the AMI network as an Outage Management tool.
- iDEN is reportedly slower than GPRS or 1xRTT, but has lower cost and in some areas better coverage.
- Broadband over Power Line (BPL) which offers the additional benefit of being a utility owned and maintained infrastructure. It is not suitable for outage management, unless an alternative communication system is available.
- As it relates to Horizon's Technology Pilots, the Elster Energy Axis will require an AMI WAN connection at each collector. The Tantalus TUNet System requires a WAN connection at each tower location.

(Appendix "J" refers to the WAN Evaluation Results)

Pilot: End-to-End Testing

The objective of the End-to-End Testing Pilot Deployment project is to test system integration by billing customers on Time-of-Use (TOU) rates by May 1, 2008 (date subject to change as per government regulation). To accomplish this need, Horizon will install an additional 7,500 Elster Energy Axis meters in Horizon's City of Hamilton service area by the end of December, 2006. As well as allowing for testing of Back Office Integration, this pilot – through increased installation volumes required of contracted 3rd Party Installation Service Providers – has and will provide Horizon with valuable information pertaining to future decisions regarding the processes that would be used to ensure seamless rollout of smart meters through Phase 1 of the SMI.

Figure 5: Overview of the end to end components of the SMI



To accomplish this project, actual deployment of smart meters (and associated collectors) began from the 55 John St N office in September 2006 and the complete end-to-end pilot is targeted to be completed by the end of December 2006. The results of this pilot project will support the mass deployment targets of 50,000 smart meters, which will continue in January 2007. Leveraging the lessons learned in this phase will be invaluable and every effort will be made to utilize the systems created for the smart meter pilot project in the mass deployment phase of the SMI.

Back Office Integration

The integration of the data being acquired from the chosen AMI system(s) into daily processes is critical to ensuring that operational efficiencies are maximized by the chosen system. Clearly the Meter Data Management/Repository (MDM/R) will become an integral piece of technology; interfacing with the CIS for the purposes of billing as well as to other operational entities that will use the information acquired from the AMI network.

Horizon understands that the Meter Data Repository will be a centralized entity. Based on the current timelines however, the MDM/R will not be live until the end of June, 2007. As we move forward with deployment, it will be important to operate temporary in house MDM/R for the purpose of evaluating the performance of the AMI network until the centralized MDM/R is live. This is a strategy that we advocate as this technology (MDM/R) is the only method available to dependably audit the performance and quality of data from the AMI asset.

Time of Use Billing

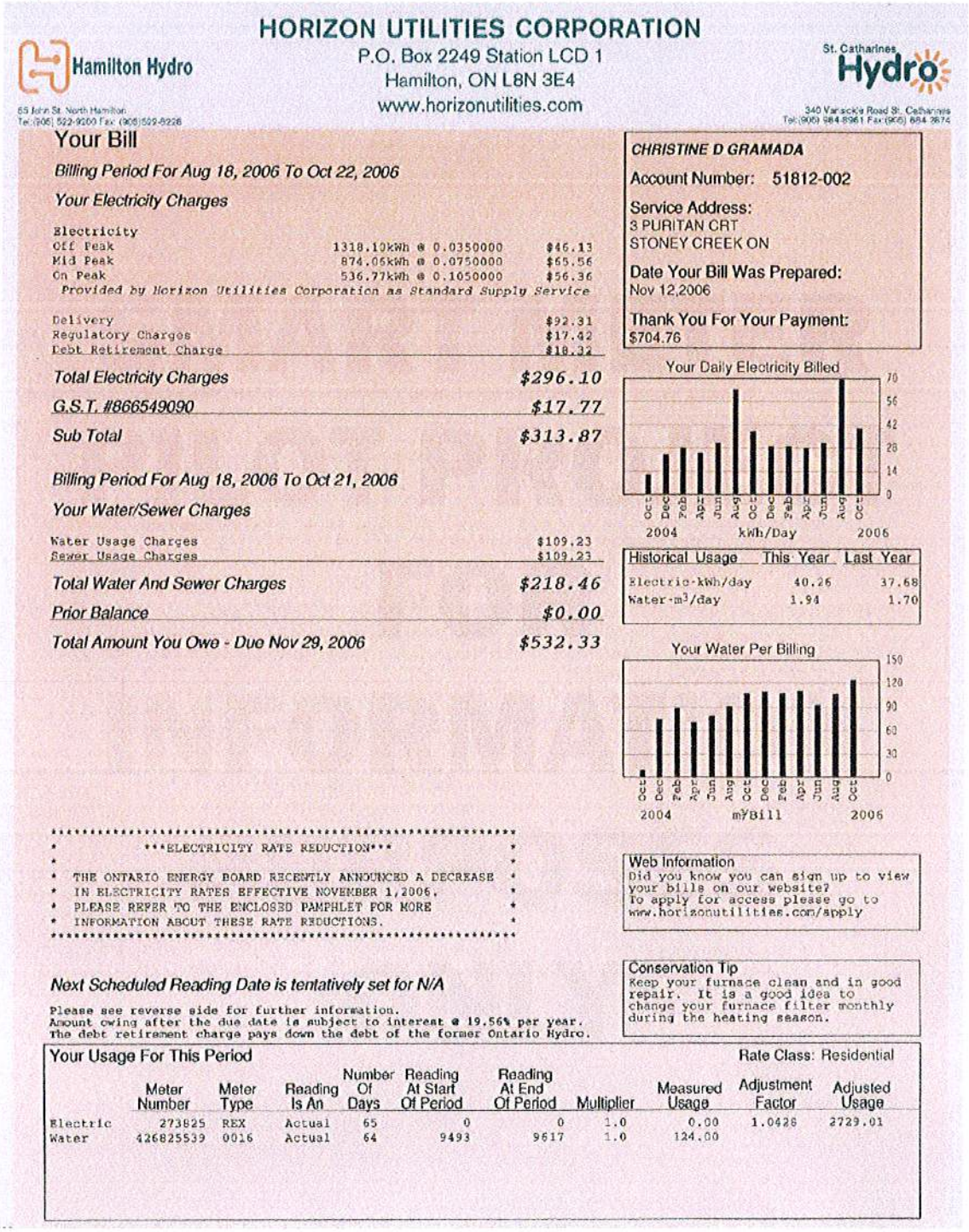
The time line associated with going live with TOU billing takes into consideration the timing required for system set-ups and configuration as well as the seasonal rate changes associated with TOU billing from Winter to Summer Rates. This schedule will help eliminate potential flaws associated with implementing new rate structures during the peak summer months (I.e. high impact due to Air Conditioning loads), or during the winter months (i.e. high impact due to Electric heat consumption).

Figure 6: OEB Time of Use Schedule

With the imminent changes to customer billing, education will be critical. "Shadow Billing" is a practice that has been recommended (and proven) by other utilities that are currently billing TOU in the province. While the utility can expect benefits such as reduced call centre traffic from such a program, the main goal of the campaign is to provide customers with the information required to understand their consumption habits as they relate to the new rate model, before they are impacted by the change. With this understanding, they have the ability to make changes to their consumption habits before they are required to move to this new billing model. The new infrastructure combined with innovative conservation products should provide customer's with the options necessary to make "business decisions" with regards to their energy usage, resulting in a more POWERWISE approach to the control of their electricity bill.

With this in mind, a team from Horizon's billing department is currently using the smart metering data to analyze the effects of time-of-use billing on our customers. In a test environment, this team is billing 500 smart-metered customers on the time-of-use rates and comparing these values to their regular bills. In this way, we are not only testing that our billing system will meet the demands of future time-of-use billing, but we can also understand impacts to these customers before they are implemented, which will assist in the development of communications and tools to assist our consumers.

Figure 7: Sample Shadow Bill



HORIZON UTILITIES CORPORATION

Hamilton Hydro

65 John St. North Hamilton
Tel:(905) 522-9200 Fax: (905)529-9226

P.O. Box 2249 Station LCD 1
Hamilton, ON L8N 3E4
www.horizonutilities.com

St. Catharines Hydro

340 Vansickle Road St. Catharines
Tel:(905) 984-8961 Fax:(905) 684-3674

Your Bill

Billing Period For Aug 18, 2006 To Oct 22, 2006

Your Electricity Charges

Electricity		
Off Peak	1318.10kWh @ 0.0350000	$46.13
Mid Peak	874.05kWh @ 0.0750000	$65.56
On Peak	536.77kWh @ 0.1050000	$56.36
Provided by Horizon Utilities Corporation as Standard Supply Service		
Delivery		$92.31
Regulatory Charges		$17.42
Debt Retirement Charge		$18.32
Total Electricity Charges		*$296.10*
G.S.T. #866549090		*$17.77*
Sub Total		*$313.87*

Billing Period For Aug 18, 2006 To Oct 21, 2006

Your Water/Sewer Charges

Water Usage Charges	$109.23
Sewer Usage Charges	$109.23
Total Water And Sewer Charges	*$218.46*
Prior Balance	*$0.00*
Total Amount You Owe - Due Nov 29, 2006	*$532.33*

CHRISTINE D GRAMADA

Account Number: 51812-002

Service Address:
3 PURITAN CRT
STONEY CREEK ON

Date Your Bill Was Prepared:
Nov 12,2006

Thank You For Your Payment:
$704.76

Your Daily Electricity Billed

Historical Usage	This Year	Last Year
Electric-kWh/day	40.26	37.68
Water-m^3/day	1.94	1.70

Your Water Per Billing


```
**********************************************************
*                                                        *
*          ***ELECTRICITY RATE REDUCTION***              *
*                                                        *
*  THE ONTARIO ENERGY BOARD RECENTLY ANNOUNCED A DECREASE *
*  IN ELECTRICITY RATES EFFECTIVE NOVEMBER 1,2006.       *
*  PLEASE REFER TO THE ENCLOSED PAMPHLET FOR MORE        *
*  INFORMATION ABOUT THESE RATE REDUCTIONS.              *
**********************************************************
```

Web Information
Did you know you can sign up to view your bills on our website?
To apply for access please go to www.horizonutilities.com/apply

Next Scheduled Reading Date is tentatively set for N/A

Please see reverse side for further information.
Amount owing after the due date is subject to interest @ 19.56% per year.
The debt retirement charge pays down the debt of the former Ontario Hydro.

Conservation Tip
Keep your furnace clean and in good repair. It is a good idea to change your furnace filter monthly during the heating season.

Your Usage For This Period — Rate Class: Residential

	Meter Number	Meter Type	Reading Is An	Number Of Days	Reading At Start Of Period	Reading At End Of Period	Multiplier	Measured Usage	Adjustment Factor	Adjusted Usage
Electric	273825	REX	Actual	65	0	0	1.0	0.00	1.0428	2729.01
Water	426825539	0016	Actual	64	9493	9617	1.0	124.00		

Customer Presentment

With the drastic changes in our energy market, there is now an emphasis on conservation and consumer education. Traditionally, the problem faced by the end consumers is the lack of information regarding the daily use of electricity. One answer to this problem is to provide access to information through a consolidated site or service that can educate the consumer on their total energy portfolio. This service should help to educate the consumer on their commodity choices by displaying usage in a common language, and bench mark them against other "like" consumers to help them gauge their consumption habits.

To effectively educate end users on their consumption habits, a technology infrastructure is being implemented that will provide granular information regarding consumer usage over the course of a day. This new information combined with innovative pricing structures such as Time of Use (TOU) will help motivate changes to a consumers usage patterns.

The concept of conservation is not restricted to WEB presentment of information. Multiple technology solutions will be required to effectively communicate the message that is being advocated through this initiative. WEB presentment is not the only way to communicate this message, but should instead be considered one of many tools to be implemented in the network. IVR systems and bill print modifications should be explored and other forms of media will be required to ensure the message is communicated effectively to all customers.

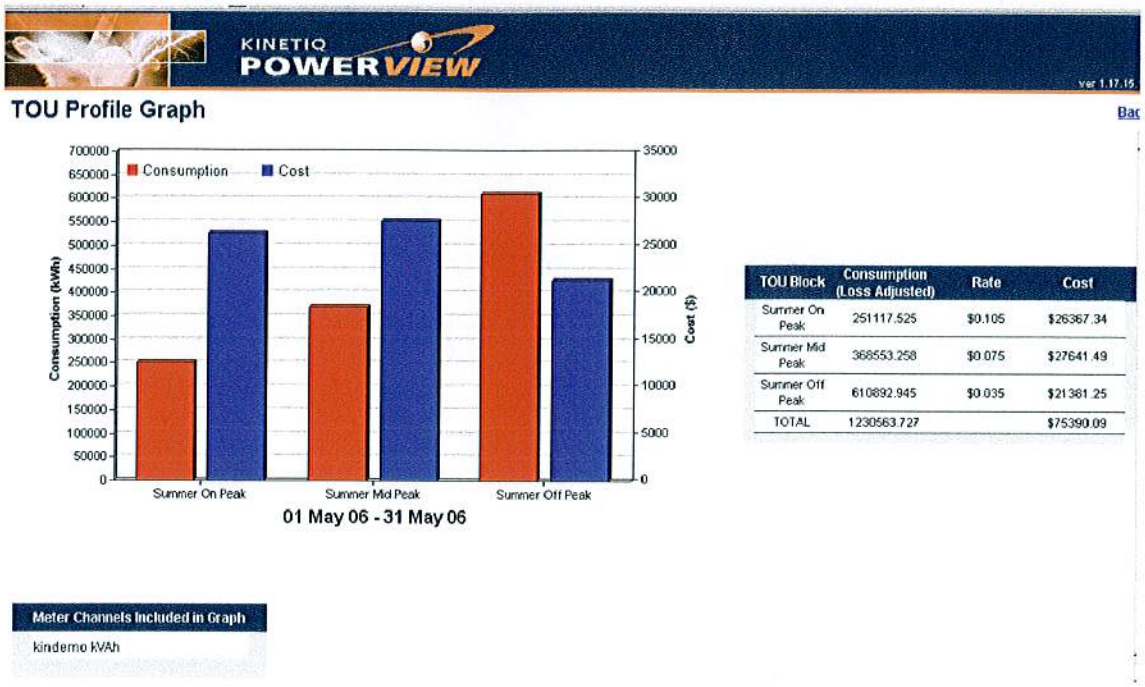
Every consumer has the right to conservation. While the end result should be an easy to use tool that will present this concept to the consumers in a logical format, the functionality that will be required in presentment products has yet to be determined, as well as any minimum specifications upon which recovery may be based.

Customer Presentment – Smart Meter Web Tools

Much of the details regarding WEB presentment have yet to be determined, but utilities do know that, as mandated by the SMI, Customer Presentment technologies will be required to provide TOU information to the end consumer by 8 am the day following usage. It is anticipated that WEB systems will also be used to support Demand Side Management tools to allow the consumer to respond to price signals thereby taking advantage of the TOU pricing structure. Horizon's current web presentment application (PowerView WEB) has been well received by our interval metered consumers (10% monthly hit rate), but is not expected to be an adequate long term solution for our residential class of customers.

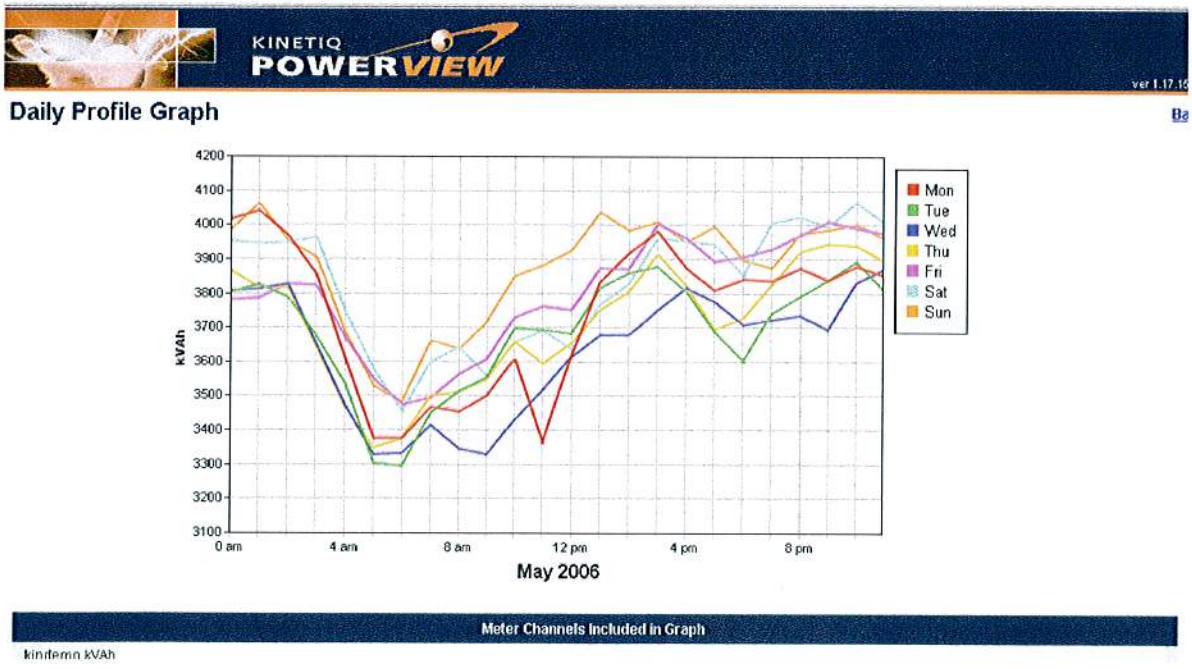
However, we are currently able to refresh PowerView WEB with the latest available interval data daily and expect that this will apply to smart metering reads as well. Therefore it is our recommendation that PowerView WEB be utilized as a short-term solution until a full service web presentment application is developed. Through our pilot, we have also engaged Ozz Corporation to provide Web Presentment services to Horizon and it's customers in a test environment. We are also reviewing a potential third web presentment solution offered by Daffron our current CIS provider

Figure 8: Screen Shot from Kinetiq Product



TOU Block	Consumption (Loss Adjusted)	Rate	Cost
Summer On Peak	251117.525	$0.105	$26367.34
Summer Mid Peak	368553.258	$0.075	$27641.49
Summer Off Peak	610892.945	$0.035	$21381.25
TOTAL	1230563.727		$75390.09

Figure 9: Screen Shot from Kinetiq Product



Lessons Learned through Pilot Phases

Much has been learned through the implementation of the Technology and End-to-End integration Pilots. The lessons learned have been properly documented, and are presented here as they now form part of Horizon's planning for Phase One Deployment. For consistency purposes these lessons will be separated into 2 categories; Technology and Installation.

Lessons Learned - Technology

Through the Technology Pilot, the results from the pilot conducted by the CLD group, as well as the OUSM work, that Horizon was involved with, the following key components of an AMI have been identified and will be addressed in phase 1 planning.

Table 1: AMI System Components

Redundancy:	To avoid Settlement Risk as utilities enter into future TOU and Critical Peak Pricing (CPP) rate structures, AMI Networks will require sufficient redundancy within the system to preclude customer disputes regarding their time stamped usage.
Reporting:	AMI Systems should be capable of Reporting on daily, weekly, and monthly activities so that the utility can ensure the requirements of the regulator are being met, as well as ensure that the full functionality of the system can be realized.
Network Health Maintenance	Network Health management will be important in ensuring that a successful state of the network is maintained over time.
Operational Efficiency:	By receiving notification from every endpoint, outage management processes can be streamlined. Integrated with a SCADA system, or used as its own tool, AMI networks can improve Operational Efficiencies in this area.
Load Shifting:	The information provided using the AMI network, combined with connectivity to Smart devices (thermostats, programmable A/C, etc) will allow people the opportunity to shift load to off peak times (reducing the need for increased generation).
Load Control:	Load Control functions were specified as expectations of the installed networks by the Ontario Energy Board (OEB) in their original Smart Meter Implementation Plan document. The OUSM tested the AMI system's ability to remotely disconnect (or limit) the service.
Multi-Commodity:	Utilities (electric, water, gas) with a common customer base can possibly share the installed network infrastructure to automate collection of all data.
Multi-Utility:	As well as utilities with common customers, neighbouring utilities (eg. Bordering electric utilities) can possibly share the installed network infrastructure to more cost effectively implement redundancy.
WAN:	Knowledge of the choices available within an LDC's territory prior to selecting a technology will be essential, as implementing certain WANs can have implications on the performance of the AMI network.

To accommodate Redundancy and Network Health Management concerns, collectors will be installed to provide coverage over all of the city of Hamilton Q1 of 2007. This fits with our conditions of service enabling all incidental meter changes and meters installed for new construction to be a smart meter and will result in immediate communication with our AMI system. While Elster collectors can be installed on homes, Horizon has opted to pole-mount the collectors. This will provide some advantages not possible with meter-base mounted collectors. With increased height, the collectors will achieve maximum range, allowing Horizon to fully capitalize on the transmission power of the meters. In the event that collectors do need to be

moved, there will be no impact to customers. By pole mounting the collectors, there is no power interruption required to move the collector. As well, if there is a future need to implement more collectors due to a decision on behalf of the City of Hamilton (explanation provided below), strategic implementation (minimal numbers, and zero customer impact) of collectors will be possible through this pole mount option.

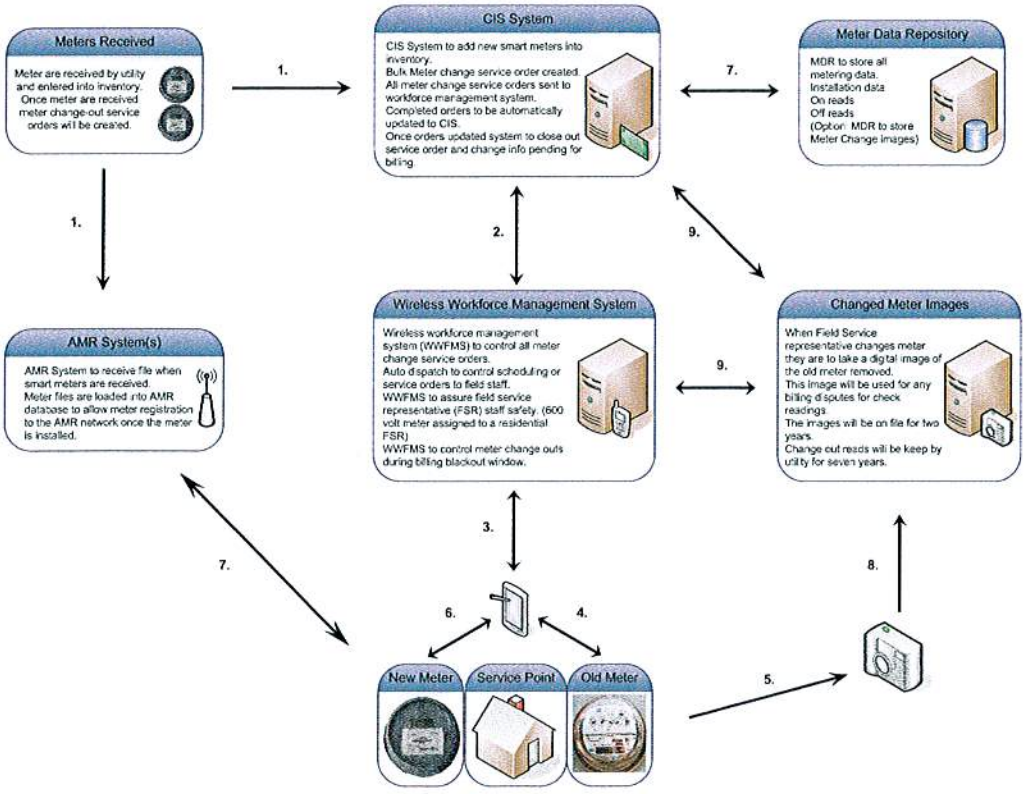
Should Elster not be awarded the contract for meter purchases for Phase 2 in 2008 we would suggest installing the new vendor's data collection system throughout the entire Horizon coverage area to allow us multi vendor pricing in the future, which should provide pricing benefits.

Lessons Learned - Installation

Horizon Utilities Corporation has learned a great deal about the processes and procedures which will be utilized during AMI deployment through the installations completed to date. Figure 10 is a high level view of the work flow which should serve to summarize the anticipated process, and highlight the functions which will be accommodated in the planning for phase 1 deployment:

- Proper receipt and inventory of meters
- Change out order creation and automated completion
- Workforce management system to update CIS when orders are completed
- Inventory control through WFM and subsequent update to MDR system
- Need for bar coding or digital image of changed meter to prevent disputes
- Ongoing reading of AMR system
- Ongoing maintenance of inventory in MDR

Figure 10: High Level Work Flow of Installation Process



Lessons Learned - Unsafe Meter Bases

There are several reasons that a Meter Base may be considered unsafe. If a meter base cannot be safely accessed, or there is suspicion of tampering, the service provider should not attempt to replace the meter, but should instead follow Horizon's Hazard Identification procedures. One brand of meter base that has been found to be potentially hazardous is the Murray Jensen meter base. As there are commonalities associated with identifying and dealing with these meter bases, safe procedures have been identified, and these are provided in the Safety Manual (Appendix "H" refers to the Installation Manual). As is Horizon's standard procedure, these hazards should be reported to the Safety representative.

Lessons Learned - Inventory Control

Given the volume of daily meter installations that will be performed, maintaining accurate control of inventory will be critical. With the implementation of Fieldworker, systems have been implemented to automate the process as much as possible. With this in mind the staging centre at John St has been modified to act as a central staging centre for the Hamilton deployment The location allows for storage of over 4000 meters and has good access from Rebecca St for the installation crews to enter and exit the facility. The Rebecca St garage gives us excellent inventory controls. The quality controls we have in place in Customer Connections accredited meter shop will allow us to continue these best practices within arms reach. All inventory is checked by the Quality Inspector and updated via our AS400 using the PO menu and our Electronic Meter Tracking System. We have the capability of receiving meters at the Rebecca St loading dock and the vendor would be requested to make all deliveries via a straight truck. There is ample room to accommodated scrap bins for the old meters with easy access for the fork lift truck. The old office area in the garage has been updated to accommodate the new Smart Meter Field office requirements. Field deployment equipment, the Smart Meter Supervisor and the Smart Meter Clerk will reside in the office.

FieldWorker was selected as the best value, base Mobile Workforce Management System for the Smart Meter pilot. This electronic service order management tool along with the Intermec Handheld units will be utilized for the mass deployment. The system has automated features such as a barcode scanner and a digital camera that expedites the meter installation and data collection process. The handhelds are returned from the filed daily to the Field Installation office placed in a cradle for the automatic uploading of meter data to the CIS. This procedure eliminates the need to manually update the return service order process that updates the CIS of a meter change.

Phase One Deployment Plan (50,000 Meters)

Commitment to Health and Safety

With the End-to-End pilot testing, Horizon is well positioned to implement all lessons learned with regards to Best Practice installation procedures; including proper use of Workforce Management (WFM) systems (Recording of GIS coordinates, Digital image of off-Reads, etc.), Meter Disposal processes, and most importantly, the investigation into Safety requirements for associated field services.

The assimilation of these procedures into current staff policies and procedures manuals will ensure a safe and healthy work environment for all involved in the deployment of Smart Metering. Appendix "H" includes a sample Health and Safety manual which will be enhanced with vendor specific installation procedures once contractual arrangements have been made with both the AMI and 3rd party service providers.

AMI Vendor Selection

The proper evaluation and selection of AMI technology is a critical component in ensuring Horizon's goals surrounding implementation of the smart meter initiative are achieved, as well as ensuring that the minimum requirements of the Government of Ontario's latest specifications are met. An intimate understanding of how the AMI systems work (acquired through collaboration with prominent working groups), and how they should be structured to meet the needs of the Ontario government, would allow the Horizon team to apply the authorized selection framework (qualified vendors), and ensure maximum allowable recovery of the asset (based on the minimum Functional Specification requirements). Carefully controlled analysis will minimize risk from both an operational and financial perspective.

In accordance with the CLD RFPQ process (as outlined in the SMI Mandate Overview), Horizon as well as four other CLD members elected to enter directly into negotiations with Elster Metering.. Collectively, the five CLD members have negotiated prices significantly lower then the original prices obtained under the RFPQ. Horizon subsequently entered into negotiations to procure 50,000 Energy Axis meters that would be deployed in Phase 1 pending Board approval.

The installation of Phase 1 meters will be limited to the Hamilton area. The St. Catharines service territory will continue to pilot the Tantalus TuNet system. Horizon will maintain operation of this system and the 500 meters associated with it, to test new metering as Measurement Canada approvals are passed. By maintaining this pilot, Horizon will continue the education process in preparation for Phase 2 technology decisions in 2008. As well as the knowledge that is gained through the testing of additional technologies, Horizon will maintain the flexibility associated with using multiple vendor products, as well as the option for shared infrastructure (and costs) with neighbouring utilities, should the opportunity present itself.

The scope of this project (Phase 1 of the SMI) will include all activities associated with the installation of a fully integrated AMI system as described in the Ministry of Energy's specification. The AMI will interface with the Provincial MDM/R, and Horizon's CIS software will receive the information required to bill on Time-of-Use (TOU) rates. Until the Smart Meter Entity is operational, Horizon will employ a Temporary MDM/R for the purpose of verifying data

quality from the AMI head end system (AMCC). All data will eventually be sent to the centralized repository, however, if additional Operational Efficiencies can be achieved by maintaining operation of the interim system, this will be considered.

Phase 1 Project planning will leverage the work performed to date by the Smart Meter Team (SMT). Our intentions are to utilize all the systems deployed for the End-to-End pilot, unless a system is found to lack the scalability required to meet the needs of a project of this magnitude.

Development of a customer communication strategy in conjunction with the CLD and Ontario government agencies will need to be completed prior to commencing the mass roll-out of meters.

Installation Vendor Selection

Upon selection of the AMI provider, Horizon proceeded to addressing the installation process. Again, Horizon would honour the CLD RFPQ process and enter into negotiations with CLD RFPQ approved vendors. By maintaining their collaborative approach and working with neighbouring utilities, Horizon would be provided with pricing options. The negotiation sessions (which included all 5 qualified installation vendors), would allow options for group pricing, as well as individual pricing. Pricing would be considered a critical factor in the decision, but for a proper business decision to be made, the risk associated with these services would also be carefully considered. During the final negotiation session/presentation, all 5 vendors were given the opportunity to discuss the merits of their company, and provide assurances that the process would be efficient, and as problem free as possible. The process elected by the Horizon team would allow mitigation of risk, receipt of best pricing as it related specifically to the Horizon territory, as well as best pricing with the increased volumes of a pooled approach. Horizon would then have the opportunity to select one of several options, without eliminating the possibility of any opportunities to work with other CLD members if this proved to be the best business model in the end. This process was considered a success, and has been well documented.

The process was considered Official, with no opportunity for vendors to revise pricing once submitted (the only exception being if vendors submitted pricing according to their service model which did not allow for apples-apples comparison). All decisions regarding how the scoring was performed were made by committee. It was decided that the vendor submissions would be evaluated on two fronts: Operational strength as described by their documentation, and pricing as submitted and evaluated on "apples-to-apples" basis. An "apples-to-apples" comparison was ensured by creating and providing a spreadsheet to the vendors so that pricing for identical quantities and services could be provided.

The spreadsheets were structured to allow the vendors to provide pricing on an individual basis, as well as group pricing. Group pricing options were requested in hopes that reduced rates would be provided through the increased volumes resulting from utilities working collaboratively. A summary page was provided to show the weighted ranking of each vendor. The responses were weighted and scored with 40% of the weighting according to Operational strength, and 60% of the weighting attributed to the submitted pricing. (Appendix "R" refers to the Installation Vendor Recommendation Report).

Hands-on experience with service providers through the AMI pilot installation process would prove to be of value. This experience, along with the input of neighbouring LDCs and information gained throughout the CLD and Ontario Utilities Smart Meter (OUSM) Working Group was taken into consideration and was considered of value to the Horizon team. With both operational (including risk mitigation) and financial evaluations completed, it was determined that OZZ Corporation most closely matched all of Horizon's requirements; providing favourable pricing, and minimal risk associated (based on their company size and stability, capacity, local presence, ISO and safety qualifications). Horizon is confident that this decision will allow them to meet the aggressive timelines of the provincial smart meter initiative and certainly within the required range to provide the Horizon team with the confidence that cost recovery for installation services would be possible.

Direction of other Phase One Utilities

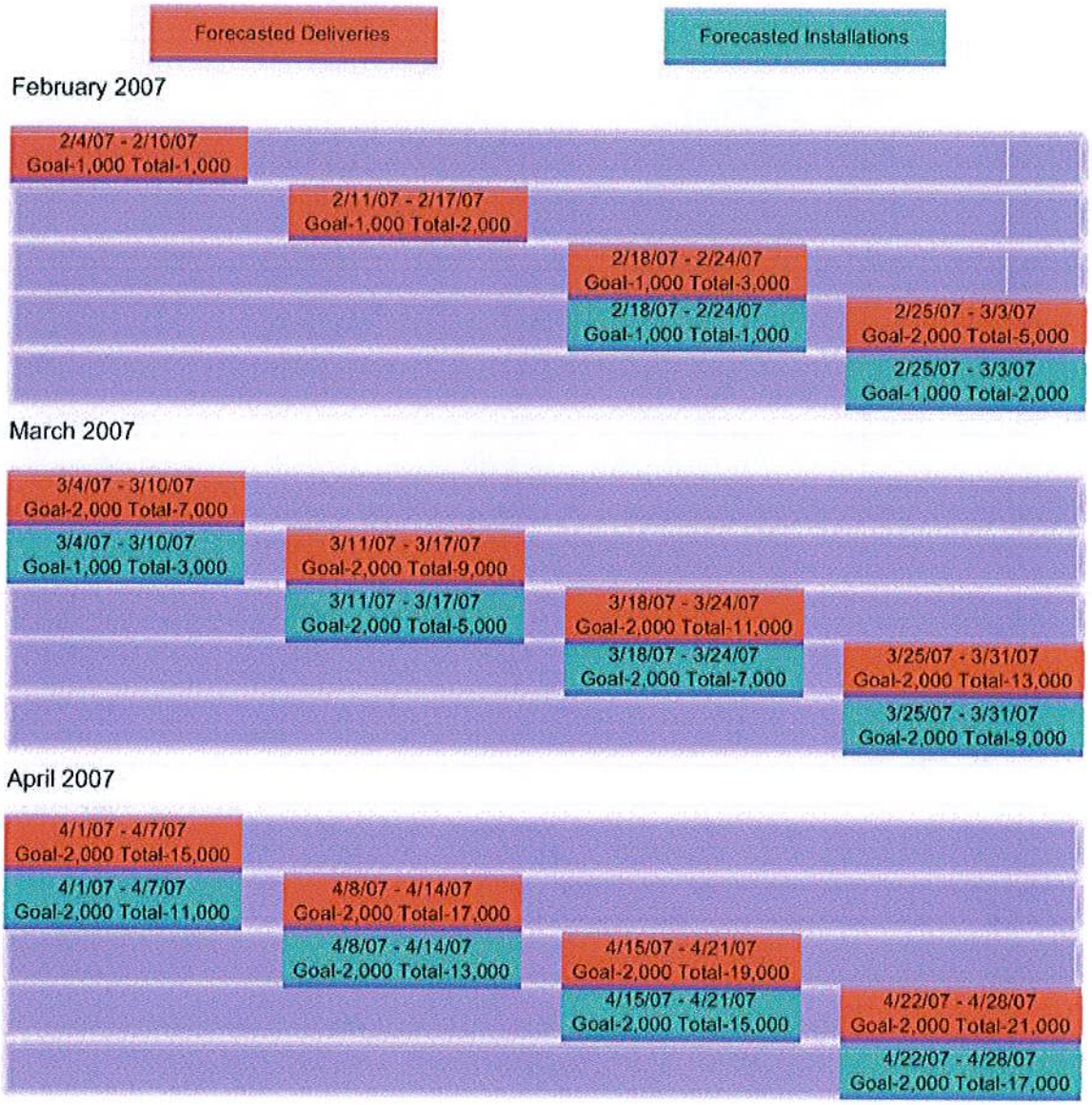
Following are the utilities that have been designated by the province as Phase 1 priority deployments, and their current Phase 1 volume and vendor commitments.

Table 2: Phase 1 Deployment - Current Volume Commitments

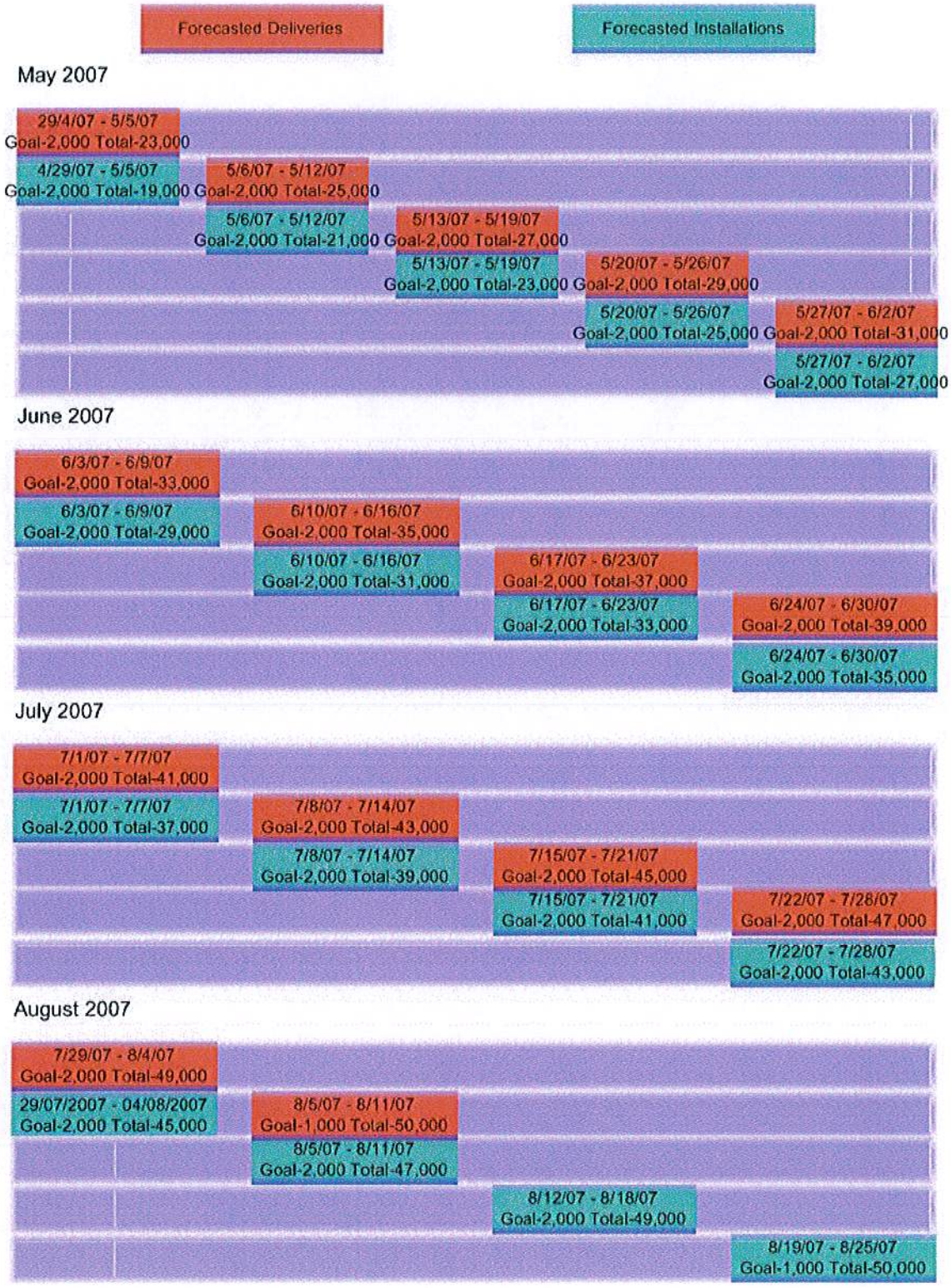
	Phase 1 Commitment Total: 1,023,500		
Utility	**Phase 1 Volume**	**AMI Vendor**	**Installation Vendor**
Toronto Hydro	• 360,000	• Elster	• In-house
Hydro One	• 240,000	• Trilliant/SmartSynch	• In-house/OZZ
Hydro Ottawa	• 120,000	• Elster	• Olameter
PowerStream	• 80,000	• Sensus	• Honeywell
Enersource	• 60,000	• Elster	• Olameter
Horizon Utilities	• 50,000	• Elster	• OZZ
Veridian	• 40,000	• Elster	• OZZ
Chatham-Kent / Middlesex	• 34,000	• Tantalus	• In-house
Newmarket / Tay	• 27,200	• Sensus	• Olameter
Milton	• 12,300	• Trilliant	• OZZ

Draft Phase One Deployment Schedule

The following deployment schedule illustrates the weekly deliveries and implementation targets. The delivery schedule is designed around our current storage capacity.



Draft Phase One Deployment Schedule (Continued)



Phase One Deployment Location

Phase One of this initiative contained a short deployment window (December 2007). It was elected to target urban customers on the mountain within the Hamilton Service territory.

Phase one meter deployment will continue in Stoney Creek areas S1 and S2 (below the escarpment) where we currently have three collectors and approximately 1200 meters installed. The additional required collectors will be installed by Horizon employees followed by the smart meter installations being installed by the selected installation vendor. Upon completion of this area, installation of collectors into Stoney Creek S3 and S4 (on top of the escarpment) is planned, and will continue west across the Hamilton Mountain in areas 3, 4, 7 and 8. The mass deployment of 50,000 meters will follow this route until completion. Installation of collectors will continue through the end of Q1 2007 to provide coverage over all of Horizon's (City of Hamilton) territory. It is intended that all meter installations will follow the already established meter reading routes.

Phase One Location Identified by Shaded Area

Meter Disposal

Ontario Utilities are faced with a unique challenge: over the next few years, every residential meter will be replaced with a Smart Meter. Accompanying the challenges of determining the right technology fit, labour considerations, and back office integration, is the problem of disposing of the redundant meters. Perhaps more importantly than the cost of the disposal of the meters (originally anticipated at approximately $1/meter), is the environmental and political considerations associated with this process. The new technology is required to accommodate the end goals of the government, but dumping millions of meters into landfill sites is not necessary, and therefore not considered an option by the Horizon SMT. By researching alternative avenues of disposal, OUSM research has found that not only can the anticipated cost of disposal be avoided, but also the potential environmental and political backlash associated with the projected 27 million pounds of scrap meters that will be produced through the Smart Meter Initiative.

Regarding the disposal of redundant meters, Horizon is currently working with multiple scrap companies that would pay Horizon a per pound rate to recycle the meters. Other possibilities for meter disposal will also be researched as we continue deployment to ensure they are being disposed of in the most cost effective and environmentally responsible method available.

Security and Authentication

With the introduction of AMI systems, utilities will become susceptible to new levels of potential security breaches. 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. Industry reports show a worldwide trend in cyber security breaches from "hacking" where the utilities are the recipients of extortion threats.

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." (Appendix "D" refers to the Functional Specification for an Advanced Metering Infrastructure).

As a member of the OUSM working group, Horizon was able to benefit from the results of the AMI Pilot Security Assessment that was conducted using the Newmarket Hydro Pilot on the Elster system. The OUSM group partnered with n-Dimension Solutions, an expert in the field of Security Assessment to provide qualified, objective, third party security viewpoints. Working together with n-Dimension Solutions, the goal was to gain the knowledge required to build security into smart meter systems at the foundational level, which is a fundamental Best Practice. Standard test scripts were created to provide an evaluation of the security inherent to AMI systems. (Appendix "E" refers to the Elster Security Test Scripts).

Acceptance Testing

During the early stages of Phase One implementation (threshold of 7,500 meters installed), execution of test scripts will take place on the deployed system to ensure that the proper amount of infrastructure has been installed to accommodate the performance requirements of the industry. This process is similar to that which was used to accomplish the Standardized testing of AMI

networks completed in 2005. This process has also been utilized this year during Acceptance testing of pilot deployments in other Phase 1 utilities. The recommendation for Acceptance testing to be initiated upon completion of 20% of the intended deployment is to ensure that the infrastructure is operating according to the requirements, thereby minimizing the risk associated with mass deployments. A final Acceptance Test will be performed once all meters have been installed.

Due to the requirements being placed on LDCs by the regulators, the functionality of the procured system must be tested before full deployment is achieved. Through interim testing of such performance requirements as percentage of daily reads successfully acquired, memory testing of the meters, time synchronization verification, outage simulation testing, etc., the health of the AMI network can be assured. Without interim Acceptance testing, the proper setup of data acquisition parameters cannot be assured. By running the acquired interval data through the temporary MDM/R, the quality of data can be assured. Default settings for AMI networks may not necessarily apply for the Horizon territory. This is especially relevant given that Horizon will be deploying pole mounted collectors. As stated, this should maximize efficiency of the system, and may require different communication protocols (i.e. different scheduling, due to increased efficiency, potentially resulting in a reduction of WAN costs). As data storage processes are implemented, disaster recovery can also be tested in preparation for future requirements.

The tests in Appendix "B" will provide reassurance that the deployed network is accommodating the market requirements

Customer Communication

The success of Horizon's smart metering implementation and the switch to TOU rates may be more dependent on the effectiveness of our communications planning than any other portion of our strategy. First and foremost, all of our staff must be educated ambassadors for smart metering and TOU. We must be able to explain how this new technology will assist in managing current and future residential energy consumption practices and be aware of the status of the implementation and deployment progress.

During the pilot project phase, all employees attended hour-long Smart Meter Information Sessions to learn about the purpose of smart meters, the way in which the meters operate, details of our Smart Meter Communications Plan, and time-of-use rates. Customer service representatives received more in-depth training than other employees so they could easily respond to questions from the public.

To keep our employees current and informed during the critical first phase of implementation, we intend to present a further Smart Meter Information Session for all employees. The presentation will include a refresher on how Horizon's smart metering system works, how and when deployment will occur, a demo of our web presentment software, and a package of our customer information materials including Frequently Asked Questions.

We will also update our Smart Meter link on the Horizon website to provide background information on smart meters and their operation to the public. Maps of deployment areas will also be included on the site.

During our Pilot Project, we determined that consumers prefer to receive a quantity of detailed information about smart meters, before the smart meter is installed. Education of customers seems to be the key to minimizing calls to our call centre.

During mass deployment, materials for our customers must be consistent with messaging from the Ministry of Energy, the Ontario Energy Board and the CLD. The Ministry of Energy is designing a selection of smart meter materials which will be available for purchase by LDCs for use pre-smart meter installation and post-smart meter installation. The purpose is to ensure consistent province-wide messaging on the topic of smart meters.

The Ministry of Energy will also develop a smart meter web page and may do province-wide media advertising. They will also provide a 1-800 number for general questions.

Although materials are not yet complete, draft documents would seem to meet Horizon's needs. We, therefore, plan on using the Ministry of Energy's smart meter pre-installation booklet along with their post-installation leave-behind. The Horizon website will be linked to the Ministry's website.

The Ministry has not yet developed a Communication Plan for the roll-out of time-of-use rates. Horizon expects to use whatever materials are made available to us by the Ministry.

Mid-February:	**1. Media Release:** Inform the media of the success of our SM pilots in St. Catharines and Hamilton, and provide general information about the upcoming TOU rates and the benefits of smart metering
	2. Horizon website: A smart meter section on the Horizon website will provide details specific to the deployment of smart meters in Horizon's service territory and will link to the Ministry Smart Meter site. A special Smart Meter Information mail box was used during the pilot project and will continue to be used to respond directly to questions from consumers. A video of a smart meter installation will be loaded on the site.
	3. HUCnet: We plan to create a new section on HUCnet for smart meters. This area will be updated regularly with new information, our progress and our current deployment areas to educate staff and generate interest.
	4. SM Booklet: This booklet, designed and produced by the Ministry, will contain general information about smart meters and time-of-use. It will be delivered to customers scheduled to receive a smart meter. It would also be made available to customers through the information racks at facilities in Hamilton and St. Catharines. As well, they can be handed out at POWERWISE events or at SM presentations made at public forums / business clubs / service clubs.
	5. Presentations to Internal Staff: A refresher Smart Meter Information Session (30 minutes long) will be held for all employees. Further sessions will be held to educate employees on time-of-use rates. Timing of these sessions will depend on when the Province decides to launch time-of-use rates. If Horizon is requested to do a pilot project on time-of-use rates with a select group of customers, employees will be invited to an information session at that time. This presentation would be extended to an hour-long presentation for heavily impacted departments such as Customer Services and Customer Connections.

	6. Newsletter Articles: Articles in our employee newsletter will replace the special Smart Meter newsletter and will be used to communicate update information about the mass deployment to employees.
	7. Leave Behind: A postcard leave behind is being designed by the Ministry to inform consumers that their smart meter has been installed. Installers will leave this behind on the completion of the installation.

April:	i. Create customer notification letter for existing MUSH customers which will eventually be billed on TOU rates.
	ii. Create customer notification letter for existing residential smart metering pilot customers, who will eventually have TOU rates take effect (if applicable).
	iii. Ongoing through 2010 - Customers will need to be advised of the upcoming deployment of smart meters in their area. The letter accompanied by a smart meter booklet will advise that during the next month, a Horizon Utilities representative will be installing a smart meter at their residence.
	iv. Ongoing through 2010 - Customers that are part of the mass deployment scheduled to begin in 2008 will also need to be advised of their upcoming change in rate structure.

May:	**1. Presentations to City Councils:** A presentation on smart meters, time-of-use rates, energy conservation and demand management may be held during the public portion of city councils in St. Catharines and Hamilton depending on interest and the timing of time-of-use rates roll out. This is an opportunity to send a positive message through members of councils (shareholders), demonstrate efforts to communicate with customers about smart meters, and to reach a wider audience through the media coverage. We would have our mailings and communication materials for this presentation as well as discussing our strategy for mass smart metering deployment.

Organize Information Forums: We recommend events allowing the public and the media to gather information about smart meters, the pilots and energy conservation. The events would be informal in nature with the POWERWISE display and conservation information available, and the smart meter information sheet or brochure available as a take-away. The meeting rooms in the two main libraries may be considered good locations. Mall displays are another alternative.

Presentations to Business and Service Clubs: We recommend communication to key stakeholders about the conservation and demand management programs underway for the

commercial and industrial sector, as well as information regarding the smart meter initiative. For example, perhaps the presentation could be made at Chamber of Commerce events or at "Lunch and Learn" sessions, alternative suggestions might include the largest Rotary Club in each community.

Special Focus on Low Income and Elderly Populations: The expectation is that two groups that may be most affected by time-of-use rates, will be low income and elderly residents. We will be working with the Ministry to determine what sort of special programs should be made available for these two special interest groups. Other special interest groups that may require special activities may include students, tenants, multiple units, condos, and environmental groups.

Speakers: We will market staff to community / industry groups to speak on the topic of smart meters and time-of-use rates.

Change Management

The changes that LDCs will undergo need to be understood and managed in a way that people can effectively cope with them. Change is not successfully imposed; people and teams need to be empowered to find their own solutions and responses. Change Management requires anticipating and addressing potential obstacles. It requires building support by showing individuals that new approaches can ultimately make them better off. It requires managing risk, as change involves uncertainty. To effectively manage change requires a vision with clear goals, objectives and performance indicators, and long-range plans to identify how individual policies and programs will support the overall goals.

Horizon has created comprehensive plans for the anticipated changes resulting from the implementation of smart metering, and will effectively employ new methods and systems as they are implemented. Strict control processes will need to be implemented to ensure that any and all deviations from the original project plan are identified and documented. Weekly project update meetings will be conducted to ensure all stakeholders have a clear understanding of the deviations, as well as the justification for the change.

Research will be required to ensure that the information acquired from the technology is seamlessly integrated into the process flow of each department. The process flow should examine the pre-installation process as well, to ensure that the benefits of workforce systems are understood; and their benefits shared by all. Horizon is preparing for the education of the utility staff, the education of the public, and the development of the documentation that will assist in understanding all current utility work processes and how these processes will change with the implementation of the new technology.

Regulatory

The Ontario Energy Board has provided for the ability to establish a variance account in order to accrue funding for the SMI, in the amount of $0.30 per residential customer per month. This funding will have to be monitored and adjusted to reflect the final costs anticipated in the rollout of the 50,000 Elster Energy Axis meters for Phase 1 of the SMI. In order to proceed beyond 50,000 meters, a subsequent rate application to the regulator will be required.

City of Hamilton

Currently the contract meter readers that are collecting Horizon's consumption data are also collecting water meter readings through a joint meter reading arrangement with Horizon. As a result of the mandated changes that Horizon will be undergoing, the City of Hamilton will be impacted. This issue, and the steps to mitigate any associated risks should be identified and tracked. The following table identifies the 3 possible directions that the City may take as a result of Horizon's implementation of Smart Meters, which will eliminate the need for manual meter reading to acquire electricity consumption information.

Option 1:	City of Hamilton may contract for continued manual meter reading.
Option 2:	City of Hamilton may install an Automated Meter Reading (AMR) system to collect data independent of Horizon's installed Advanced Metering Infrastructure (AMI).
Option 3:	City of Hamilton may install AMR which is compatible with the AMI installed by Horizon, allowing shared infrastructure and reduced costs.

As can be seen, by keeping abreast of the plans of the City, and keeping the City updated on Horizon's intentions, there is the possibility that infrastructure, and therefore costs, can be shared. Horizon is mandated to make changes to their process, and is obligated to timelines - at the very latest the need for manual meter reading for their entire population will be eliminated by the end of 2010. It is Horizon's intention to install smart meters sooner than this, but there will be a need to perform verification reads post installation, so the relationship with the meter reading contractor will be maintained for some time. For a proper business decision to be made, the City of Hamilton will need to consider all aspects of each of their options. It is Horizon's intention to work with the City to assist in any way possible in developing plans, and business case scenarios to justify the decisions that will be made. By working together, it is hoped that the best possible solution for both parties will be found, minimizing risk and cost for all involved.

Risk Assessment

As with any project of this magnitude there are risks involved; some of which are in the control of the utility and others that are uncontrollable. Issues and risks that may impact the success of the project will be identified and a log maintained. Within this log, issues will be assigned for resolution and reported on at weekly project update meetings. At the commencement of this project, the following risks have been identified along with the mitigating factors:

Risk	Mitigation
Mergers:	• A Horizon merger opportunity will require the use of resources dedicated to this project, which could significantly impair the delivery of this project as contemplated. It may also alter the Project itself as the business applications requirements of a new merged entity may differ from that of Horizon.

Competing projects:	• There are several ongoing projects within the organization that may require similar resources to this project. These competing projects may be expedited or delayed depending on evolving business needs and priorities of Horizon.
Regulatory / Political:	• A provincial election will be held in October 2007- a change in government could impact future decisions on smart meter deployment. • As well, details have yet to be released regarding recovery of assets (it has been stated that authorized procurement will be eligible for cost recovery).
MDM/R:	• Until the SME is established, the MDM/R requirement represents an unknown in the implementation of smart metering technology and therefore poses risk to utility progress. In the absence of a provincial MDM/R, it is the recommendation of the SMT that **Kinetiq** be used as an interim repository for data quality assurance. Kinetiq should be continually evaluated against other MDM/R solutions to assess potential operational efficiencies which may not be accommodated in a centralized solution.
City of Hamilton:	• Horizon's SMT will engage the City to ensure understanding of Horizon's requirements, and attempt to ascertain the future direction with regards to meter reading requirements.

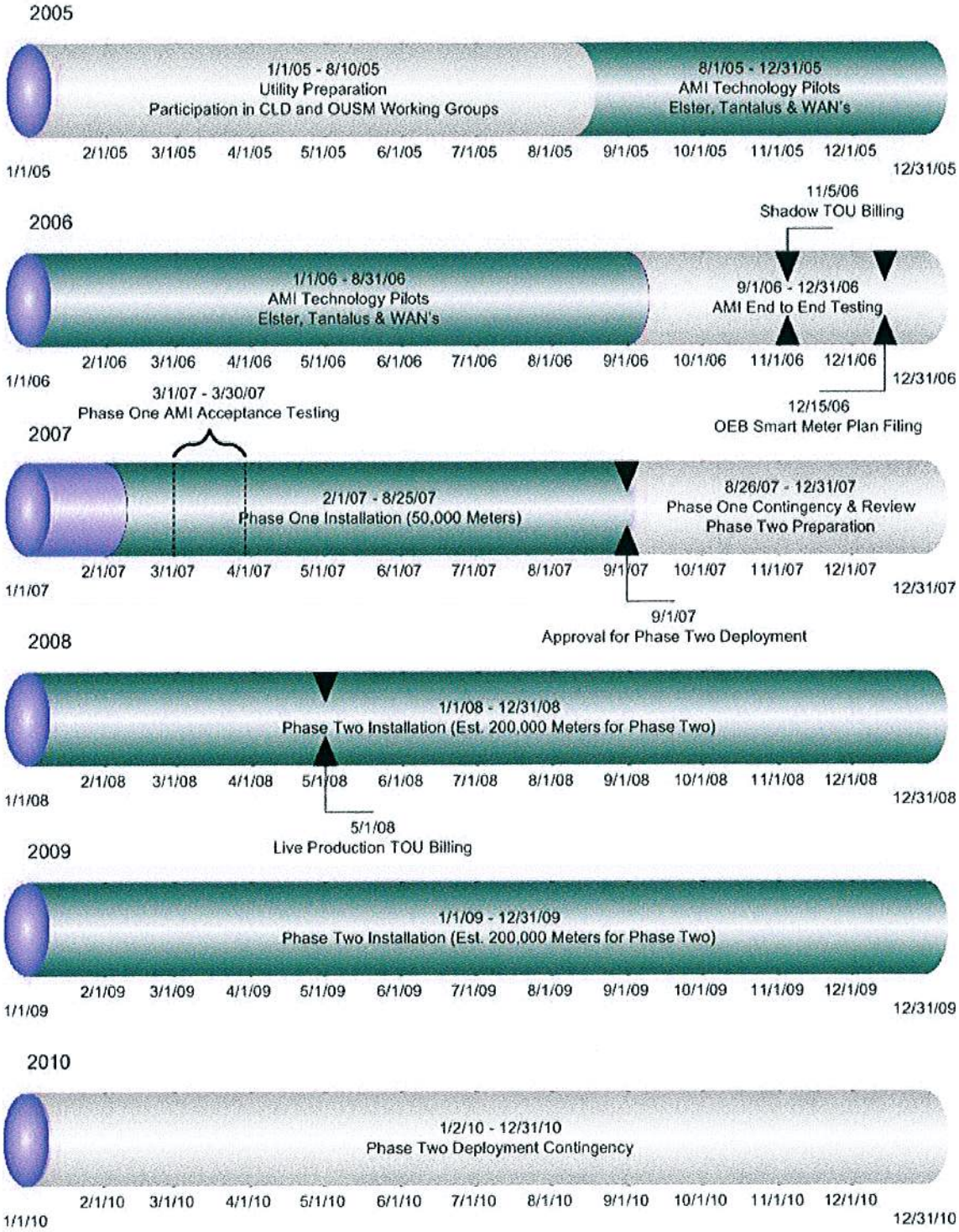
Budgetary Information

As of the writing of this document, we have been assured by the Ministry of Energy that the capital and operating costs associated with the implementation of smart metering will be included in future distribution rates (including those costs related to any existing meters that may be made obsolete by the introduction of the AMI) pending proof of prudence and approval by the Ontario Energy Board. Unfortunately, utilities do not yet have this methodology determined via legislation from our regulator.

With many unknowns, including MDM/R specifications, final CIS requirements, and the resulting staffing and processes changes it is difficult to predict an accurate budget at this time.

A proposed budget has been formulated based on vendor quotes and estimates provided by the department Directors. (refer to Appendix "G" for Proposed Budget)

Smart Meter Project Review



Conclusion

Horizon is confident that a comprehensive process has been undertaken, and that planning has taken all lessons learned into consideration. The process has been and continues to be time consuming, and detail oriented, but is necessary in order to accommodate the due diligence requirements. Having worked with other Ontario LDCs, internally piloted technologies, and been involved with a provincial RFPQ process, we are satisfied with the decisions made this far. We are comfortable regarding the merits of the technology, and have conducted supplementary (to RFPQ) negotiations to communicate and satisfy requirements regarding installation risks, as well as secure best pricing for services. All of these components provided an educated decision regarding Phase One technology solutions and 3rd party installation service providers. With the most crucial components required for Phase 1 deployment behind us, it is with excitement that we move forward to the next stages of this important process.

APPENDIX 2

OEB 2012 SMART METER COST RECOVERY MODEL

V 2.17

Ontario Energy Board

Smart Meter Model

Choose Your Utility:

Horizon Utilities Corporation
Hydro 2000 Inc.

Application Contact Information

Name:	Indy J. Butany-DeSouza
Title:	Vice President, Regulatory Affairs
Phone Number:	(905) 317-4765
Email Address:	indy.butany@horizonutilities.com
We are applying for rates effective:	May 1, 2012
Last COS Re-based Year	2011

Legend

DROP-DOWN MENU

INPUT FIELD

CALCULATION FIELD

Copyright

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

Ontario Energy Board

Smart Meter Model

Horizon Utilities Corporation

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

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

Smart Meter Capital Cost and Operational Expense Data

Smart Meter Installation Plan

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

	2006	2007	2008	2009	2010	2011	2012 and later	Total
	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
Residential		57,976	76,194	76,240	4,091	1,238	273	216012
General Service < 50 kW		2,405	3,161	3,163	2,810	2,044	4,425	18008
Actual/Planned number of Smart Meters installed (Residential and GS < 50 kW only)	0	60381	79355	79403	6901	3282	4698	234020
Percentage of Residential and GS < 50 kW Smart Meter Installations Completed	0.00%	25.80%	59.71%	93.64%	96.59%	97.99%	100.00%	100.00%
Actual/Planned number of GS > 50 kW meters installed		260	341	342	242	206	891	2282
Other (please identify)								0
Total Number of Smart Meters installed or planned to be installed	0	60641	79696	79745	7143	3488	5589	236302

1 Capital Costs

1.1 ADVANCED METERING COMMUNICATION DEVICE (AMCD)

	Asset Type (Asset type must be selected to enable calculations)	2006 Audited Actual	2007 Audited Actual	2008 Audited Actual	2009 Audited Actual	2010 Audited Actual	2011 Audited Actual	2012 and later Forecast	Total
1.1.1 Smart Meters *(may include new meters and modules, etc.)*	Smart Meter	0	6,943,048	9,302,140	4,233,167	782,616	477,150	0	$ 21,738,120
1.1.2 Installation Costs *(may include socket kits, labour, vehicle, benefits, etc.)*	Smart Meter		140,411	446,528	1,329,751	342,843	92,076	0	$ 2,351,609
1.1.3a Workforce Automation Hardware *(may include fieldwork handhelds, barcode hardware, etc.)*	Computer Hardware		110,554	45,029	0	9,205	0	0	$ 164,787
1.1.3b Workforce Automation Software *(may include fieldwork handhelds, barcode hardware, etc.)*			0	0	0	0	0	0	$ -
Total Advanced Metering Communications Devices (AMCD)		$ -	$ 7,194,012	$ 9,793,696	$ 5,562,918	$ 1,134,663	$ 569,226	$ -	$ 24,254,516

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

	Asset Type	2006 Audited Actual	2007 Audited Actual	2008 Audited Actual	2009 Audited Actual	2010 Audited Actual	2011 Audited Actual	2012 and later Forecast	Total
1.2.1 Collectors	Smart Meter		277,500	450,000	260,000	88,725	113,305	0	$ 1,189,530
1.2.2 Repeaters *(may include radio licence, etc.)*	Computer Hardware		0	0	0	0	6,711	0	$ 6,711
1.2.3 Installation *(may include meter seals and rings, collector computer hardware, etc.)*	Computer Hardware		0	0	0	0		0	$ -
Total Advanced Metering Regional Collector (AMRC) (Includes LAN)		$ -	$ 277,500	$ 450,000	$ 260,000	$ 88,725	$ 120,016	$ -	$ 1,196,241

1.3 ADVANCED METERING CONTROL COMPUTER (AMCC)	Asset Type	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
1.3.1 Computer Hardware	Computer Hardware		3,314	24,467	0	341,117	0	0	$ 368,898
1.3.2 Computer Software	Computer Software		0	0	0	11,588	0	0	$ 11,588
1.3.3 Computer Software Licences & Installation (includes hardware and software) *(may include AS/400 disk space, backup and recovery computer, UPS, etc.)*	Computer Software		0	0	0	6,000	0	0	$ 6,000
Total Advanced Metering Control Computer (AMCC		$ -	$ 3,314	$ 24,467	$ -	$ 358,705	$ -	$ -	$ 386,487

1.4 WIDE AREA NETWORK (WAN)	Asset Type	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
1.4.1 Activiation Fees			0	0	0	0	0	0	$ -
Total Wide Area Network (WAN)		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

1.5 OTHER AMI CAPITAL COSTS RELATED TO MINIMUM FUNCTIONALITY	Asset Type	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
1.5.1 Customer Equipment *(including repair of damaged equipment)*			0	0	0	0	0	0	$ -
1.5.2 AMI Interface to CIS			0	0	0	0	0	0	$ -
1.5.3 Professional Fees			0	0	0	0	0	0	$ -
1.5.4 Integration	Other Equipment		0	0	0		0	0	$ -
1.5.5 Program Management	Tools & Equipment							0	$ -
1.5.6 Other AMI Capital	Tools & Equipment		905	7,955	0	13,691	0	0	$ 22,551
Total Other AMI Capital Costs Related to Minimum Functionalit		$ -	$ 905	$ 7,955	$ -	$ 13,691	$ -	$ -	$ 22,551
Total Capital Costs Related to Minimum Functionality		$ -	$ 7,475,732	$ 10,276,118	$ 5,822,918	$ 1,595,785	$ 689,242	$ -	$ 25,859,794

1.6 CAPITAL COSTS BEYOND MINIMUM FUNCTIONALITY *(Please provide a descriptive title and identify nature of beyond minimum functionality costs)*	Asset Type	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
1.6.1 Costs related to technical capabilities in the smart meters or related communications infrastructure that exceed those specified in O.Reg 425/06	Other Equipment		0	0	0	45,968	0	0	$ 45,968
1.6.2 Costs for deployment of smart meters to customers other than residential and small general service	Smart Meter	0	167,864	220,612	220,745	156,343	133,085	0	$ 898,649
1.6.3 Costs for TOU rate implementation, CIS system upgrades, web presentation, integration with the MDM/R, etc.	Computer Software		36,354	50,930	0	441,623	10,032	0	$ 538,938
Total Capital Costs Beyond Minimum Functionalit		$ -	$ 204,217	$ 271,542	$ 220,745	$ 643,934	$ 143,117	$ -	$ 1,483,555
Total Smart Meter Capital Costs		$ -	$ 7,679,949	$ 10,547,660	$ 6,043,663	$ 2,239,718	$ 832,359	$ -	$ 27,343,349

2 OM&A Expenses

2.1 ADVANCED METERING COMMUNICATION DEVICE (AMCD)	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast		
2.1.1 Maintenance *(may include meter reverification costs, etc.)*		315,219	138,575	170,125	169,876	148,421	148,428	$	1,090,645
2.1.2 Other *(please specify)*								$	-
Total Incremental AMCD OM&A Costs	$ -	$ 315,219	$ 138,575	$ 170,125	$ 169,876	$ 148,421	$ 148,428	$	1,090,645
2.2 ADVANCED METERING REGIONAL COLLECTOR (AMRC) (includes LAN)									
2.2.1 Maintenance		28,704	23,688	57,422	44,457	63,986	74,214	$	292,471
2.2.2 Other *(please specify)*								$	-
Total Incremental AMRC OM&A Costs	$ -	$ 28,704	$ 23,688	$ 57,422	$ 44,457	$ 63,986	$ 74,214	$	292,471
2.3 ADVANCED METERING CONTROL COMPUTER (AMCC)									
2.3.1 Hardware Maintenance *(may include server support, etc.)*		19,467	59,220	0	0	0	0	$	78,688
2.3.2 Software Maintenance *(may include maintenance support, etc.)*		88,046	83,857	90,471	188,946	256,390	392,793	$	1,100,504
2.3.2 Other *(please specify)*					117,005	243,392		$	360,396
Total Incremental AMCC OM&A Costs	$ -	$ 107,513	$ 143,077	$ 90,471	$ 305,951	$ 499,782	$ 392,793	$	1,539,588
2.4 WIDE AREA NETWORK (WAN)									
2.4.1 WAN Maintenance		42,708	63,935	148,132	96,528	155,104	112,800	$	619,207
2.4.2 Other *(please specify)*								$	-
Total Incremental AMRC OM&A Costs	$ -	$ 42,708	$ 63,935	$ 148,132	$ 96,528	$ 155,104	$ 112,800	$	619,207
2.5 OTHER AMI OM&A COSTS RELATED TO MINIMUM FUNCTIONALITY									
2.5.1 Business Process Redesign	0	58,795	52,893	125,518	135,013	151,816	37,107	$	561,141
2.5.2 Customer Communication (may include project communication, etc.)	0	156,254	90,617	268,317	84,631	0	0	$	599,818
2.5.3 Program Management	17,634	9,404	45,935	118,680	73,411	31,534	0	$	296,599
2.5.4 Change Management (may include training, etc.)	0	19,494	16,769	77,814	87,391	85,396	37,107	$	323,971
2.5.5 Administration Costs	81,651	76,156	114,371	11,061	19,501	36,304	74,214	$	413,257
2.5.6 Other AMI Expenses *(please specify)*	0	0	0	0	0	0	0	$	-
Total Other AMI OM&A Costs Related to Minimum Functionality	$ 99,285	$ 320,103	$ 320,584	$ 601,390	$ 399,947	$ 305,049	$ 148,428	$	2,194,786
TOTAL OM&A COSTS RELATED TO MINIMUM FUNCTIONALITY	$ 99,285	$ 814,248	$ 689,859	$ 1,067,540	$ 1,016,759	$ 1,172,343	$ 876,662	$	5,736,698
2.6 OM&A COSTS RELATED TO BEYOND MINIMUM FUNCTIONALITY	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual			
(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			0	0	0	0	0	$	-
2.6.2 Costs for deployment of smart meters to customers other than residential and small general service			0	0	0	0	0	$	-
2.6.3 Costs for TOU rate implementation, CIS system upgrades, web presentation, integration with the MDM/R, etc.			0	152,058	133,432	119,608	0	$	405,098
Total OM&A Costs Beyond Minimum Functionality	$ -	$ -	$ -	$ 152,058	$ 133,432	$ 119,608	$ -	$	405,098
Total Smart Meter OM&A Costs	$ 99,285	$ 814,248	$ 689,859	$ 1,219,599	$ 1,150,191	$ 1,291,951	$ 876,662	$	6,141,796

3 Aggregate Smart Meter Costs by Category

3.1	**Capital**									
3.1.1	Smart Meter	$ -	$ 7,528,822	$ 10,419,279	$ 6,043,663	$ 1,370,527	$ 815,616	$ -	$ 26,177,907	
3.1.2	Computer Hardware	$ -	$ 113,868	$ 69,496	$ -	$ 350,322	$ 6,711	$ -	$ 540,397	
3.1.3	Computer Software	$ -	$ 36,354	$ 50,930	$ -	$ 459,211	$ 10,032	$ -	$ 556,527	
3.1.4	Tools & Equipment	$ -	$ 905	$ 7,955	$ -	$ 13,691	$ -	$ -	$ 22,551	
3.1.5	Other Equipment	$ -	$ -	$ -	$ -	$ 45,968	$ -	$ -	$ 45,968	
3.1.6	Applications Software	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
3.1.7	**Total Capital Costs**	**$ -**	**$ 7,679,949**	**$ 10,547,660**	**$ 6,043,663**	**$ 2,239,718**	**$ 832,359**	**$ -**	**$ 27,343,349**	
						Error				
3.2	**OM&A Costs**									
3.2.1	**Total OM&A Costs**	**$ 99,285**	**$ 814,248**	**$ 689,859**	**$ 1,219,599**	**$ 1,150,191**	**$ 1,291,951**	**$ 876,662**	**$ 6,141,796**	

	2006	2007	2008	2009	2010	2011	2012 and later
Cost of Capital							
Capital Structure[1]							
Deemed Short-term Debt Capitalization			4.0%	4.0%	4.0%	4.0%	4.0%
Deemed Long-term Debt Capitalization	60.0%	60.0%	56.0%	56.0%	56.0%	56.0%	56.0%
Deemed Equity Capitalization	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Preferred Shares							
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of Capital Parameters							
Deemed Short-term Debt Rate			4.47%	4.47%	4.47%	2.46%	2.46%
Long-term Debt Rate (actual/embedded/deemed)[2]	5.90%	5.90%	6.10%	6.10%	6.10%	5.79%	5.79%
Target Return on Equity (ROE)	9.0%	9.00%	8.57%	8.57%	8.57%	9.58%	9.58%
Return on Preferred Shares							
WACC	7.14%	7.14%	7.02%	7.02%	7.02%	7.17%	7.17%
Working Capital Allowance							
Working Capital Allowance Rate	15.00%	15.00%	15.00%	15.00%	15.00%	13.50%	13.50%
(% of the sum of Cost of Power + controllable expenses)							
Taxes/PILs							
Aggregate Corporate Income Tax Rate	36.12%	36.12%	33.50%	33.00%	31.00%	28.25%	26.25%
Capital Tax (until July 1st, 2010)	0.30%	0.225%	0.225%	0.225%	0.075%	0.00%	0.00%
Depreciation Rates							
(expressed as expected useful life in years)							
Smart Meters - years	15	15	15	15	15	15	15
- rate (%)	6.67%	6.67%	6.67%	6.67%	6.67%	6.67%	6.67%
Computer Hardware - years	5	5	5	5	5	5	5
- rate (%)	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
Computer Software - years	3	3	3	3	3	3	3
- rate (%)	33.33%	33.33%	33.33%	33.33%	33.33%	33.33%	33.33%
Tools & Equipment - years	10	10	10	10	10	10	10
- rate (%)	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Other Equipment - years	10	10	10	10	10	10	10
- rate (%)	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
CCA Rates							
Smart Meters - CCA Class	47	47	47	47	47	47	47
Smart Meters - CCA Rate	8%	0	0	0	0	0	0
Computer Equipment - CCA Class	50	50	50	50	50	50	50
Computer Equipment - CCA Rate	55%	1	1	1	1	1	1
General Equipment - CCA Class	8	8	8	8	8	8	8
General Equipment - CCA Rate	20%	0	0	0	0	0	0
Applications Software - CCA Class		-	-	-	-	-	-
Applications Software - CCA Rate		-	-	-	-	-	-

Assumptions

[1] *Planned smart meter installations occur evenly throughout the year.*

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

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


Ontario Energy Board

Smart Meter Model

Horizon Utilities Corporation

	2006	2007	2008	2009	2010	2011	2012 and later
Net Fixed Assets - Smart Meters							
Gross Book Value							
Opening Balance		$ -	$ 7,528,822	$ 17,948,101	$ 23,991,765	$ 25,362,291	$ 26,177,907
Capital Additions during year (from Smart Meter Costs)	$ -	$ 7,528,822	$ 10,419,279	$ 6,043,663	$ 1,370,527	$ 815,616	$ -
Retirements/Removals (if applicable)							
Closing Balance	$ -	$ 7,528,822	$ 17,948,101	$ 23,991,765	$ 25,362,291	$ 26,177,907	$ 26,177,907
Accumulated Depreciation							
Opening Balance		$ -	-$ 250,961	-$ 1,100,192	-$ 2,498,187	-$ 4,143,322	-$ 5,861,329
Amortization expense during year	$ -	-$ 250,961	-$ 849,231	-$ 1,397,996	-$ 1,645,135	-$ 1,718,007	-$ 1,745,194
Retirements/Removals (if applicable)							
Closing Balance	$ -	-$ 250,961	-$ 1,100,192	-$ 2,498,187	-$ 4,143,322	-$ 5,861,329	-$ 7,606,523
Net Book Value							
Opening Balance	$ -	$ -	$ 7,277,862	$ 16,847,910	$ 21,493,578	$ 21,218,969	$ 20,316,578
Closing Balance	$ -	$ 7,277,862	$ 16,847,910	$ 21,493,578	$ 21,218,969	$ 20,316,578	$ 18,571,384
Average Net Book Value	$ -	$ 3,638,931	$ 12,062,886	$ 19,170,744	$ 21,356,273	$ 20,767,773	$ 19,443,981
Net Fixed Assets - Computer Hardware							
Gross Book Value							
Opening Balance		$ -	$ 113,868	$ 183,364	$ 183,364	$ 533,686	$ 540,397
Capital Additions during year (from Smart Meter Costs)	$ -	$ 113,868	$ 69,496	$ -	$ 350,322	$ 6,711	$ -
Retirements/Removals (if applicable)							
Closing Balance	$ -	$ 113,868	$ 183,364	$ 183,364	$ 533,686	$ 540,397	$ 540,397
Accumulated Depreciation							
Opening Balance	$ -	$ -	-$ 11,387	-$ 41,110	-$ 77,783	-$ 149,488	-$ 256,896
Amortization expense during year	$ -	-$ 11,387	-$ 29,723	-$ 36,673	-$ 71,705	-$ 107,408	-$ 108,079
Retirements/Removals (if applicable)							
Closing Balance	$ -	-$ 11,387	-$ 41,110	-$ 77,783	-$ 149,488	-$ 256,896	-$ 364,975
Net Book Value							
Opening Balance	$ -	$ -	$ 102,481	$ 142,254	$ 105,581	$ 384,198	$ 283,501
Closing Balance	$ -	$ 102,481	$ 142,254	$ 105,581	$ 384,198	$ 283,501	$ 175,421
Average Net Book Value	$ -	$ 51,241	$ 122,368	$ 123,918	$ 244,890	$ 333,849	$ 229,461
Net Fixed Assets - Computer Software (including Applications Software)							
Gross Book Value							
Opening Balance		$ -	$ 36,354	$ 87,283	$ 87,283	$ 546,495	$ 556,527
Capital Additions during year (from Smart Meter Costs)	$ -	$ 36,354	$ 50,930	$ -	$ 459,211	$ 10,032	$ -
Retirements/Removals (if applicable)							
Closing Balance	$ -	$ 36,354	$ 87,283	$ 87,283	$ 546,495	$ 556,527	$ 556,527
Accumulated Depreciation							
Opening Balance	$ -	$ -	-$ 6,059	-$ 26,665	-$ 55,760	-$ 161,389	-$ 345,226
Amortization expense during year	$ -	-$ 6,059	-$ 20,606	-$ 29,094	-$ 105,630	-$ 183,837	-$ 185,509
Retirements/Removals (if applicable)							
Closing Balance	$ -	-$ 6,059	-$ 26,665	-$ 55,760	-$ 161,389	-$ 345,226	-$ 530,735
Net Book Value							
Opening Balance	$ -	$ -	$ 30,295	$ 60,618	$ 31,524	$ 385,105	$ 211,300
Closing Balance	$ -	$ 30,295	$ 60,618	$ 31,524	$ 385,105	$ 211,300	$ 25,792
Average Net Book Value	$ -	$ 15,147	$ 45,457	$ 46,071	$ 208,315	$ 298,203	$ 118,546
Net Fixed Assets - Tools and Equipment							
Gross Book Value							
Opening Balance		$ -	$ 905	$ 8,860	$ 8,860	$ 22,551	$ 22,551
Capital Additions during year (from Smart Meter Costs)	$ -	$ 905	$ 7,955	$ -	$ 13,691	$ -	$ -
Retirements/Removals (if applicable)							
Closing Balance	$ -	$ 905	$ 8,860	$ 8,860	$ 22,551	$ 22,551	$ 22,551
Accumulated Depreciation							
Opening Balance	$ -	$ -	-$ 45	-$ 534	-$ 1,420	-$ 2,990	-$ 5,245
Amortization expense during year	$ -	-$ 45	-$ 488	-$ 886	-$ 1,571	-$ 2,255	-$ 2,255
Retirements/Removals (if applicable)							
Closing Balance	$ -	-$ 45	-$ 534	-$ 1,420	-$ 2,990	-$ 5,245	-$ 7,500
Net Book Value							
Opening Balance	$ -	$ -	$ 860	$ 8,327	$ 7,441	$ 19,561	$ 17,306
Closing Balance	$ -	$ 860	$ 8,327	$ 7,441	$ 19,561	$ 17,306	$ 15,051
Average Net Book Value	$ -	$ 430	$ 4,593	$ 7,884	$ 13,501	$ 18,433	$ 16,178
Net Fixed Assets - Other Equipment							
Gross Book Value							
Opening Balance		$ -	$ -	$ -	$ -	$ 45,968	$ 45,968
Capital Additions during year (from Smart Meter Costs)	$ -	$ -	$ -	$ -	$ 45,968	$ -	$ -
Retirements/Removals (if applicable)							
Closing Balance	$ -	$ -	$ -	$ -	$ 45,968	$ 45,968	$ 45,968
Accumulated Depreciation							
Opening Balance	$ -	$ -	$ -	$ -	$ -	-$ 2,298	-$ 6,895
Amortization expense during year	$ -	$ -	$ -	$ -	-$ 2,298	-$ 4,597	-$ 4,597
Retirements/Removals (if applicable)							
Closing Balance	$ -	$ -	$ -	$ -	-$ 2,298	-$ 6,895	-$ 11,492
Net Book Value							
Opening Balance	$ -	$ -	$ -	$ -	$ -	$ 43,670	$ 39,073
Closing Balance	$ -	$ -	$ -	$ -	$ 43,670	$ 39,073	$ 34,476
Average Net Book Value	$ -	$ -	$ -	$ -	$ 21,835	$ 41,371	$ 36,774

Ontario Energy Board

Smart Meter Model

Horizon Utilities Corporation

	2006	2007	2008	2009	2010	2011	2012 and Later
Average Net Fixed Asset Values (from Sheet 4)							
Smart Meters	$ -	$ 3,638,931	$ 12,062,886	$ 19,170,744	$ 21,356,273	$ 20,767,773	$ 19,443,981
Computer Hardware	$ -	$ 51,241	$ 122,368	$ 123,918	$ 244,890	$ 333,849	$ 229,461
Computer Software	$ -	$ 15,147	$ 45,457	$ 46,071	$ 208,315	$ 298,203	$ 118,546
Tools & Equipment	$ -	$ 430	$ 4,593	$ 7,884	$ 13,501	$ 18,433	$ 16,178
Other Equipment	$ -	$ -	$ -	$ -	$ 21,835	$ 41,371	$ 36,774
Total Net Fixed Assets	**$ -**	**$ 3,705,749**	**$ 12,235,303**	**$ 19,348,616**	**$ 21,844,813**	**$ 21,459,630**	**$ 19,844,941**
Working Capital							
Operating Expenses (from Sheet 2)	$ 99,285	$ 814,248	$ 689,859	$ 1,219,599	$ 1,150,191	$ 1,291,951	$ 876,662
Working Capital Factor (from Sheet 3)	15%	15%	15%	15%	15%	14%	14%
Working Capital Allowance	$ 14,893	$ 122,137	$ 103,479	$ 182,940	$ 172,529	$ 174,413	$ 118,349
Incremental Smart Meter Rate Base	**$ 14,893**	**$ 3,827,886**	**$ 12,338,782**	**$ 19,531,556**	**$ 22,017,341**	**$ 21,634,044**	**$ 19,963,290**
Return on Rate Base							
Capital Structure							
Deemed Short Term Debt	$ -	$ -	$ 493,551	$ 781,262	$ 880,694	$ 865,362	$ 798,532
Deemed Long Term Debt	$ 8,936	$ 2,296,731	$ 6,909,718	$ 10,937,671	$ 12,329,711	$ 12,115,064	$ 11,179,443
Equity	$ 5,957	$ 1,531,154	$ 4,935,513	$ 7,812,622	$ 8,806,937	$ 8,653,617	$ 7,985,316
Preferred Shares	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Capitalization	$ 14,893	$ 3,827,886	$ 12,338,782	$ 19,531,556	$ 22,017,341	$ 21,634,044	$ 19,963,290
Return on						Error	
Deemed Short Term Debt	$ -	$ -	$ 22,062	$ 34,922	$ 39,367	$ 21,288	$ 19,644
Deemed Long Term Debt	$ 527	$ 135,507	$ 421,493	$ 667,198	$ 752,112	$ 701,462	$ 647,290
Equity	$ 536	$ 137,804	$ 422,973	$ 669,542	$ 754,754	$ 829,017	$ 764,993
Preferred Shares	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Return on Capital	$ 1,063	$ 273,311	$ 866,528	$ 1,371,662	$ 1,546,234	$ 1,551,767	$ 1,431,927
Operating Expenses	$ 99,285	$ 814,248	$ 689,859	$ 1,219,599	$ 1,150,191	$ 1,291,951	$ 876,662
Amortization Expenses (from Sheet 4)							
Smart Meters	$ -	$ 250,961	$ 849,231	$ 1,397,996	$ 1,645,135	$ 1,718,007	$ 1,745,194
Computer Hardware	$ -	$ 11,387	$ 29,723	$ 36,673	$ 71,705	$ 107,408	$ 108,079
Computer Software	$ -	$ 6,059	$ 20,606	$ 29,094	$ 105,630	$ 183,837	$ 185,509
Tools & Equipment	$ -	$ 45	$ 488	$ 886	$ 1,571	$ 2,255	$ 2,255
Other Equipment	$ -	$ -	$ -	$ -	$ 2,298	$ 4,597	$ 4,597
Total Amortization Expense in Year	$ -	$ 268,452	$ 900,048	$ 1,464,649	$ 1,826,339	$ 2,016,104	$ 2,045,634
Incremental Revenue Requirement before Taxes/PILs	$ 100,348	$ 1,356,011	$ 2,456,435	$ 4,055,910	$ 4,522,764	$ 4,859,822	$ 4,354,223
Calculation of Taxable Income							
Incremental Operating Expenses	$ 99,285	$ 814,248	$ 689,859	$ 1,219,599	$ 1,150,191	$ 1,291,951	$ 876,662
Amortization Expense	$ -	$ 268,452	$ 900,048	$ 1,464,649	$ 1,826,339	$ 2,016,104	$ 2,045,634
Interest Expense	$ 527	$ 135,507	$ 443,555	$ 702,120	$ 791,479	$ 722,750	$ 666,934
Net Income for Taxes/PILs	$ 536	$ 137,804	$ 422,973	$ 669,542	$ 754,754	$ 829,017	$ 764,993
Grossed-up Taxes/PILs (from Sheet 7)	$ 303.15	$ 52,694.82	$ 156,293.31	$ 286,950.46	$ 273,954.66	$ 314,334.41	$ 374,724.76
Revenue Requirement, including Grossed-up Taxes/PILs	$ 100,652	$ 1,408,706	$ 2,612,729	$ 4,342,860	$ 4,796,718	$ 5,174,156	$ 4,728,948

For PILs Calculation

UCC - Smart Meters

	2006 Audited Actual	2007 Audited Actual	2008 Audited Actual	2009 Audited Actual	2010 Audited Actual	2011 Audited Actual	2012 and later Forecast
Opening UCC	$ -	$ -	$ 7,227,669.43	$ 16,651,963.82	$ 21,121,723.33	$ 20,747,690.93	$ 19,870,866.84
Capital Additions	$ -	$ 7,528,822.32	$ 10,419,279.11	$ 6,043,663.15	$ 1,370,526.52	$ 815,615.82	$ -
Retirements/Removals (if applicable)							
UCC Before Half Year Rule	$ -	$ 7,528,822.32	$ 17,646,948.54	$ 22,695,626.97	$ 22,492,249.86	$ 21,563,306.75	$ 19,870,866.84
Half Year Rule (1/2 Additions - Disposals)	$ -	$ 3,764,411.16	$ 5,209,639.56	$ 3,021,831.57	$ 685,263.26	$ 407,807.91	$ -
Reduced UCC	$ -	$ 3,764,411.16	$ 12,437,308.98	$ 19,673,795.39	$ 21,806,986.60	$ 21,155,498.84	$ 19,870,866.84
CCA Rate Class	47	47	47	47	47	47	47
CCA Rate	8%	8%	8%	8%	8%	8%	8%
CCA	$ -	$ 301,152.89	$ 994,984.72	$ 1,573,903.63	$ 1,744,558.93	$ 1,692,439.91	$ 1,589,669.35
Closing UCC	$ -	$ 7,227,669.43	$ 16,651,963.82	$ 21,121,723.33	$ 20,747,690.93	$ 19,870,866.84	$ 18,281,197.49

UCC - Computer Equipment

	2006 Audited Actual	2007 Audited Actual	2008 Audited Actual	2009 Audited Actual	2010 Audited Actual	2011 Audited Actual	2012 and later Forecast
Opening UCC	$ -	$ -	$ 108,910.61	$ 136,318.52	$ 61,343.33	$ 614,515.78	$ 288,670.78
Capital Additions Computer Hardware	$ -	$ 113,867.91	$ 69,496.00	$ -	$ 350,321.76	$ 6,711.00	$ -
Capital Additions Computer Software	$ -	$ 36,353.62	$ 50,929.85	$ -	$ 459,211.04	$ 10,032.00	$ -
Retirements/Removals (if applicable)							
UCC Before Half Year Rule	$ -	$ 150,221.53	$ 229,336.46	$ 136,318.52	$ 870,876.13	$ 631,258.78	$ 288,670.78
Half Year Rule (1/2 Additions - Disposals)	$ -	$ 75,110.77	$ 60,212.93	$ -	$ 404,766.40	$ 8,371.50	$ -
Reduced UCC	$ -	$ 75,110.77	$ 169,123.53	$ 136,318.52	$ 466,109.73	$ 622,887.28	$ 288,670.78
CCA Rate Class	50	50	50	50	50	50	50
CCA Rate	55%	55%	55%	55%	55%	55%	55%
CCA	$ -	$ 41,310.92	$ 93,017.94	$ 74,975.18	$ 256,360.35	$ 342,588.00	$ 158,768.93
Closing UCC	$ -	$ 108,910.61	$ 136,318.52	$ 61,343.33	$ 614,515.78	$ 288,670.78	$ 129,901.85

UCC - General Equipment

	2006 Audited Actual	2007 Audited Actual	2008 Audited Actual	2009 Audited Actual	2010 Audited Actual	2011 Audited Actual	2012 and later Forecast
Opening UCC	$ -	$ -	$ 814.50	$ 7,811.10	$ 6,248.88	$ 58,692.20	$ 46,953.76
Capital Additions Tools & Equipment	$ -	$ 905.00	$ 7,955.00	$ -	$ 13,691.00	$ -	$ -
Capital Additions Other Equipment	$ -	$ -	$ -	$ -	$ 45,968.00	$ -	$ -
Retirements/Removals (if applicable)							
UCC Before Half Year Rule	$ -	$ 905.00	$ 8,769.50	$ 7,811.10	$ 65,907.88	$ 58,692.20	$ 46,953.76
Half Year Rule (1/2 Additions - Disposals)	$ -	$ 452.50	$ 3,977.50	$ -	$ 29,829.50	$ -	$ -
Reduced UCC	$ -	$ 452.50	$ 4,792.00	$ 7,811.10	$ 36,078.38	$ 58,692.20	$ 46,953.76
CCA Rate Class	8	8	8	8	8	8	8
CCA Rate	20%	20%	20%	20%	20%	20%	20%
CCA	$ -	$ 90.50	$ 958.40	$ 1,562.22	$ 7,215.68	$ 11,738.44	$ 9,390.75
Closing UCC	$ -	$ 814.50	$ 7,811.10	$ 6,248.88	$ 58,692.20	$ 46,953.76	$ 37,563.01

PILs Calculation

	2006 Audited Actual	2007 Audited Actual	2008 Audited Actual	2009 Audited Actual	2010 Audited Actual	2011 Audited Actual	2012 and later Forecast
INCOME TAX							
Net Income	$ 536.14	$ 137,803.89	$ 422,973.44	$ 669,541.73	$ 754,754.47	$ 829,016.55	$ 764,993.29
Amortization	$ -	$ 268,451.72	$ 900,048.41	$ 1,464,648.81	$ 1,826,338.76	$ 2,016,103.57	$ 2,045,633.87
CCA - Smart Meters	$ -	-$ 301,152.89	-$ 994,984.72	-$ 1,573,903.63	-$ 1,744,558.93	-$ 1,692,439.91	-$ 1,589,669.35
CCA - Computers	$ -	-$ 41,310.92	-$ 93,017.94	-$ 74,975.18	-$ 256,360.35	-$ 342,588.00	-$ 158,768.93
CCA - Applications Software	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CCA - Other Equipment	$ -	-$ 90.50	-$ 958.40	-$ 1,562.22	-$ 7,215.68	-$ 11,738.44	-$ 9,390.75
Change in taxable income	$ 536.14	$ 63,701.30	$ 234,060.78	$ 483,749.50	$ 572,958.27	$ 798,353.77	$ 1,052,798.12
Tax Rate (from Sheet 3)	36.12%	36.12%	33.50%	33.00%	31.00%	28.25%	26.25%
Income Taxes Payable	$ 193.65	$ 23,008.91	$ 78,410.36	$ 159,637.33	$ 177,617.06	$ 225,534.94	$ 276,359.51
ONTARIO CAPITAL TAX							
Smart Meters	$ -	$ 7,277,861.58	$ 16,847,909.90	$ 21,493,577.51	$ 21,218,968.84	$ 20,316,578.06	$ 18,571,384.26
Computer Hardware	$ -	$ 102,481.12	$ 142,253.94	$ 105,581.16	$ 384,197.96	$ 283,500.72	$ 175,421.39
Computer Software (Including Application Software)	$ -	$ 30,294.68	$ 60,618.35	$ 31,523.86	$ 385,105.24	$ 211,300.40	$ 25,791.56
Tools & Equipment	$ -	$ 859.75	$ 8,326.50	$ 7,440.50	$ 19,560.95	$ 17,305.85	$ 15,050.75
Other Equipment	$ -	$ -	$ -	$ -	$ 43,669.60	$ 39,072.80	$ 34,476.00
Rate Base	$ -	$ 7,411,497.13	$ 17,059,108.68	$ 21,638,123.03	$ 22,051,502.59	$ 20,867,757.83	$ 18,822,123.97
Less: Exemption							
Deemed Taxable Capital	$ -	$ 7,411,497.13	$ 17,059,108.68	$ 21,638,123.03	$ 22,051,502.59	$ 20,867,757.83	$ 18,822,123.97
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)	$ -	$ 16,675.87	$ 38,382.99	$ 48,685.78	$ 16,538.63	$ -	$ -
Change in Income Taxes Payable	$ 193.65	$ 23,008.91	$ 78,410.36	$ 159,637.33	$ 177,617.06	$ 225,534.94	$ 276,359.51
Change in OCT	$ -	$ 16,675.87	$ 38,382.99	$ 48,685.78	$ 16,538.63	$ -	$ -
PILs	$ 193.65	$ 39,684.78	$ 116,793.36	$ 208,323.11	$ 194,155.69	$ 225,534.94	$ 276,359.51
Gross Up PILs							
Tax Rate	36.12%	36.12%	33.50%	33.00%	31.00%	28.25%	26.25%
Change in Income Taxes Payable	$ 303.15	$ 36,018.96	$ 117,910.32	$ 238,264.68	$ 257,416.03	$ 314,334.41	$ 374,724.76
Change in OCT	$ -	$ 16,675.87	$ 38,382.99	$ 48,685.78	$ 16,538.63	$ -	$ -
PILs	**$ 303.15**	**$ 52,694.82**	**$ 156,293.31**	**$ 286,950.46**	**$ 273,954.66**	**$ 314,334.41**	**$ 374,724.76**

Ontario Energy Board

Smart Meter Model

Horizon Utilities Corporation

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	$ -	$ 89,706.86	4.14%	$ -	$ 89,706.86		$ 0.39
2007 Q2	4.59%	4.72%	Jun-06	2006	Q2	$ 89,706.86	$ 92,727.18	4.14%	$ 309.49	$ 182,743.53		$ 0.39
2007 Q3	4.59%	5.18%	Jul-06	2006	Q3	$ 182,434.04	$ 89,774.95	4.59%	$ 697.81	$ 272,906.80		$ 0.39
2007 Q4	5.14%	5.18%	Aug-06	2006	Q3	$ 272,208.99	$ 89,851.47	4.59%	$ 1,041.20	$ 363,101.66		$ 0.39
2008 Q1	5.14%	5.18%	Sep-06	2006	Q3	$ 362,060.46	$ 89,798.61	4.59%	$ 1,384.88	$ 453,243.95		$ 0.39
2008 Q2	4.08%	5.18%	Oct-06	2006	Q4	$ 451,859.07	$ 80,613.11	4.59%	$ 1,728.36	$ 534,200.54		$ 0.39
2008 Q3	3.35%	5.43%	Nov-06	2006	Q4	$ 532,472.18	$ 82,472.91	4.59%	$ 2,036.71	$ 616,981.80		$ 0.39
2008 Q4	3.35%	5.43%	Dec-06	2006	Q4	$ 614,945.09	$ 87,122.76	4.59%	$ 2,352.16	$ 704,420.01	$ 711,618.46	$ 0.39
2009 Q1	2.45%	6.61%	Jan-07	2007	Q1	$ 702,067.85	$ 88,767.79	4.59%	$ 2,685.41	$ 793,521.05		$ 0.39
2009 Q2	1.00%	6.61%	Feb-07	2007	Q1	$ 790,835.64	$ 86,730.74	4.59%	$ 3,024.95	$ 880,591.33		$ 0.39
2009 Q3	0.55%	5.67%	Mar-07	2007	Q1	$ 877,566.38	$ 90,600.48	4.59%	$ 3,356.69	$ 971,523.55		$ 0.39
2009 Q4	0.55%	4.66%	Apr-07	2007	Q2	$ 968,166.86	$ 88,083.97	4.59%	$ 3,703.24	$ 1,059,954.07		$ 0.39
2010 Q1	0.55%	4.34%	May-07	2007	Q2	$ 1,056,250.83	$ 186,278.63	4.59%	$ 4,040.16	$ 1,246,569.62		$ 0.82
2010 Q2	0.55%	4.34%	Jun-07	2007	Q2	$ 1,242,529.46	$ 188,374.12	4.59%	$ 4,752.68	$ 1,435,656.26		$ 0.82
2010 Q3	0.89%	4.66%	Jul-07	2007	Q3	$ 1,430,903.58	$ 173,700.37	4.59%	$ 5,473.21	$ 1,610,077.16		$ 0.82
2010 Q4	1.20%	4.01%	Aug-07	2007	Q3	$ 1,604,603.95	$ 195,745.60	4.59%	$ 6,137.61	$ 1,806,487.16		$ 0.82
2011 Q1	1.47%	4.29%	Sep-07	2007	Q3	$ 1,800,349.55	$ 188,874.49	4.59%	$ 6,886.34	$ 1,996,110.38		$ 0.82
2011 Q2	1.47%	4.29%	Oct-07	2007	Q4	$ 1,989,224.04	$ 188,780.38	5.14%	$ 8,520.51	$ 2,186,524.93		$ 0.82
2011 Q3	1.47%	4.29%	Nov-07	2007	Q4	$ 2,178,004.42	$ 183,430.27	5.14%	$ 9,329.12	$ 2,370,763.81		$ 0.82
2011 Q4	1.47%	4.29%	Dec-07	2007	Q4	$ 2,361,434.69	$ 193,327.44	5.14%	$ 10,114.81	$ 2,564,876.94	$ 1,920,719.01	$ 0.82
2012 Q1	1.47%	4.29%	Jan-08	2008	Q1	$ 2,554,762.13	$ 189,649.27	5.14%	$ 10,942.90	$ 2,755,354.30		$ 0.82
2012 Q2		4.29%	Feb-08	2008	Q1	$ 2,744,411.40	$ 188,411.30	5.14%	$ 11,755.23	$ 2,944,577.93		$ 0.82
2012 Q3		4.29%	Mar-08	2008	Q1	$ 2,932,822.70	$ 35,882.23	5.14%	$ 12,562.26	$ 2,981,267.19		$ 0.82
2012 Q4		4.29%	Apr-08	2008	Q2	$ 2,968,704.93	$ 186,866.28	4.08%	$ 10,093.60	$ 3,165,664.81		$ 0.82
			May-08	2008	Q2	$ 3,155,571.21	$ 190,814.06	4.08%	$ 10,728.94	$ 3,357,114.21		$ 0.82
			Jun-08	2008	Q2	$ 3,346,385.27	$ 190,336.63	4.08%	$ 11,377.71	$ 3,548,099.61		$ 0.82
			Jul-08	2008	Q3	$ 3,536,721.90	$ 178,274.17	3.35%	$ 9,873.35	$ 3,724,869.42		$ 0.82
			Aug-08	2008	Q3	$ 3,714,996.07	$ 195,858.21	3.35%	$ 10,371.03	$ 3,921,225.31		$ 0.82
			Sep-08	2008	Q3	$ 3,910,854.28	$ 354,060.77	3.35%	$ 10,917.80	$ 4,275,832.85		$ 0.82
			Oct-08	2008	Q4	$ 4,264,915.05	$ 185,720.20	3.35%	$ 11,906.22	$ 4,462,541.47		$ 0.82
			Nov-08	2008	Q4	$ 4,450,635.25	$ 191,099.14	3.35%	$ 12,424.69	$ 4,654,159.08		$ 0.82
			Dec-08	2008	Q4	$ 4,641,734.39	$ 192,441.01	3.35%	$ 12,958.18	$ 4,847,133.58	$ 2,415,325.18	$ 0.82
			Jan-09	2009	Q1	$ 4,834,175.40	$ 192,097.07	2.45%	$ 9,869.77	$ 5,036,142.24		$ 0.82
			Feb-09	2009	Q1	$ 5,026,272.47	$ 199,179.87	2.45%	$ 10,261.97	$ 5,235,714.31		$ 0.82
			Mar-09	2009	Q1	$ 5,225,452.34	$ 165,350.75	2.45%	$ 10,668.63	$ 5,401,471.72		$ 0.82
			Apr-09	2009	Q2	$ 5,390,803.09	$ 200,009.99	1.00%	$ 4,492.34	$ 5,595,305.42		$ 0.82
			May-09	2009	Q2	$ 5,590,813.08	$ 181,434.67	1.00%	$ 4,659.01	$ 5,776,906.76		$ 0.82
			Jun-09	2009	Q2	$ 5,772,247.75	$ 181,892.78	1.00%	$ 4,810.21	$ 5,958,950.74		$ 0.82
			Jul-09	2009	Q3	$ 5,954,140.53	$ 193,078.73	0.55%	$ 2,728.98	$ 6,149,948.24		$ 0.82
			Aug-09	2009	Q3	$ 6,147,219.26	$ 206,153.00	0.55%	$ 2,817.48	$ 6,356,189.74		$ 0.82
			Sep-09	2009	Q3	$ 6,353,372.26	$ 171,463.82	0.55%	$ 2,911.96	$ 6,527,748.04		$ 0.82
			Oct-09	2009	Q4	$ 6,524,836.08	$ 188,961.20	0.55%	$ 2,990.55	$ 6,716,787.83		$ 0.82
			Nov-09	2009	Q4	$ 6,713,797.28	$ 375,126.77	0.55%	$ 3,077.16	$ 7,092,001.21		$ 1.56
			Dec-09	2009	Q4	$ 7,088,924.05	$ 363,072.38	0.55%	$ 3,249.09	$ 7,455,245.52	$ 2,680,358.18	$ 1.56
			Jan-10	2010	Q1	$ 7,451,996.43	$ 449,162.59	0.55%	$ 3,415.50	$ 7,904,574.52		$ 1.56
			Feb-10	2010	Q1	$ 7,901,159.02	$ 371,437.92	0.55%	$ 3,621.36	$ 8,276,218.30		$ 1.56
			Mar-10	2010	Q1	$ 8,272,596.94	$ 348,553.25	0.55%	$ 3,791.61	$ 8,624,941.80		$ 1.56
			Apr-10	2010	Q2	$ 8,621,150.19	$ 376,562.71	0.55%	$ 3,951.36	$ 9,001,664.26		$ 1.56
			May-10	2010	Q2	$ 8,997,712.90	$ 367,443.48	0.55%	$ 4,123.95	$ 9,369,280.33		$ 1.56
			Jun-10	2010	Q2	$ 9,365,156.38	$ 326,712.40	0.55%	$ 4,292.36	$ 9,696,161.14		$ 1.56
			Jul-10	2010	Q3	$ 9,691,868.78	$ 368,087.35	0.89%	$ 7,188.14	$ 10,067,144.27		$ 1.56
			Aug-10	2010	Q3	$ 10,059,956.13	$ 369,143.82	0.89%	$ 7,461.13	$ 10,436,561.08		$ 1.56
			Sep-10	2010	Q3	$ 10,429,099.95	$ 336,945.60	0.89%	$ 7,734.92	$ 10,773,780.47		$ 1.56
			Oct-10	2010	Q4	$ 10,766,045.55	$ 359,926.24	1.20%	$ 10,766.05	$ 11,136,737.84		$ 1.56
			Nov-10	2010	Q4	$ 11,125,971.79	$ 375,232.39	1.20%	$ 11,125.97	$ 11,512,330.15		$ 1.56
			Dec-10	2010	Q4	$ 11,501,204.18	$ 376,615.71	1.20%	$ 11,501.20	$ 11,889,321.09	$ 4,504,797.01	$ 1.56
			Jan-11	2011	Q1	$ 11,877,819.89	$ 363,137.60	1.47%	$ 14,550.33	$ 12,255,507.82		$ 1.56
			Feb-11	2011	Q1	$ 12,240,957.49	$ 370,406.88	1.47%	$ 14,995.17	$ 12,626,359.54		$ 1.56
			Mar-11	2011	Q1	$ 12,611,364.37	$ 486,288.82	1.47%	$ 15,448.92	$ 13,113,102.11		$ 2.14
			Apr-11	2011	Q2	$ 13,097,653.19	$ 499,776.23	1.47%	$ 16,044.63	$ 13,613,474.05		$ 2.14
			May-11	2011	Q2	$ 13,597,429.42	$ 515,414.14	1.47%	$ 16,656.85	$ 14,129,500.41		$ 2.14
			Jun-11	2011	Q2	$ 14,112,843.56	$ 478,142.20	1.47%	$ 17,288.23	$ 14,608,273.99		$ 2.14
			Jul-11	2011	Q3	$ 14,590,985.76	$ 515,336.60	1.47%	$ 17,873.96	$ 15,124,196.32		$ 2.14
			Aug-11	2011	Q3	$ 15,106,322.36	$ 494,467.83	1.47%	$ 18,505.24	$ 15,619,295.43		$ 2.14
			Sep-11	2011	Q3	$ 15,600,790.19	$ 500,346.89	1.47%	$ 19,110.97	$ 16,120,248.05		$ 2.14
			Oct-11	2011	Q4	$ 16,101,137.08	$ 502,643.20	1.47%	$ 19,723.89	$ 16,623,504.17		$ 2.14
			Nov-11	2011	Q4	$ 16,603,780.28	$ 502,643.20	1.47%	$ 20,339.63	$ 17,126,763.11		$ 2.14
			Dec-11	2011	Q4	$ 17,106,423.48	$ 502,643.20	1.47%	$ 20,955.37	$ 17,630,022.05	$ 5,942,739.98	$ 2.14
			Jan-12	2012	Q1	$ 17,609,066.68	$ 502,644.20	1.47%	$ 21,571.11	$ 18,133,281.99		$ 2.14
			Feb-12	2012	Q1	$ 18,111,710.88	$ 502,643.20	1.47%	$ 22,186.85	$ 18,636,540.93		$ 2.14


Ontario Energy Board

Smart Meter Model

Horizon Utilities Corporation

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)
			Mar-12	2012	Q1	$ 18,614,354.08	$ 502,645.20	1.47%	$ 22,802.58	$ 19,139,801.86		$ 2.14
			Apr-12	2012	Q2	$ 19,116,999.28	$ 502,643.20	1.47%	$ 23,418.32	$ 19,643,060.80		$ 2.14
			May-12	2012	Q2	$ 19,619,642.48		0.00%	$ -	$ 19,619,642.48		
			Jun-12	2012	Q2	$ 19,619,642.48		0.00%	$ -	$ 19,619,642.48		
			Jul-12	2012	Q3	$ 19,619,642.48		0.00%	$ -	$ 19,619,642.48		
			Aug-12	2012	Q3	$ 19,619,642.48		0.00%	$ -	$ 19,619,642.48		
			Sep-12	2012	Q3	$ 19,619,642.48		0.00%	$ -	$ 19,619,642.48		
			Oct-12	2012	Q4	$ 19,619,642.48		0.00%	$ -	$ 19,619,642.48		
			Nov-12	2012	Q4	$ 19,619,642.48		0.00%	$ -	$ 19,619,642.48		
			Dec-12	2012	Q4	$ 19,619,642.48		0.00%	$ -	$ 19,619,642.48	$ 2,100,554.66	
			Total Funding Adder Revenues Collected				**$ 19,619,642.48**		**$ 656,470.00**	**$ 20,276,112.48**	**$ 20,276,112.48**	

Ontario Energy Board

Smart Meter Model

Horizon Utilities Corporation

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	-	$ 99,285.03	$ -	99,285.03	4.59%	-	-
2009 Q1	2.45%	6.61%	Jan-07	2007	Q1	99,285.03	$ 37,004.00	$ 89.77	136,378.80	4.59%	379.77	379.77
2009 Q2	1.00%	6.61%	Feb-07	2007	Q1	136,378.80	$ 64,986.00	$ 2,230.44	203,595.25	4.59%	521.65	901.41
2009 Q3	0.55%	5.67%	Mar-07	2007	Q1	203,595.25	$ 52,185.00	$ 6,488.59	262,268.84	4.59%	778.75	1,680.17
2009 Q4	0.55%	4.66%	Apr-07	2007	Q2	262,268.84	$ 31,908.00	$ 8,501.75	302,678.58	4.59%	1,003.18	2,683.34
2010 Q1	0.55%	4.34%	May-07	2007	Q2	302,678.58	$ 51,571.00	$ 13,409.44	367,659.02	4.59%	1,157.75	3,841.09
2010 Q2	0.55%	4.34%	Jun-07	2007	Q2	367,659.02	$ 51,187.00	$ 16,088.39	434,934.41	4.59%	1,406.30	5,247.39
2010 Q3	0.89%	4.66%	Jul-07	2007	Q3	434,934.41	$ 89,584.00	$ 21,699.90	546,218.31	4.59%	1,663.62	6,911.01
2010 Q4	1.20%	4.01%	Aug-07	2007	Q3	546,218.31	$ 86,103.00	$ 21,896.19	654,217.50	4.59%	2,089.29	9,000.29
2011 Q1	1.47%	4.29%	Sep-07	2007	Q3	654,217.50	$ 100,365.00	$ 24,523.24	779,105.75	4.59%	2,502.38	11,502.68
2011 Q2	1.47%	4.29%	Oct-07	2007	Q4	779,105.75	$ 82,742.00	$ 27,103.13	888,950.88	5.14%	3,337.17	14,839.85
2011 Q3	1.47%	4.29%	Nov-07	2007	Q4	888,950.88	$ 51,628.00	$ 35,341.88	975,920.76	5.14%	3,807.67	18,647.52
2011 Q4	1.47%	4.29%	Dec-07	2007	Q4	975,920.76	$ 114,985.34	$ 39,701.32	1,130,607.42	5.14%	4,180.19	22,827.71
2012 Q1	1.47%	4.29%	Jan-08	2008	Q1	1,130,607.42	$ 37,504.00	$ 23,188.65	1,191,300.07	5.14%	4,842.77	27,670.48
2012 Q2	0.00%	4.29%	Feb-08	2008	Q1	1,191,300.07	$ 38,418.00	$ 44,404.68	1,274,122.75	5.14%	5,102.74	32,773.22
2012 Q3	0.00%	4.29%	Mar-08	2008	Q1	1,274,122.75	$ 69,850.00	$ 45,257.59	1,389,230.34	5.14%	5,457.49	38,230.71
2012 Q4	0.00%	4.29%	Apr-08	2008	Q2	1,389,230.34	$ 65,073.00	$ 49,630.49	1,503,933.83	4.08%	4,723.38	42,954.09
			May-08	2008	Q2	1,503,933.83	$ 35,747.00	$ 56,079.98	1,595,760.81	4.08%	5,113.38	48,067.47
			Jun-08	2008	Q2	1,595,760.81	$ 174,561.00	$ 60,507.58	1,830,829.39	4.08%	5,425.59	53,493.05
			Jul-08	2008	Q3	1,830,829.39	$ 46,424.00	$ 61,905.74	1,939,159.13	3.35%	5,111.07	58,604.12
			Aug-08	2008	Q3	1,939,159.13	$ 66,477.00	$ 64,318.41	2,069,954.54	3.35%	5,413.49	64,017.61
			Sep-08	2008	Q3	2,069,954.54	-$ 63,713.88	$ 69,910.47	2,076,151.13	3.35%	5,778.62	69,796.23
			Oct-08	2008	Q4	2,076,151.13	$ 54,849.41	$ 70,871.78	2,201,872.32	3.35%	5,795.92	75,592.15
			Nov-08	2008	Q4	2,201,872.32	$ 55,332.81	$ 17,659.79	2,274,864.92	3.35%	6,146.89	81,739.04
			Dec-08	2008	Q4	2,274,864.92	$ 109,336.64	$ 147,125.41	2,531,326.97	3.35%	6,350.66	88,089.71
			Jan-09	2009	Q1	2,531,326.97	$ 22,497.68	$ 93,030.27	2,646,854.92	2.45%	5,168.13	93,257.83
			Feb-09	2009	Q1	2,646,854.92	$ 44,185.00	$ 93,047.31	2,784,087.23	2.45%	5,404.00	98,661.83
			Mar-09	2009	Q1	2,784,087.23	$ 66,894.00	$ 130,508.93	2,981,490.16	2.45%	5,684.18	104,346.01
			Apr-09	2009	Q2	2,981,490.16	$ 73,318.00	$ 103,779.84	3,158,588.00	1.00%	2,484.58	106,830.58
			May-09	2009	Q2	3,158,588.00	$ 85,888.00	$ 114,059.23	3,358,535.23	1.00%	2,632.16	109,462.74
			Jun-09	2009	Q2	3,358,535.23	$ 114,008.00	$ 121,834.71	3,594,377.94	1.00%	2,798.78	112,261.52
			Jul-09	2009	Q3	3,594,377.94	$ 128,697.00	$ 125,461.98	3,848,536.92	0.55%	1,647.42	113,908.94
			Aug-09	2009	Q3	3,848,536.92	$ 61,048.00	$ 137,907.01	4,047,491.93	0.55%	1,763.91	115,672.86
			Sep-09	2009	Q3	4,047,491.93	$ 126,268.00	$ 131,814.20	4,305,574.13	0.55%	1,855.10	117,527.96
			Oct-09	2009	Q4	4,305,574.13	$ 107,448.00	$ 140,254.68	4,553,276.81	0.55%	1,973.39	119,501.34
			Nov-09	2009	Q4	4,553,276.81	$ 184,000.00	$ 142,245.25	4,879,522.06	0.55%	2,086.92	121,588.26
			Dec-09	2009	Q4	4,879,522.06	$ 205,347.00	$ 106,087.32	5,190,956.38	0.55%	2,236.45	123,824.71
			Jan-10	2010	Q1	5,190,956.38	$ 137,648.00	$ 144,386.90	5,472,991.28	0.55%	2,379.19	126,203.90
			Feb-10	2010	Q1	5,472,991.28	$ 92,176.00	$ 292,007.58	5,857,174.86	0.55%	2,508.45	128,712.35
			Mar-10	2010	Q1	5,857,174.86	$ 62,224.00	$ 151,474.96	6,070,873.82	0.55%	2,684.54	131,396.89
			Apr-10	2010	Q2	6,070,873.82	-$ 6,429.00	$ 133,468.28	6,197,913.10	0.55%	2,782.48	134,179.37
			May-10	2010	Q2	6,197,913.10	-$ 17,271.00	$ 276,963.18	6,457,605.28	0.55%	2,840.71	137,020.08
			Jun-10	2010	Q2	6,457,605.28	$ 40,850.00	$ 135,167.57	6,633,622.85	0.55%	2,959.74	139,979.82
			Jul-10	2010	Q3	6,633,622.85	$ 114,657.00	$ 183,140.88	6,931,420.73	0.89%	4,919.94	144,899.76
			Aug-10	2010	Q3	6,931,420.73	$ 437,432.00	$ 183,140.86	7,551,993.59	0.89%	5,140.80	150,040.56
			Sep-10	2010	Q3	7,551,993.59	$ 49,945.00	$ 218,393.94	7,820,332.53	0.89%	5,601.06	155,641.62
			Oct-10	2010	Q4	7,820,332.53	$ 66,853.00	$ 194,891.88	8,082,077.41	1.20%	7,820.33	163,461.96
			Nov-10	2010	Q4	8,082,077.41	$ 43,360.00	$ 194,891.89	8,320,329.30	1.20%	8,082.08	171,544.03
			Dec-10	2010	Q4	8,320,329.30	$ 128,746.00	$ 91,601.56	8,540,676.86	1.20%	8,320.33	179,864.36
			Jan-11	2011	Q1	8,540,676.86	$ 70,000.00	$ 181,980.56	8,792,657.42	1.47%	10,462.33	190,326.69
			Feb-11	2011	Q1	8,792,657.42	$ 200,633.00	$ 183,905.14	9,177,195.56	1.47%	10,771.01	201,097.70
			Mar-11	2011	Q1	9,177,195.56	$ 81,357.00	$ 188,480.66	9,447,033.22	1.47%	11,242.06	212,339.76
			Apr-11	2011	Q2	9,447,033.22	$ 96,685.00	$ 183,733.95	9,727,452.17	1.47%	11,572.62	223,912.38
			May-11	2011	Q2	9,727,452.17	$ 76,496.00	$ 192,778.87	9,996,727.04	1.47%	11,916.13	235,828.51
			Jun-11	2011	Q2	9,996,727.04	$ 84,341.00	$ 184,962.58	10,266,030.62	1.47%	12,245.99	248,074.50
			Jul-11	2011	Q3	10,266,030.62	$ 69,172.00	$ 185,080.60	10,520,283.22	1.47%	12,575.89	260,650.38
			Aug-11	2011	Q3	10,520,283.22	$ 85,114.00	$ 162,396.44	10,767,793.66	1.47%	12,887.35	273,537.73
			Sep-11	2011	Q3	10,767,793.66	$ 173,184.42	-$ 148,070.25	10,792,907.83	1.47%	13,190.55	286,728.28
			Oct-11	2011	Q4	10,792,907.83	$ 84,009.00	$ 164,837.98	11,041,754.81	1.47%	13,221.31	299,949.59
			Nov-11	2011	Q4	11,041,754.81	$ 135,479.98	$ 268,008.56	11,445,243.35	1.47%	13,526.15	313,475.74
			Dec-11	2011	Q4	11,445,243.35	$ 135,479.98	$ 268,008.56	11,848,731.89	1.47%	14,020.42	327,496.16
			Jan-12	2012	Q1	11,848,731.89	$ 73,055.20	$ 170,469.49	12,092,256.58	1.47%	14,514.70	342,010.86
			Feb-12	2012	Q1	12,092,256.58	$ 73,055.20	$ 170,469.49	12,335,781.28	1.47%	14,813.01	356,823.87
			Mar-12	2012	Q1	12,335,781.28	$ 73,055.20	$ 170,469.49	12,579,305.97	1.47%	15,111.33	371,935.21
			Apr-12	2012	Q2	12,579,305.97	$ 73,055.20	$ 170,469.49	12,822,830.66	1.47%	15,409.65	387,344.86
			May-12	2012	Q2	12,822,830.66			12,822,830.66	0.00%	-	387,344.86
			Jun-12	2012	Q2	12,822,830.66			12,822,830.66	0.00%	-	387,344.86
			Jul-12	2012	Q3	12,822,830.66			12,822,830.66	0.00%	-	387,344.86
			Aug-12	2012	Q3	12,822,830.66			12,822,830.66	0.00%	-	387,344.86
			Sep-12	2012	Q3	12,822,830.66			12,822,830.66	0.00%	-	387,344.86
			Oct-12	2012	Q4	12,822,830.66			12,822,830.66	0.00%	-	387,344.86
			Nov-12	2012	Q4	12,822,830.66			12,822,830.66	0.00%	-	387,344.86
			Dec-12	2012	Q4	12,822,830.66			12,822,830.66	0.00%	-	387,344.86
							$ 5,557,354.23	$ 7,265,476.43	$ 12,822,830.66			

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	$ 99,285.03	$ -	$ 99,285.03	$ 49,642.52	4.37%	$ 2,166.90
2007	$ 814,248.34	$ 268,451.72	$ 1,181,985.09	$ 640,635.06	4.73%	$ 30,286.02
2008	$ 689,858.91	$ 900,048.41	$ 2,771,892.41	$ 1,976,938.75	3.98%	$ 78,682.16
2009	$ 1,219,598.68	$ 1,464,648.81	$ 5,456,139.89	$ 4,114,016.15	1.14%	$ 46,796.93
2010	$ 1,150,191.00	$ 1,826,338.76	$ 8,432,669.66	$ 6,944,404.77	0.80%	$ 55,381.63
2011	$ 1,291,951.41	$ 2,016,103.57	$ 11,740,724.64	$ 10,086,697.15	1.47%	$ 148,274.45
2012	$ 876,662.46	$ 2,045,633.87	$ 14,663,020.96	$ 13,201,872.80	1.47%	$ 194,067.53
Cumulative Interest to 2011						$ 361,588.09
Cumulative Interest to 2012						$ 555,655.62

Ontario Energy Board

Smart Meter Model

Horizon Utilities Corporation

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		
X	Smart Meter Funding Adder (SMFA)	
X	Smart Meter Disposition Rider (SMDR)	**The SMDR is calculated based on costs to December 31, 2011**
X	Smart Meter Incremental Revenue Requirement Rate Rider (SMIRR)	**The SMIRR is calculated based on the incremental revenue requirement associated with the recovery of capital related costs to December 31, 2012 and associated OM&A.**

	2006	2007	2008	2009	2010	2011	2012 and later	Total
Deferred and forecasted Smart Meter Incremental Revenue Requirement (from Sheet 5)	$ 100,651.52	$ 1,408,705.93	$ 2,612,728.59	$ 4,342,860.03	$ 4,796,718.28	$ 5,174,156.08	$ 4,728,947.97	$ 23,164,768.41
Interest on Deferred and forecasted OM&A and Amortization Expense (Sheet 8A/8B) (Check **one** of the boxes below)	$ -	$ 22,827.71	$ 65,262.00	$ 35,735.00	$ 56,039.65	$ 147,631.80		$ 327,496.16
X Sheet 8A (Interest calculated on monthly balances)	$ -	$ 22,827.71	$ 65,262.00	$ 35,735.00	$ 56,039.65	$ 147,631.80		$ 327,496.16
Sheet 8B (Interest calculated on average annual balances)								$ -
SMFA Revenues (from Sheet 8)	$ 702,067.85	$ 1,852,694.28	$ 2,279,413.27	$ 2,617,821.03	$ 4,425,823.46	$ 5,731,246.79	$ 2,010,575.80	$ 19,619,642.48
SMFA Interest (from Sheet 8)	$ 9,550.61	$ 68,024.73	$ 135,911.91	$ 62,537.15	$ 78,973.55	$ 211,493.19	$ 89,978.86	$ 656,470.00
Net Deferred Revenue Requirement	-$ 610,966.94	-$ 489,185.36	$ 262,665.41	$ 1,698,236.85	$ 347,960.92	-$ 620,952.10	$ 2,628,393.31	$ 3,216,152.09
Number of Metered Customers (average for 2012 test year)							235585	

Calculation of Smart Meter Funding Adder (per metered customer per month)

Net Deferred Revenues from 2006 to April 30, 2012		$ 3,216,152.09
SMFA	May 1, 2012 to April 30, 201X	$ 0.93
Check: Forecasted SMFA Revenues for 2012 test year		$ 2,629,132.73

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

Years for collection or refunding		1
Deferred Incremental Revenue Requirement from 2006 to December 31, 2011 plus Interest on OM&A and Amortization		$ 18,763,316.60
SMFA Revenues collected from 2006 to 2012 test year (inclusive) Plus Simple Interest on SMFA Revenues		$ 20,276,112.48
Net Deferred Revenue Requirement		-$ 1,512,795.88
SMDR	May 1, 2012 to April 30, 201X	-$ 0.54
Check: Forecasted SMDR Revenues		-$ 1,526,593.20

Match

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

Incremental Revenue Requirement for 2012		$ 4,728,947.97
SMIRR		$ 1.67
Check: Forecasted SMIRR Revenues		$ 4,721,130.81

Match

Funding and Cost Recovery Mechanisms

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

Title	Acronym	Description
Smart Meter Funding Adder	SMFA	• Mechanism to provide funding before and during smart meter deployment and acts to smooth the rate increases due to smart meter implementation. • First implemented in rates for May 1, 2006. • Initially established at a level of about $0.26/month per metered customer for most distributors; some utilities have had unique SMFA rates due to initial Smart Meter Implementation Plans. Distributors could subsequently apply for a standard SMFA of $1.00 per metered customer per month or a utility-specific SMFA. • SMFA revenues are tracked in a sub-account of Account 1555. Upon disposition, the SMFA revenues and simple interest are used to offset the deferred historical revenue requirement of installed smart meters plus interest on the OM&A and amortization/depreciation expenses, with the variance recovered or refunded through the SMDR. • In many 2011 EDR applications, the Board capped the SMFA at $2.50/month per metered customer. Further, the Board indicated that the SMFA would cease by April 30, 2012.
Smart Meter Disposition Rider	SMDR	• The SMDR recovers, over a specified time period, the variance between: 1) the deferred revenue requirement for the installed smart meters up to the time of disposition and interest on OM&A and depreciation/amortization expenses; and 2) the SMFA revenues collected and associated interest. • The SMDR should be calculated as a fixed monthly charge. The capital (smart meter, AMI, systems hardware and software) and operating expenses are largely fixed costs and invariant to a customer's demand, and hence should be recovered largely through fixed charges. • In many cases the SMDR has been recovered on an equal basis from all metered customer classes, although more recent decisions have dealt with class-specific disposition riders. The distributor should determine and support its proposed allocation, based on principles of cost causality and practicality.
Smart Meter Incremental Revenue Requirement Rate Rider	SMIRR	• When smart meter disposition occurs in a stand-alone application, a SMIRR is calculated as the proxy for the incremental change in the distribution rates that would have occurred if the assets and operating expenses were incorporated into the rate base and the revenue requirement. • The SMIRR is calculated as the annualized revenue requirement for the test year for the capital and operating costs for smart meters. • The SMIRR should be calculated as a fixed monthly charge, similar to the SMDR. • The allocation for the SMIRR should generally be the same as for the SMDR. • The SMIRR ceases at the time of the utility's next cost of service application when smart meter capital and operating costs are explicitly incorporated into the rate base and revenue requirement.

Cost of Service Applications

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

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

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

Stand-alone Applications

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

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

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

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

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

Costs Beyond Minimum Functionality

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Cost Allocation

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

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

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

Stranded Meters

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

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

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

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

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

APPENDIX 2.1

REVENUE REQUIREMENT FOR SMART METER DISPOSITION RIDER ("SMDR")

Smart Meter Disposition Rider		**Amount**
Smart Meter Revenue Requirement -2006		$100,652
Smart Meter Revenue Requirement -2007		$1,408,706
Smart Meter Revenue Requirement -2008		$2,612,729
Smart Meter Revenue Requirement -2009		$4,342,860
Smart Meter Revenue Requirement -2010		$4,796,718
Smart Meter Revenue Requirement -2011		$5,174,156
Smart Meter Revenue Requirement -2012		$1,576,316
Revenue Requirement Total	**A**	$20,012,136
Smart Meter Rate Adder	**B**	($19,619,642)
Carrying Cost	**C**	($43,807)
Smart Meter True-up	**D=A+B+C**	$348,687
Number of Metered Customers	**E**	**235,586**
Rate Rider	**F=D/E/12**	$0.12

APPENDIX 2.2

SMART METER INCREMENTAL REVENUE REQUIREMENT ("SMIRR")

Smart Meter Incremental Revenue Rider		**Amount**
Net Fixed Assets	A	$19,844,941
OM&A	B	$876,662
Working Capital Factor @ 13.5%	C=B*13.5%	$118,349
Smart Meter Rate Base	D	$19,963,290
comprised of (Capital Structure):		
Deemed Short Term Debt	E	$798,532
Deemed Long Term Debt	F	$11,179,443
Equity	G	$7,985,316
	H=E+F+G	$19,963,290
Return on Capital	I	$1,431,927
Amortization	J	$2,045,634
OM&A	K=B	$876,662
Grossed Up Taxes/ PILS	L	$374,725
Revenue Requirement	M=I+J+K+L	$4,728,948
Number of Metered Customers	N	235,586
SMIRR	O=M/N	$1.67

APPENDIX 3

BILL IMPACT CALCULATIONS

Customer Class	Billing Units	Average Monthly Volume	Distribution charges		Variance		Total Bill Charges		Variance	
			*Current	Proposed	$	%	*Current	Proposed	$	%
Residential	kWh	800	$25.79	$25.23	($0.56)	(2.15%)	$119.74	$119.18	($0.56)	(0.46%)
GS< 50kW	kWh	2,000	$44.78	$46.50	$1.72	3.83%	$284.80	$286.52	$1.72	0.60%
GS 50 to 4,999 kW	kW	2,500	$1,917.63	$1,921.00	$3.37	0.18%	$117,477.26	$117,480.63	$3.37	0.003%

*Current charges reflect those proposed in Horizon Utilities 2012 Electiricity Distribution Rate Application [EB-2011-0172].

APPENDIX 4

RECONCILIATION OF ACCOUNTS 1555 AND 1556

1555		2006	2007	2008	2009	2010	2011 Forecast	Total 2006-2011	Jan-Apr 2012 Forecast	Grand Total
Funding Adder Revenue	**A**	**($702,068)**	**($1,852,694)**	**($2,279,413)**	**($2,617,821)**	**($4,425,823)**	**($5,731,247)**	**($17,609,067)**	**($2,010,576)**	**($19,619,642)**
Capital - 1860 .1861		$0	$7,528,822	$10,419,280	$6,043,663	$1,370,527	$815,616	$26,177,908	$0	$26,177,908
Capital - 1920.1923		$0	$113,868	$69,496	$0	$350,322	$6,711	$540,396	$0	$540,396
Capital - 1925-1925		$0	$36,354	$50,930	$0	$459,210	$10,032	$556,526		$556,526
Capital - 1940.1940		$0	$905	$7,954	$0	$13,691	$0	$22,551		$22,551
Capital - 1915-1915		$0	$0	$0	$0	$45,968	$0	$45,968		$45,968
Total Capital	**B**	**$0**	**$7,679,949**	**$10,547,660**	**$6,043,663**	**$2,239,718**	**$832,359**	**$27,343,349**	**$0**	**$27,343,349**
Acc. Amort. - 1860 .1861		$0	($197,829)	($651,478)	($1,373,378)	($1,639,572)	($1,718,007)	($5,580,264)	($581,731)	($6,161,995)
Acc. Amort. - 1920.1923		$0	($9,101)	($35,371)	($36,673)	($236,614)	($107,408)	($425,167)	($36,026)	($461,194)
Acc. Amort. - 1925-1925		$0	($10,098)	($23,399)	($29,094)	($313,881)	($183,837)	($560,309)	($61,836)	($622,145)
Acc. Amort. - 1940.1940		$0	($45)	($613)	($886)	($4,448)	($2,255)	($8,247)	($752)	($8,999)
Acc. Amort. - 1915-1915		$0	$0	$0	$0	($5,014)	($4,597)	($9,611)	($1,532)	($11,144)
Total Accumulated Amortization	**C**	**$0**	**($217,074)**	**($710,861)**	**($1,440,031)**	**($2,199,529)**	**($2,016,104)**	**($6,583,598)**	**($681,878)**	**($7,265,476)**
Total before Carrying Charges	**A+B+C**	**($702,068)**	**$5,610,181**	**$7,557,386**	**$1,985,812**	**($4,385,635)**	**($6,914,992)**	**$3,150,684**	**($2,692,454)**	**$458,230**
Horizon Cumulative Principal	**D**	($702,068)	$4,908,113	$12,465,499	$14,451,311	$10,065,676	$3,150,684		$458,230	
Carrying Charges	**E**	($9,551)	$73,023	$233,703	$147,090	$96,472	$102,483	$643,221	$10,749	$653,970
Cumulative Carrying Charges	**F**	($9,551)	$63,473	$297,176	$444,266	$540,738	$643,221		$653,970	
Cumulative Principal & Interest	**G=D+F**	($711,618)	$4,971,585	$12,762,675	$14,895,576	$10,606,414	$3,793,905		$1,112,200	

1556		2006	2007	2008	2009	2010	2011 Forecast	Total 2006-2011	Jan-Apr 2012 Forecast	Total
Smart Meter OM&A Expenses		**$99,285**	**$814,248**	**$689,859**	**$1,219,599**	**$1,150,191**	**$1,291,951**	**$5,265,133**	**$292,221**	**$5,557,354**
Depr. Exp. - 1860 .1861		$0	$197,829	$651,478	$1,373,378	$1,639,572	$1,718,007	$5,580,264	$581,731	$6,161,995
Depr. Exp. - 1920.1923		$0	$9,101	$35,371	$36,673	$236,614	$107,408	$425,167	$36,026	$461,194
Depr. Exp. - 1925-1925		$0	$10,098	$23,399	$29,094	$313,881	$183,837	$560,309	$61,836	$622,145
Depr. Exp. - 1940.1940		$0	$45	$613	$886	$4,448	$2,255	$8,247	$752	$8,999
Depr. Exp. - 1915-1915		$0	$0	$0	$0	$5,014	$4,597	$9,611	$1,532	$11,144
		$0	**$217,074**	**$710,861**	**$1,440,031**	**$2,199,529**	**$2,016,104**	**$6,583,598**	**$681,878**	**$7,265,476**
Total before Carrying Charges		**$99,285**	**$1,031,322**	**$1,400,720**	**$2,659,629**	**$3,349,720**	**$3,308,055**	**$11,848,732**	**$974,099**	**$12,822,830**
Horizon Cumulative Principal		$99,285	$1,130,607	$2,531,327	$5,190,956	$8,540,677	$11,848,732		$12,822,830	
Carrying Charges		$0	$22,828	$65,262	$35,735	$56,040	$147,632	$327,496	$59,312	$386,808
Cumulative Carrying Charges		$0	$22,828	$88,090	$123,825	$179,864	$327,496		$386,808	
Cumulative Principal & Interest		$99,285	$1,153,435	$2,619,416	$5,314,781	$8,720,541	$12,176,228		$13,209,638	

APPENDIX 5

ADVANCED METERING INFRASTRUCTURE SERVICES AGREEMENT BETWEEN HORIZON UTILITIES AND ELSTER

THIS DOCUMENT IS BEING FILED IN CONFIDENCE

APPENDIX 6

SERVICE AGREEMENT
OLAMETER INCORPORATED

THIS DOCUMENT IS BEING FILED IN CONFIDENCE

APPENDIX 7

SERVICE AGREEMENT
ELSTER CANADIAN METERING COMPANY INC.

THIS DOCUMENT IS BEING FILED IN CONFIDENCE

APPENDIX 8

SERVICE AGREEMENT
OZZ ELECTRIC INCORPORATED

THIS DOCUMENT IS BEING FILED IN CONFIDENCE

APPENDIX 9

COMMUNICATION MATERIALS

AN IMPORTANT NOTICE ABOUT YOUR ELECTRICITY RATES

horizon UTILITIES

Your Household is Moving to Time-of-Use Rates for Electricity

As part of the Ontario Government's plan to create a culture of energy conservation in the province, all Ontario residents and small businesses are having a smart meter installed and shifting over to Time-of-Use pricing for electricity.* This letter is to advise you that your household will begin to be billed on Time-of-Use pricing for electricity commencing on the date noted in the box above.

Please note: This changeover will happen automatically. There is no need for you to take any action.

What are Time-of-Use Prices for Electricity?

Under the current system, the majority of Ontario residents pay for their electricity under Ontario's Regulated Price Plan. Rates for electricity under the Regulated Price Plan are set by the Ontario Energy Board and are adjusted every six months. With the new Time-of-Use prices, the cost of the electricity you use will vary based on when you use it.* Rates will be different depending on the time of the day, day of the week and season of the year. Time-of-Use rates are set by the Ontario Energy Board. Current rates are detailed below:

Time-of-Use Rates for Electricity**	
Off-peak	5.3¢
Mid-peak	8.0¢
On-peak	9.9¢

The time periods that correspond to off-peak, mid-peak and on-peak hours are outlined in the enclosed pamphlet entitled, *Introducing Time-of-Use Rates.*

How to Take Advantage of Time-of-Use Rates

Time-of-Use pricing rewards you for using electricity during low-demand periods. Whenever you shift some of your household's electricity use to off-peak or mid-peak times, you will be saving money. For example, if you run your dishwasher or do laundry after 9 p.m. or on weekends (off-peak), you will pay the lowest rate for electricity. To help remind you to take advantage of off-peak or mid-peak hours, we have enclosed two static-cling decals that may be affixed to your dishwasher and dryer to serve as a quick and easy reference.

Watch for more tips for shifting your energy use to off-peak or mid-peak hours enclosed with your next electricity bill.

Questions?

***To find out more about how Time-of-Use rates can help you manage your electricity costs, visit the Time-of-Use section on our website at:* www.horizonutilities.com/tou.**

If you have any questions about smart meters or Time-of-Use pricing for electricity, please visit our website at **www.horizonutilities.com/tou,** send an email to timeofuse@horizonutilities.com or contact our Customer Care Centre at 1-866-458-1236.

Sincerely,

Eileen Campbell

Eileen Campbell
Vice President, Customer Services
Horizon Utilities Corporation

Horizon Utilities Corporation
Customer Services Department
55 John Street, Hamilton, ON L8R 3M8 – (905) 522-9200
340 Vansickle Road, St. Catharines, ON L2R 6P7 – (905) 984-8961
Mail to: PO Box 2249 STN LCD 1, Hamilton, ON L8N 3E4

www.horizonutilities.com

* Consumers who currently purchase their electricity on a contract through an energy retailer will continue to be charged according to the terms and prices stated in their contract.
** Electricity prices change every six months in May and November. Time-of-Use prices for electricity are posted on the Ontario Energy Board website at www.oeb.gov.on.ca.

AN IMPORTANT NOTICE ABOUT YOUR ELECTRICITY RATES

Your Business is Moving to Time-of-Use Rates for Electricity

As part of the Ontario Government's plan to create a culture of energy conservation in the province, all Ontario residents and small businesses are having a smart meter installed and shifting over to Time-of-Use pricing for electricity.* This letter is to advise you that your business will begin to be billed on Time-of-Use pricing for electricity commencing on the date noted in the box above.
Please note: This changeover will happen automatically. There is no need for you to take any action.

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The time periods that correspond to off-peak, mid-peak and on-peak hours are outlined in the enclosed pamphlet entitled, *Introducing Time-of-Use Rates.*

Make Time-of-Use Rates Work for Your Business

Here are some tips of ways to prepare your business for moving to Time-of-Use rates:

- Read the enclosed Introducing *Time-of-Use Rates - A Quick Guide* for more information and tips on conserving electricity or shifting some of your electricity use to mid-peak or off-peak times.
- Educate your staff on Time-of-Use rates and work together to develop new processes to conserve electricity.
- Contact Horizon Utilities to inquire about energy conservation incentive programs for small businesses – 1-866-458-1236.

Questions?

***To find out more about how Time-of-Use rates can help you manage your electricity costs, visit the Time-of-Use section on our website at:* www.horizonutilities.com/tou.**

If you have any questions about smart meters or Time-of-Use pricing for electricity, please visit our website at **www.horizonutilities.com/tou,** send an email to timeofuse@horizonutilities.com or contact our Customer Care Centre at 1-866-458-1236.

Sincerely,

Eileen Campbell

Eileen Campbell
Vice President, Customer Services
Horizon Utilities Corporation

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Introducing TOU Brochure 3 10 rates.qxd:Layout 1 5/3/10 10:35 AM Page 1

Energy shifting and saving tips you can use right now!

Take advantage of Time-of-Use rates by shifting some of your electricity use to off-peak or mid-peak times.

For energy-saving tips, visit **www.horizonutilities.com/tou**

Clothes Washing and Drying

- Do some or all of your laundry on weekends or weekdays during mid-peak or off-peak times.
- Wash in cold water and hang laundry out to dry.

Dishwashing

- Set your dishwasher to run after 9 p.m. or on weekends.
- Always run full loads and use the air-dry setting.

Heating and Cooling

- Install a programmable thermostat and set it to reduce your energy use when you are away from home or sleeping. Sign up for **peaksaver**® and get a programmable thermostat installed for FREE*, plus receive a $25 credit on your account. Simply call 1-866-[illegible] or visit **www.horizonutilities.com** to enroll.
- In the summer, avoid running your air conditioner from 11 a.m. to 5 p.m. weekdays, as much as possible.
- Close curtains and blinds to keep out the midday sun.
- Use a portable fan in conjunction with your air conditioner and set the thermostat to 26–28°C (78–82°F).

Around the House

- Unplug battery chargers as soon as devices are fully charged or when the charger is not being used. Avoid charging batteries during peak periods.
- Create a charging station for battery chargers. Plug chargers into a single power bar equipped with a built-in timer. Set the timer to come on during off-peak times and shut off after only a few hours of charging.
- Plug in [illegible] TVs, DVD players, game consoles and computer equipment into a power bar. Turn the power bar off when not in use.
- Turn off your computer and monitor when they are not being used. Activate power management features on computers and monitors so that they enter sleep mode when inactive for a short period of time.

Pools and Spas

- Try using timers where possible to operate pumps, filters and heaters during off-peak periods.
- Use a solar blanket on your pool.

Buying new appliances or home entertainment equipment? Look for the ENERGY STAR® label and models with timer functions that enable you to take advantage of off-peak rates.

See for yourself!

The smart meter information for your home is now online! Simply log in at **www.horizonutilities.com** to view your household electricity consumption and see exactly when you are using off-peak, mid-peak and on-peak power.

Visit **10 Smart Meter Lane** on the Time-of-Use pages at **www.horizonutilities.com/tou** and learn how shifting your electricity use can make a difference on your electricity bill.

Power. Smarter.

Ontario

Visit: www.ontario.ca/powersmarter

horizon UTILITIES looking beyond

For more information, call:
Hamilton – 905-522-9200
St. Catharines – 905-984-8961
or visit: **www.horizonutilities.com**
Email: timeofuse@horizonutilities.com

Mixed Sources FSC

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[illegible]/2010

Introducing Time-of-Use Rates

A Quick Guide

Introducing a new way to manage your electricity costs and be part of the province's energy conservation plan.

Smart meters and Time-of-Use rates are new energy management tools that will enable you to help smooth "peak demand."

When we're all using a lot of electricity at the same time, we create "peak demand" periods. Supplying electricity at those peak times has a range of impacts:

- It adds to our electricity costs because higher demand leads to higher prices.
- It's hard on the environment because meeting the peaks may require the building of additional electricity generation plants.
- It adds to the amount of new generation, transmission and distribution infrastructure Ontario must build; and consumers must pay for.
- It puts a strain on our electricity system.

So working together to reduce our use during peak times makes good sense.

Want to know more?

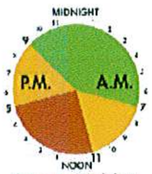
Read this quick guide to Time-of-Use rates, then go to **www.horizonutilities.com/tou** today and discover how Time-of-Use rates can help you manage your electricity needs.

Simple changes can bring real benefits.

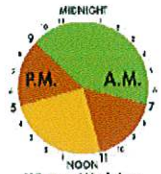
The price of your electricity use will now be calculated using new Time-of-Use rates.* By using Time-of-Use rates to manage your electricity costs, you can help reduce the need for additional power generation during peak periods. Simple changes to your regular routine can help smooth those peaks and create real supply and environmental benefits.

Putting you in control.

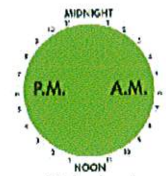
Time-of-Use pricing rewards you for using electricity during low-demand periods whenever possible (reflected in green). These Time-of-Use rates – off-peak, mid-peak and on-peak, will vary between summer and winter. As you can see from the seasonal charts below, the lowest rates are at night, on weekends and statutory holidays.



Summer – Weekdays
(May 1 – October 31)



Winter – Weekdays
(November 1 – April 30)



Weekends and Statutory Holidays

5.3¢ per kWh **Off-peak** Demand is lowest
8.0¢ per kWh **Mid-peak** Demand is moderate
9.9¢ per kWh **On-peak** Demand is highest

* [illegible]
* [illegible] Visit the Ontario Energy Board at www.oeb.gov.on.ca for current pricing.

Choose your time. Manage your costs.

Your smart meter automatically records your household's electricity consumption on an hourly basis so you can take advantage of Time-of-Use pricing:

- During on-peak periods, when electricity demand and power generation costs are highest, prices will be higher.
- During mid-peak times, when demand is moderate, prices will be lower.
- During off-peak hours, the least busy periods of the day, prices will be the lowest.

Depending on when you choose to run your appliances, here are some sample costs for typical appliances. You can find out how much electricity your specific appliance/model consumes by visiting Natural Resources Canada's Office of Energy Efficiency's website at **www.oee.nrcan.gc.ca** or by calling NRCan's Office of Energy Efficiency at 1-800-387-2000 (toll-free).

Appliance	Time-of-Use Rate Examples		
	Off-peak 5.3¢* per kWh	Mid-peak 8.0¢* per kWh	On-peak 9.9¢* per kWh
Clothes Dryer (1 load)	12¢	18¢	22¢
Washing Machine (1 load)**	41¢	62¢	77¢
Electric Stove (1 family meal)	27¢	40¢	50¢
Dishwasher (1 load)**	19¢	29¢	36¢
Central A/C - 25°C/77°F (1 hour)	15¢	22¢	27¢
Central A/C - 20°C/68°F (1 hour)	17¢	26¢	32¢

* [illegible] Visit the Ontario Energy Board at www.oeb.gov.on.ca for current pricing.
** [illegible]

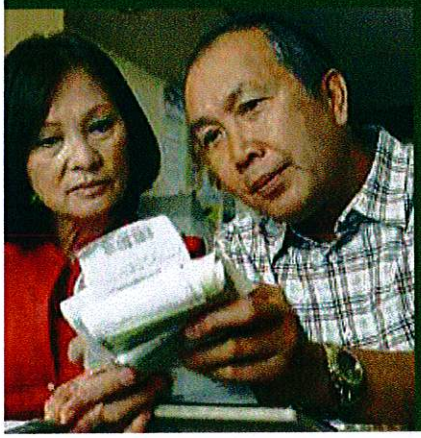
[illegible] You can visit the Ontario Energy Board at www.oeb.gov.on.ca for current pricing.

Take control of your electricity costs.

Mark and Anita are small business owners. They're getting ready for the switch to Time-of-Use electricity rates.

They run a store and mail-order business, using six cash registers; 15 fluorescent lights; central air conditioning; computers and monitors; a soft-drink cooler; and a full-sized fridge in their basement. These appliances add up to an annual electricity bill of $2,500.

So, Mark and Anita have decided to make some changes. From now on, they will switch off some of the lights near the windows to take advantage of the natural light; use their programmable thermostat to reduce the amount of heating and cooling used when the store is closed; and turn off their computers at the end of the workday. These changes will reduce their energy use by eight per cent – and will help them better manage their electricity costs. They are also contacting their local electricity company to see if there are financial incentives to help with the costs of retrofits.



Becoming more energy efficient makes good business sense. Here are a few simple things you can do to reduce your electricity consumption:

- Train your staff so they are aware of the various Time-of-Use periods; then work together to develop a plan to conserve energy.
- Consider installing automatic timers, motion sensors and dimmers to help reduce lighting costs.
- Replace incandescent light bulbs with energy-efficient compact fluorescent light (CFL) bulbs. You may want to consider installing T8 fixtures for even greater efficiency.
- Maintain the right temperature in refrigerators and freezers. Refrigerators should be set between 1°C and 4°C; freezers should be set between -15°C and -18°C.
- Use a programmable thermostat. In the summer, set it to maintain the temperature at 25°C during business hours and raise it to 28°C when the business is closed.
- Restock drink refrigerators, bottle cabinets and freezers at the end of each day.

See for yourself!

Access your account online at **www.horizonutilities.com** to see how much off-peak, mid-peak and on-peak power your business is using.

Ontario

Visit: **www.ontario.ca/powersmarter**

horizon UTILITIES Looking Beyond

For more information, call:
Hamilton – 905-522-9200
St. Catharines – 905-984-8961
or visit: **www.horizonutilities.com**
Email: timeofuse@horizonutilities.com

05/2010

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Introducing **Time-of-Use Rates**

A Quick Guide

Get your business ready for Time-of-Use electricity rates

Introducing a new way to manage your electricity costs and be part of the province's energy conservation plan.

Smart meters and Time-of-Use rates are new energy management tools that will enable you to help smooth "peak demand."

When we're all using a lot of electricity at the same time, we create "peak demand" periods. Supplying electricity at those peak times has a range of impacts:

- It adds to our electricity costs because higher demand leads to higher prices.
- It's hard on the environment because meeting the peaks may require the building of additional electricity generation plants.
- It adds to the amount of new generation, transmission and distribution infrastructure Ontario must build; and consumers must pay for.
- It puts a strain on our electricity system.

So working together to reduce our use at peak times makes good sense.

Want to know more?

Read this *Introducing Time-of-Use Rates – A Quick Guide*, then go to **www.horizonutilities.com/tou** – and discover how Time-of-Use rates can help you manage your electricity costs.

Note: If you currently purchase your electricity on a contract with an energy retailer, you will continue to follow the terms and prices stated in your contract.

The bottom line on electricity use.

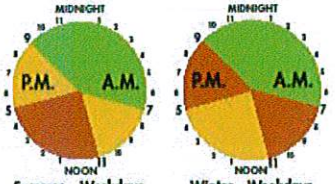
As a business owner, you're always looking for ways to cut costs. When you make the switch to Time-of-Use rates, you might want to take a few minutes to look for new ways to take control of your electricity use. You may find that there are only a few things you can do to shift your electricity use to off-peak times, but there are likely a number of ways you can become more energy efficient overall.

Look around you. Have you been meaning to replace some aging equipment? Are the lights often left on when no one's around? Can you operate some of your equipment at different times of the day? Just being aware of how much electricity you use and when you use it is the first step to taking control of your electricity use.

Timing is everything.

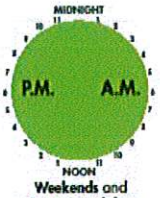
With Time-of-Use rates, there will be three different rates: off-peak, mid-peak and on-peak! These prices are regulated by the Ontario Energy Board and can change every May and November. The charts below show at what times of the day and week the new prices will apply.

Why are there three different prices? The price goes up when demand for electricity is high; the price is lowest when demand is at its lowest.



Summer – Weekdays (May 1 – October 31)

Winter – Weekdays (November 1 – April 30)



Weekends and Statutory Holidays

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8.0¢ per kWh*	**Mid-peak** Demand is moderate
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* If you currently purchase your electricity on a contract with an energy retailer, you will continue to follow the terms and prices stated in your contract.

* Rates change twice a year. Visit the Ontario Energy Board at www.oeb.gov.on.ca for current pricing.

For businesses looking to better manage their electricity costs, here are some options:

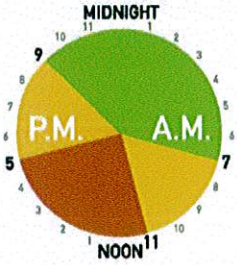
- **Don't pay for what you don't use.** Have a look around your business for any unnecessary electricity use. Is your air conditioner on high and the front door open? Are computers left on overnight when they are not being used? Turning equipment down or off when it is not needed means you only pay for what you use.
- **Make the shift.** See if there are ways you can shift energy-intensive activities to off-peak hours to take advantage of Time-of-Use rates. Prices are lowest on weekdays between 9 p.m. and 7 a.m., and all day on weekends.
- **Conserve and save.** Conserving energy can help reduce your overall costs. You can get more from your energy dollar by properly maintaining your existing equipment and switching to more energy-efficient equipment and lighting options.
- **Track your energy use.** Monitoring your energy use from bill to bill will also help you get a better sense of how to better manage your electricity costs. Login and view your business' electricity consumption online at **www.horizonutilities.com**.
- **Look for incentives.** Horizon Utilities offers energy efficiency programs to help small businesses reduce electricity demand. Contact our Customer Care Centre at 1-866-458-1236 to see if you qualify.

POWER. SMARTER.

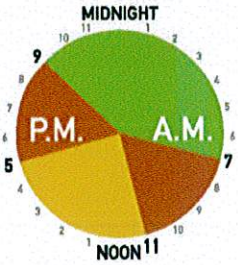
Help your budget and the environment – run your dryer after 9 p.m., on weekends or holidays.

Put this removable decal on your dryer as a reminder of Time-of-Use (TOU) price periods.

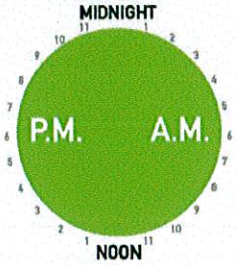
Ontario Electricity Time-of-Use Price Periods



Summer
(May 1 - October 31)
weekdays



Winter
(November 1 - April 30)
weekdays



Weekends and
Statutory Holidays

c **Off-peak** - demand is lowest

cc **Mid-peak** - demand is moderate

ccc **On-peak** - demand is highest

For current TOU pricing, please go to www.oeb.gov.on.ca

Ontario

horizon UTILITIES Looking beyond

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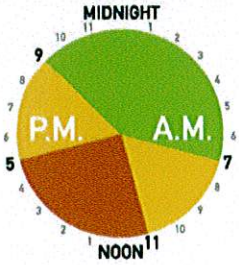
POWER. SMARTER.

Help your budget and the environment – run your dishwasher after 9 p.m., on weekends or holidays.

Put this removable decal on your dishwasher as a reminder of Time-of-Use (TOU) price periods.

Ontario Electricity Time-of-Use Price Periods



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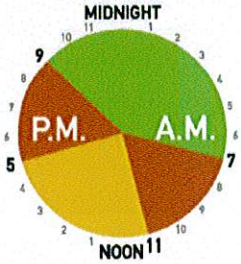

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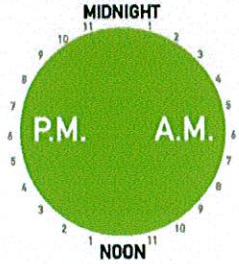

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Ontario

horizon UTILITIES Looking beyond

® Trademark of Horizon Holdings Inc.

It's time to think differently about how you use electricity

We recently sent you a letter advising that your household would soon be switching to Time-of-Use rates for electricity. This is to confirm that you will begin to be billed on Time-of-Use rates for electricity this month.

Your next Horizon Utilities bill will look a little different – it will include three lines indicating the amount of electricity used by your household during off-peak, mid-peak and on-peak periods as well as the rate applicable for each time period. (See reverse for Time-of-Use rates and time periods.)

How much will my electricity bill be under Time-of-Use pricing?

To understand the effect that Time-of-Use rates will have on your bill, we encourage you to go online at **www.horizonutilities.com** to view your household's daily energy use data.

To learn more about Time-of-Use rates for electricity, visit **www.horizonutilities.com/tou** or **www.ontario.ca/powersmarter**

Questions:

Call 905-522-9200 in Hamilton or 905-984-8961 in St. Catharines

Email: timeofuse@horizonutilities.com

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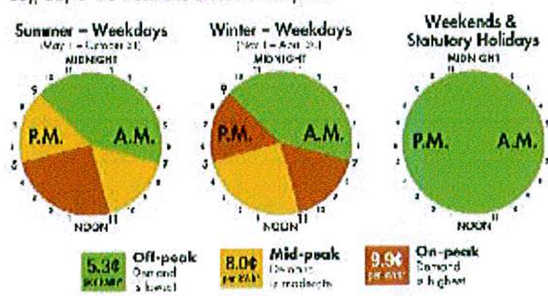
The Cost of Electricity Varies Depending on When You Use It.

With Time-of-Use prices for electricity, the cost of electricity varies based on when you use the electricity. Rates are different depending on the time of the day, day of the week and season of the year.



The chart below shows some examples of the cost to run various appliances during off-peak, mid-peak and on-peak time periods.

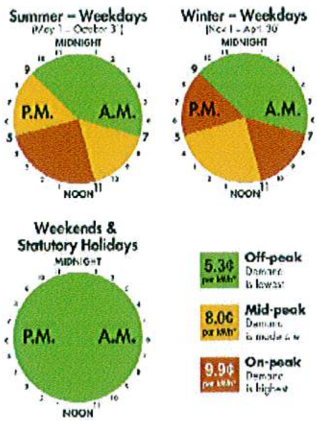
Appliance	Off-peak 5.3¢* per kWh	Mid-peak 8.0¢* per kWh	On-peak 9.9¢* per kWh
Clothes Dryer (1 load)	[illegible]	18¢	[illegible]
Washing Machine (1 load)**	[illegible]	62¢	[illegible]
Electric Stove (1 family meal)	[illegible]	40¢	[illegible]
Dishwasher (1 load)**	19¢	29¢	[illegible]
Central A/C 25°C/77°F (1 hour)	[illegible]	[illegible]	[illegible]
Central A/C 20°C/68°F (1 hour)	[illegible]	26¢	[illegible]

Mixed Sources

05/2010

How much can I save by shifting my electricity use?

One way to benefit from Time-of-Use rates is to shift some of your electricity use to off-peak or mid-peak periods when rates are lower.



The chart below shows some examples of the cost to run various appliances during off-peak, mid-peak and on-peak time periods.

Appliance	Time of Use Rate Examples		
	Off-peak 5.3¢* per kWh	Mid-peak 8.0¢* per kWh	On-peak 9.9¢* per kWh
Clothes Dryer (1 load)	17¢	18¢	[illegible]
Washing Machine (1 load)**	41¢	62¢	[illegible]
Electric Stove (1 family meal)	27¢	40¢	50¢
Dishwasher (1 load)**	19¢	29¢	36¢
Central A/C 25°C/77°F (1 hour)	15¢	22¢	27¢
Central A/C 20°C/68°F (1 hour)	17¢	26¢	32¢

* Rates change twice a year. Visit the Ontario Energy Board at www.oeb.gov.on.ca for current pricing details.

** [illegible]

See for yourself!

Access your account online at **www.horizonutilities.com** to see how much off-peak, mid-peak and on-peak power your household is using.

Save money!

Visit **www.horizonutilities.com/tou** or **www.ontario.ca/powersmarter** for energy conservation tips designed to help you to shift your energy use and save money on your electricity bill.

Power. Smarter.

Ontario

Visit: **www.ontario.ca/powersmarter**

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To learn more about Time-of-Use rates for electricity, visit **www.horizonutilities.com/tou** or call 905-522-9200 in Hamilton, 905-984-8961 in St. Catharines.
Email: timeofuse@horizonutilities.com

www.horizonutilities.com

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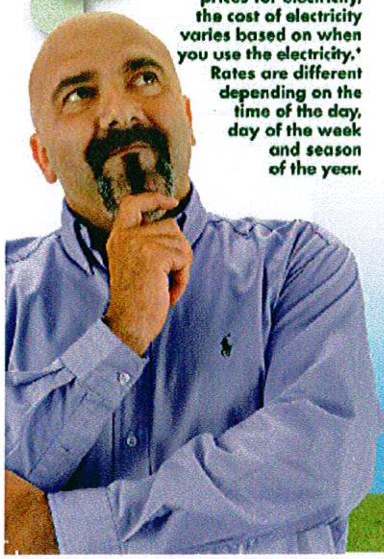
How can I **shift my electricity use** and save money?

Start shifting to take advantage of low rates on evenings, weekends and holidays



With Time-of-Use prices for electricity, the cost of electricity varies based on when you use the electricity.* Rates are different depending on the time of the day, day of the week and season of the year.

Think about Time-of-Use periods when conducting routine activities

Cooling

- As much as possible, avoid running your air conditioner from 11 a.m. to 5 p.m. weekdays.
- Consider a fan for cooling.
- Use a portable fan in conjunction with your air conditioner and set the thermostat to 26-28°C (79-82°F).
- Keep blinds and curtains closed to keep out the midday sun.
- Install a programmable thermostat and set it to reduce your energy use when you are away from home or sleeping.
- Sign up for **peaksaver**® and get a programmable thermostat installed for FREE.** Simply call 1-866-323-0206 or visit www.horizonutilities.com

Heating

- Install a programmable thermostat and set it to reduce your energy use when you are away from home or sleeping.
- Check for drafts and air leaks. Caulking and weatherstripping are simple, inexpensive and effective ways to reduce heat loss.

Laundry

- Do some or all of your laundry on weekends or weekdays during off-peak or mid-peak times.
- Hang laundry out to dry instead of using your dryer during peak times.

Lighting

- Consider installing compact fluorescent lightbulbs, automatic timers, motion sensors and dimmers to help reduce lighting costs.

Dishwashing

- Run dishwashers after 9 p.m.
- Use the air dry setting.
- Always run full loads.

Pools

- Set pool pumps and hot tub heaters to come on at night.
- Use a solar blanket on your pool.

* If you currently pay for your electricity on a contract with an energy retailer, you will continue to be charged according to the terms and prices stated in your contract.

** Including cost of installation. Offer valid only for new **peaksaver**® signups. Terms and conditions apply.

Electronics – Beware of "phantom load"

Many electronic items – for example, computers, televisions, game consoles and cell phone chargers – continue to use "standby power" even when they are turned off. Standby power, also known as "phantom load," accounts for 5 to 10 per cent of the electricity used in the average Canadian home. Take steps to reduce standby power consumption particularly during peak periods.

Around the House

- Unplug battery chargers as soon as devices are fully charged. Unplug chargers when not being used. Avoid charging batteries during peak periods.
- If you use a number of battery chargers (e.g. for cell phones), consider creating a charging station where all of the chargers are plugged into a single power bar equipped with a built-in timer. Set the timer to come on during off-peak times and shut off after only a few hours of charging.

In the Entertainment Room

- Large-screen televisions, DVD players and game consoles consume a significant amount of electricity. Plug these devices into a power bar. Turn the power bar off when not in use.

In the Home Office

- Avoid using screen savers since they cause your monitor to consume the same amount of power as when it is running normally. Instead, activate power management features on computers and monitors so that they enter sleep mode when inactive for a short period of time.
- Turn off your computer and monitor when they are not being used. In the case of computers, most electricity waste occurs when they are left on overnight, on weekends or for extended periods of inactivity during peak periods during the day.
- Plug your home office equipment (computer, monitor, speakers, printer, scanner, etc.) into a power bar that can easily be turned off when the equipment is not in use.

Buying appliances, home entertainment equipment or home office equipment?

Look for the ENERGY STAR® label and models with timer functions that enable you to take advantage of off-peak times.