

Niagara On-The-Lake HYDRO

January 31, 2012

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
P.O. Box 2319
26th Floor
2300 Yonge Street
Toronto ON M4P 1E4

Dear Ms. Walli

**Re: Niagara-on-the-Lake Hydro Inc.
Smart Meter Prudence Review**

In accordance with instructions released by the Ontario Energy Board, please find enclosed Niagara-on-the-Lake Hydro Inc.'s Application for rate riders in regard to the 2012 Smart Meter costs, including the methodology and OEB filing models.

The Application includes:

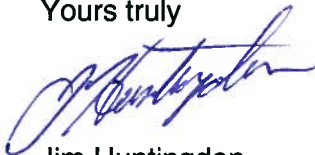
- Manager's Summary of the Application
- Smart Meter Model (V2.17) (Addendum 8)
- Summary of smart meter costs by vendor (Addendum 9)

An electronic copy of this Application has been filed on the Ontario Energy Board's RESS Filing System and two (2) hard copies are enclosed. Two copies of the confidential filing materials are filed only with the hard copies sent with this correspondence via courier.

This Application is respectfully submitted for the Board's consideration for rates effective May 1, 2012.

Should you have any questions please do not hesitate to contact me.

Yours truly



Jim Huntingdon

President

Encl.

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ONTARIO ENERGY BOARD

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

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

APPLICATION

The Applicant, Niagara-on-the-Lake Hydro Inc. (NOTLHI), an Ontario corporation with its head office located in the village of Virgil, is an electricity distributor licensed by the Ontario Energy Board (ED-2002-0547). The Applicant carries on business at 8 Henegan Road, Virgil and serves 8050 customers within the Town of Niagara-on-the-Lake as at December 31, 2011.

NOTLHI hereby makes application to the Ontario Energy Board for an Order effective May 1, 2012 approving recovery of smart meter capital and OM&A costs related to minimum functionality and smart meter capital and OM&A costs incurred beyond minimum functionality. The cost recovery is based on actual costs incurred to December 31, 2011 and forecasted costs to December 31, 2012.

NOTLHI is requesting a two-year Smart Meter Disposition Rider of \$1.07 for the residential class and a two-year Smart Meter Disposition Rider of \$1.20 for the GS<50 kW class. NOTLHI is also requesting Smart Meter Incremental Revenue Requirement Rate Riders of \$3.08 for the residential class and \$3.66 for the GS<50 kW class effective May 1, 2012 until such time as these costs can be incorporated into its next Cost of Service Application.

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

- Manager's Summary of the Application
- Smart Meter Model (V2.17) (Addendum 8)
- Summary of smart meter costs by vendor (Addendum 9)

Manager's Summary

1. Introduction:

NOTLHI is the electricity distributor licensed by the Ontario Energy Board to serve the Town of Niagara-on-the-Lake. NOTLHI was incorporated under the Business Corporations Act (Ontario) on July 1, 2000. The sole shareholder of NOTLHI is The Corporation of the Town of Niagara-on-the-Lake.

Contact Information

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This application is being filed by NOTLHI for smart meter cost recovery for the implementation of smart meters in the LDC's service area. The cost recovery is based on actual costs incurred to December 31, 2011 and forecasted costs to December 31, 2012.

NOTLHI is specifically requesting the following:

1. Smart Meter Disposition Rate Rider (per metered customer per month) of \$1.07 for the residential class and \$1.20 for the GS< 50 kW class for two years (May 1, 2012 to April 30, 2014). These Rate Riders reflect the Net Deferred Revenue Requirement of \$211,185 being the difference between the

Deferred Incremental Revenue Requirement from 2006 to December 31, 2011 and the Smart Meter Funding Adder Revenues collected from 2006 to May of 2012;

2. Smart Meter Incremental Revenue Requirement Rate Rider (per metered customer per month) of \$3.08 for the residential class and \$3.66 for the GS<50 kW. These Rate Riders reflect the Incremental Revenue Requirement for the period May 1, 2012 to April 30, 2013 of \$307,327.
3. NOTLHI is not requesting recovery of the stranded meter costs but continues to include these in rate base for rate-making purposes, as recommended by the Board in its Decision with Reasons in the Smart Meter Combined Proceeding (EB-2007-0063). NOTLHI expects to seek recovery of the stranded meter costs as part of its next cost of service application.

Bill Impact Summary

NOTLHI has submitted the 2012 IRM3 Rate Application under Board File Number EB-2011-0186. Under this IRM3 Application, distribution rate adjustments and overall bill impacts for typical monthly consumption for NOTLHI Residential (1,000 kWh) and General Service < 50 kW (2,000 kWh) customers have the following effect:

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

Class	kWh/kW	Distribution Impact	Total Bill Impact
Residential	1000 kWh	13.26%	2.76%
GS<50kW	2000 kWh	14.14%	3.30%

Bill Impacts shown above do not take into consideration the costs attributed to the Smart Meter Disposition Rate Rider or the Smart Meter Incremental Revenue Requirement Rate Rider referred to above. Once these Rate Riders are applied, the distribution rate adjustments and overall bill impacts for Residential and General Service < 50 kW customers will have the following effect:

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

Class	kWh/kW	Distribution Impact	Total Bill Impact
Residential	1000kWh	28.05%	6.05%
GS<50kW	2000 kWh	21.58%	5.13%

2. Status of Implementation of Smart Meters

NOTLHI has installed a total of 7913 smart meters as of December 31, 2011 which represents 99.9% of the total RPP-eligible customers. This application seeks the recovery of the revenue requirements in respect of these smart meters as follows:

Table #3: Smart Meter Capital & OM&A

Rate Filing	Total Actual
Minimum Functionality - Capital	\$1,624,464
Minimum functionality - OM &A	\$119,558
Beyond Minimum Functionality – Capital	\$268,479
Beyond Minimum functionality - OM &A	\$45,733
TOTAL	\$2,058,233
<i>#s may not appear to add due to rounding</i>	

3. Recovery of Smart Meter Funding:

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

- In the **2006** Decision and Order (EB-2005-0395), the OEB ordered that, in accordance with the Generic Decision \$0.30 per month per residential customer be added to NOTLHI's revenue requirement. A monthly fixed charge of \$0.24 per metered customer per month effective May 1, 2006, was billed and the proceeds were credited in OEB Account 1555, Smart Meter Capital and Recovery Offset Variance Account.
- In the **2007** Decision and Order (EB-2007-0559), NOTLHI received approval to continue the \$0.24 per metered customer per month smart metering funding charge for the 2007 IRM rate year.
- In the **2008** Decision and Order (EB-2007-0813), NOTLHI received approval to continue the \$0.24 per metered customer per month smart metering funding charge for the 2008 IRM rate year.
- In the **2009** Decision and Order (EB-2008-0237), NOTLHI received approval to increase the smart meter funding adder to \$1.00 per metered customer per month.
- In its **2010** Decision and Order (EB-2009-0237), NOTLHI received approval for the continuation of the smart meter funding adder of \$1.00 per metered customer per month.
- In its **2011** Decision and Order (EB-2010-0101), NOTLHI received approval for the continuation of the smart meter funding adder of \$1.00 per metered customer per month.

4. Project Overview:

Addendum 1 is a project summary prepared by Util-Assist which outlines the various stages of the project and the due diligence undertaken at each step. The report, prepared on behalf of the nine Niagara Erie Power Alliance (NEPA) LDCs, outlines the details of each process, the RFPs undertaken, evaluations and the award of contracts.

Approximately forty-six LDCs recognized the benefits of collaboration early in the process through participation in the Ontario Utilities Smart Meter (OUSM) working group. Involvement in the OUSM group continued along with the engagement of Util Assist for specific project management. The details of the implementation project and the prudence reviews are outlined in Addendum 1 and include:

- Participation in Ministry of Energy and Infrastructure authorized London Hydro AMI RFP process (establishing best practice procurement procedures)
- ODS RFP and award of contracts
- MDM/R Integration Process Project Planning
- Meter Disposal Services RFI
- Installation Service Provider RFP and award of contracts

The RFPs are included in the addendums. However, the evaluations for each RFP are included in the confidential materials which have been provided.

5. Project Specifics:

a. AMI Selection:

Based on the London Hydro AMI RFP process NOTLHI was awarded Sensus Metering Systems Inc ("Sensus") as the preferred vendor by the Fairness Commissioner. Attached as Addendum 2 is a copy of the Fairness Commissioner Attestation Letter.

b. Meter Deployment:

Niagara-on-the-Lake Hydro Inc. (NOTLHI) was authorized to install smart meters by virtue of paragraph 9 of section 1(1) of O.Reg. 427/06.

In early 2010, NOTLHI employed Olameter Inc. to mass install a majority of our non-polyphase meters. Olameter installed 6652 meters, leaving approximately 1100 meters, primarily commercial/poly phase left

to be installed. Our AMI vendor, Sensus did not manufacture polyphase meters, therefore requiring NOTLHI to place special orders with General Electric and Elster. A majority of these polyphase meters were received later in 2010. NOTLHI employees and a local installer have installed the remainder of the commercial and polyphase meters to date. As of the filing of this application, 7913 smart meters have been installed while only 4 commercial meters remain to be installed of our current customers. NOTLHI expects to complete these installations in the first quarter of 2012.

c. Operational Data Store (ODS) Functionality:

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

An RFP was issued for an operational data store (ODS) in December 2008 with the assistance of Util-Assist. Following the RFP process, shortlisted vendors delivered software demonstrations, leading to NOTLHI's selection of Kinetiq/437967 Ontario Ltd. o/a Savage Data Systems Inc. as the successful vendor with their ODS application. The evaluation of ODS RFP documents is included in the confidential filing documents (Addendum 10).

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

- a) **Dashboard of Field Issues Possibly Requiring Intervention** - Dashboard visibility to the real-time performance of the smart meter system to provide field staff with visibility to troubleshooting priorities such as non-communicating meters, non-communicating tower gateways/collectors, etc.
- b) **AMI SLA Audit** - Audit and reporting / real-time notification capabilities to monitor AMI performance and therefore ensure that data collection and submission service-level agreements (SLAs) with the centralized MDM/R are consistently met.
- c) **Read Re-submission** - The ODS will provide a data repository to facilitate backfilling reads after a meter installation, front-filling reads after a meter removal, and replacing reads labeled as NVE (Needs Verification or Edit) by the IESO MDM/R system. The ODS provides a mechanism for meter data editing

and VEE (Validation, Estimation and Editing) processes (in keeping with the MDM/R specifications), such data can then be re-submitted to the MDM/R. Features such as “register read validation failure resolution” are invaluable.

d) **IESO MDM/R Report Integration / Issue Resolution Automation** - The MDM/R produces a large volume of reports on a daily or regular basis each potentially containing large amounts of information. Kinetiq will load the MDM/R reports, and filter the information they provide in order to provide manageable, meaningful action items that can be prioritized, investigated and resolved.

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

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

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

6. Business Process Redesign

Throughout the latter half of 2010, the Util-Assist training team delivered a series of education sessions covering the MDM/R design specifications, meter read data, VEE and other billing processes, and the design of a testing/cutover strategy. LDCs have widely recognized that a number of business processes, including new account setup, meter installations, meter changes, move-in/move-out and final billing all require scrutiny and procedural modifications to ensure that MDM/R integrations are optimized. Actual business process redesign is an ongoing process leading up to and post cutover.

7. System Changes

In 2009, NOTLHI determined that a new CIS system was vital to meeting our regulatory requirement to offer TOU rates in 2011. A detailed description of the full project is provided in Section 14.

8. Integration with MDM/R

To assist with the integration to the provincial Meter Data Management Repository (MDM/R), NOTLHI staff attended relevant IESO training sessions as well as further training sessions provided by Util-Assist. Registration paperwork and integration project plan were filed with the IESO on October 8, 2010. AS2 connectivity software to facilitate data integration with the MDM/R was selected and installed on October 18, 2010 and connectivity testing was scheduled with the IESO for October 20, 2010. The project plan called for Unit Testing to be executed on January 17, 2011 but due to some delays, was completed on March 7, 2011, and System Integration (SIT) and Qualification Testing (QT) on May 2, 2011, in preparation for cutover to live data transfer with the MDMR by May 2, 2011. The ability to meet these targeted timelines was to a large extent contingent upon various software systems delivering the promised functionality and suppliers meeting their contractual obligations. Cutover to production was attained on May 17, 2011.

NOTLHI just recently completed MDM/R version R7.2 compliance testing and were officially notified of our successful self certification on January 3, 2012.

9. Transition to Time of Use Pricing

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

In a letter dated August 4, 2010, the OEB provided direction to all LDCs on mandated dates by which each distributor must bill those of its RPP customers that have eligible TOU meters using TOU pricing. NOTLHI's mandated date for time-of-use billing was August, 2011 for all residential and general service <50kW customers.

Despite the effort, the O.E.B. mandated date to produce Time of Use bills for our customers utilizing August consumption, was delayed approximately one month. Our AMI vendor was not delivering Service Level Agreement (SLA) read rates of 99% in August and upon analyzing the data in September, the extent of gaps in data and over reliance on estimation resulted in our delay. The O.E.B. was advised of the delay while our AMI vendor continued their fine tuning of the communication system. NOTLHI

confirms that our first time-of-use invoices were issued in mid-October and as of year-end, approximately 96% of our eligible customers are receiving TOU bills and we are achieving read rates at contracted SLA rates.

10. Customer Education

In January 2010 NOTLHI began their Smart Meter mass deployment. At time of installation, NOTLHI provided customers with an information package that included a letter and a booklet outlining how smart meters work, current TOU time periods, and energy conservation tips. Meter installation was first rolled out to the residential customer base which represents the largest number of accounts. GS<50kW customers followed later in 2010.

Prior to migrating over to Time-of-Use rates later in 2011, NOTLHI branded the back of each billing envelope with a TOU notice informing customers of the upcoming migration, when they would receive their first TOU bill and the TOU pie charts with current OEB prices. Customers received branded billing envelopes for 2 cycles prior to the TOU migration, while e-billing customers were notified via “e-blast”. NOTLHI also held four information workshops for residential and GS<50 customers a couple months prior to TOU migration. Workshop notifications were presented in the local newspaper in 4 consecutive editions, public notices, via social media, eBlasts to eBilling customers, as well as website notifications. The presentations also featured a video, branded with NOTLHI, along with 7ft banner stands that helped to explain TOU. The banner stands were placed at the Municipal Offices as well as the NOTLHI office lobby. NOTLHI provided workshop attendees with an information package which included TOU information brochures (one for homes and another for businesses) and a fridge magnet readily identifying the TOU rate periods. Each attendee also received a free CFL light bulb. After the event, all workshop materials (including NOTLHI’s branded TOU video) were placed online and a newspaper article was published with further information. All customers have also been provided with OEB developed inserts with their bills. Since implementing TOU billing, NOTLHI has met with customers on a one-on-one basis (e.g. at local events such as the Peach Festival, office walk-in traffic and participants in home energy audits) and additional conservation/TOU workshops are being developed for 2012.

11. Web Presentment

Recognizing the requirement of the Provincial Government to provide data to customers within 24 hours and the need to tie this requirement into the customer information system provided, yet again, another opportunity for NOTLHI to work in co-operation with other LDCs, thereby reducing costs and gaining

efficiencies in the delivery of web presentment to its customer base. An extensive RFP process was undertaken by the consortium of nine LDCs, including NOTLHI, known as “Utility Collaborative Services” (UCS). As a result, Harris was chosen as the software provider for this system.

Implementation is currently being phased in across the UCS group, with NOTLHI expected to implement this process in early 2012.

12. Annual Security Audit:

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

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

Since early 2009, Ontario utilities have been working with their smart meter providers to understand the security features of the networks, best practices for their deployment and new features that are being developed for future implementation within the smart meter networks. In November 2009, the Information and Privacy Commissioner of Ontario released the report Smart Privacy for the Smart Grid which identified areas of concern to be addressed in the area of smart meter and smart grid devices. Going forward, annual security audit has been budgeted, as this is a prudent approach to satisfying the due diligence requirements for protection not only of the customer information, but also to ensure that access to the infrastructure is properly protected, thereby securing against unwanted modifications to data collection and/or load-control functionality. Security of the network and ensuring that customer data is protected at all times has resulted in the development of governance standards requiring extensive security measures such as NERC (North American Electric Reliability Corporation). The NERC

reliability standards are developed by the electricity industry using a balanced, open, fair and inclusive process managed by the NERC Standards Committee.

For many Ontario LDCs, including NOTLHI, completing a security audit at a NERC, NIST (Network Information Security & Technology) or comparable level would be a cost-prohibitive exercise. Therefore a consortium of Ontario Util-Assist LDC customers has worked together in the issuance of the November 2010 “Smart Meter Network Security Audit Services” Request for Proposal.

The objective of the RFP is to select an audit partner who would complete a security audit of the Sensus AMI systems for consortium members with Sensus technology in place, and to the work with Sensus towards the implementation of viable countermeasures to resolve all security concerns. The selected audit firm will first complete an in-depth security review at one participating utility that has the Sensus solution. Once this review is complete, the audit firm would then review the technology at all remaining participating utilities to confirm that their Sensus AMI systems are configured to the same standard as that declared as the standard for the group audit. Audits are anticipated to include end-to end from the meter to utility systems and home area network.

13. Copies of Agreements

The following agreements are being filed with the Board Secretary on a confidential basis as Addendum 10:

- Advanced Metering Infrastructure Services Agreement between NOTLHI and Sensus;
- Smart Meter Installation Agreement between NOTLHI and Olameter Inc.;
- Operational Data Store Agreement between NOTLHI, Kinetiq Canada Ltd. and 437967 Ontario Ltd. o/a Savage Data Systems;
- NEPA ODS Vendor Selection Report
- Bell – Network Security Audit Statement of Work
- Uti-Assist – NEPA MDMR Integration and Testing Scope Document
- Uti-Assist – NEPA Consulting and Sync Operator Proposal
- Greenport – Disposal Purchase Order

Sensus, Olameter Inc., Kinetiq Canada Ltd., 437967 Ontario Ltd. o/a Savage Data Systems

Inc. and Bell Canada are corporations which are engaged in competitive businesses. The disclosure of the terms of these agreements could reasonably be expected to prejudice the economic interests, competitive positions and financial interests of Sensus, Olameter Inc., Kinetiq Canada Ltd., 437967 Ontario Ltd. o/a Savage Data Systems Inc. and Bell Canada respectively, since it would enable their competitors to ascertain the scope and pricing of services provided by these companies. The Board’s Practice Direction

on Confidential Filings (the “Practice Direction”) recognizes that these are among the factors that the Board will take into consideration when addressing the confidentiality of filings. They are also addressed in section 17(1) of the Freedom of Information and Protection of Privacy Act (“FIPPA”), and the Practice Direction notes (at Appendix C of the Practice Direction) that third party information as described in subsection 17(1) of FIPPA is among the types of information previously assessed or maintained by the Board as confidential. Accordingly, NOTLHI requests that these Agreements be kept confidential.

NOTLHI is prepared to provide copies of the Agreements to parties’ counsel and experts or consultants provided that they have executed the Board’s form of Declaration and Undertaking with respect to confidentiality and that they comply with the Practice Direction, subject to NOTLHI’s right to object to the Board’s acceptance of a Declaration and Undertaking from any person.

In keeping with the requirements of the Practice Direction, NOTLHI is filing confidential unredacted versions of the Agreements under separate cover, in a sealed package marked “Confidential”.

14. Justification for Functionality that Exceeds Minimum Functionality:

CAPITAL EXPENDITURES

New CIS System

In preparation for the implementation of Time of Use billing and MDM/R integration in 2009, NOTLHI consulted with our then CIS vendor, COS Computer Systems. The vendor indicated that the current system would need a massive overhaul prior to being ‘Time of Use’ functional. The vendor provided a cost estimate of \$170,000 as well as a long lead time to accomplish the system revisions. With only one other LDC in Ontario utilizing the COS CIS system and our concern as to whether the vendor had adequate resources for the overhaul to be completed on schedule and on budget, NOTLHI found it necessary to investigate the option of purchasing a proven TOU ready CIS system. In late 2009, and after a thorough review of systems and options, a decision was made to invest in the Utility Collaborative Services group (UCS). The UCS group is a partnership currently consisting of nine Ontario LDCs that share a Harris Northstar CIS software system, hardware, support and its associated operating costs. While the overall cost of UCS membership, conversion and operation to date has exceeded the estimated COS

overhaul cost, we are very pleased that we migrated to the UCS system with a powerful TOU bill-ready system that has allowed us to meet our regulatory obligations.

Web Presentment

As indicated in Section 11, NOTLHI, in conjunction with the UCS Group, recently committed to a Web Presentment tool developed by Harris that meets the requirements specified by the provincial government. We expect to have the tool available for customer use in the first quarter of 2012 and the listed capital cost is \$15,896.

Internal (Incremental) Labour

A critical component to our successful integration to TOU rates is our employee participation in the process. Incremental employee time recorded as \$82,583 was utilized in implementation of TOU rates, the testing and integration to the MDM/R and further MDM/R R7.2 testing that was just recently completed.

OPERATING EXPENDITURES

Web Presentment

As indicated in Section 11, NOTLHI, in conjunction with the UCS Group, recently committed to a Web Presentment tool developed by Harris that meets the requirements specified by the provincial government. We expect to have the tool available for customer use in the first quarter of 2012 and the annual operating cost is forecast as \$3,622.

Operational Data Storage (ODS) System

With the implementation of the AMI system, the need was recognized for an application that supported full integration with the MDM/R and enabled staff to audit, validate, interact with and gain valuable business information from the wealth of meter data being collected. The AMI system, while fully capable of collecting meter read data and forwarding that raw data to the MDM/R, does not provide all of the functionality necessary to interpret and/or leverage the information it is providing in an educated and meaningful fashion. An operational expense of \$42,104 has been recorded for the vendor Kinetiq. A more detailed description of the ODS system is provided in Section 5 (c).

MDM/R Integration

NOTLHI obtained our AS2 hosting system capability (MDM/R connectivity) through The ITM Group. ITM provides data and technology services to the UCS Group. A total of \$4,764 is recorded for this service.

Consulting and MDM/R Sync Services

Since 2006, Util-Assist has provided vital consulting services to a majority of Ontario's LDCs. Initially through a large informal group of approximately forty LDCs called Ontario Smart Meter Working Group (OUSM) and later through nine local LDCs in the NEPA group, Util-Assist has advised and made it possible for LDCs to achieve economy of scale through group training, purchasing and implementation. Specifically, Util-Assist has prepared group RFPs for the purchase of AMI and ODS systems, smart meter installation services, displaced meter disposal and most recently, a complete security audit of our AMI system. Additionally, Util-Assist has provided educational/training seminars on integration to the MDM/R and associated business processes while continuing to monitor progress in projects such as the AMI Security Audit. On an ongoing basis, Util-Assist is providing a service to UCS group members referred to as a 'Sync Operator' whereby daily files and synchronization of our smart meters with the MDM/R are processed and analyzed on behalf of NOTLHI. A total of \$28,663 is recorded as operating expense for these services.

Internal Cost Savings (Credit)

The automated meter reading process of the new AMI system has resulted in a sizeable reduction of our meter reading costs. We have calculated an operational credit of \$33,420 attributed to the new AMI technology.

15. Stranded Meter Costs

NOTLHI is not seeking disposition of its stranded meter costs in this Application. NOTLHI continues to recover these costs by including the net book value of stranded meters in its rate base for rate-making purposes, as recommended by the Board in its Decision with Reasons in the Combined Proceeding.

The nine Niagara Erie Power Alliance (NEPA) LDCs, including NOTLHI, contracted with Green-Port Environmental for disposal of the stranded meters on a 'no-cost option' basis, in which the LDCs were not invoiced any costs for recycling/disposal of the meters and any proceeds were retained by the

contractor. Certificates of recycling/disposal were provided to NOTLHI by Green-Port Environmental. On this basis, there were no proceeds on the scrapped meters that were required to be captured in account 1555 as an offset to the costs in the deferral account.

16. Smart Meter Rate Rider:

NOTLHI is therefore requesting two-year Smart Meter Disposition Rate Riders of \$1.07 per Residential customer and \$1.20 per General Service Less Than 50kW customer per month. In addition NOTLHI is requesting a Smart Meter Incremental Revenue Requirement Rate Rider of \$3.08 for Residential customers and \$3.66 for General Service Less Than 50kW customers as calculated in accordance with the following:

NOTLHI has completed the Smart Meter Model V2.17 in accordance with the instructions released by Board staff, a copy of which Model is filed with this Application. The model provides the calculation of the Revenue Requirement as a result of the costs incurred by NOTLHI. Although this model provides for the Smart Meter Disposition Rider and the Smart Meter Incremental Revenue Requirement Rate Rider based on all metered customers, NOTLHI would submit the following calculations based on the approach approved by the Board in Powerstream's 2010 smart meter application (EB-2010-0209). The following outlines how the smart meter costs should be allocated to rate class and smart meter riders should be developed for each rate class.

- (i) Allocation of the total revenue requirement, using the following cost allocation methodology:
 - Allocation of the return (deemed interest plus return on equity) and amortization based on the allocation of Account 1860 in the cost allocation model (CWMC in the cost allocation model)
 - Allocate the OM&A based on the number of meters installed for each class
 - Allocate PILs based on the revenue requirement allocated to each class before PILs
- (ii) Sum the allocated amounts and calculate the percentages of costs allocated to customer rate classes.
- (iii) Subtract the revenues generated from the smart meter funding adder from the overall revenue requirement.
- (iv) Allocate the amount calculated in part (iii) by using the allocation factors derived in part (ii)

- (v) To calculate the smart meter disposition rider, divide the allocated amount by rate class derived in part (iv) by the number of customers in each class, and then divide by 12 and the number of years for collection.

This allocation method was used to calculate the Disposition Rate Rider (Table #5) and the Incremental Revenue Requirement Rate Rider (Table #6).

Table 5 summarizes the calculation of the Disposition Rate Rider, based on costs to December 31, 2011. The total Revenue Requirement is \$564,470 and once carrying charges and the Funding Adder from 2006 to May 31, 2012 are applied, the net recovery required is \$211,185. Based on the calculations referred to above, this would result in a monthly disposition Rate Rider of \$1.07 per Residential customer and \$1.20 per GS<50kW customer for two years. The reason for two years is that NOTLHI has requested by separate letter to the Board (on January 20, 2012) a one-year deferral of rebasing to May 1, 2014 rates instead of May 1, 2013. To ameliorate the total bill impact, NOTLHI is requesting a two-year collection period up to April 30, 2014, to coincide with the eve of the requested rebasing period beginning May 1, 2014.

Table #5: Smart Meter Disposition Rate Rider (“SMDR”)

Smart Meter Actual Cost Recovery Rate Rider Calculated by Rate Class			
	Total	Residential	GS < 50
Allocators			
CWMC (Account 1860) - Cost Allocation, Tab I6, Row 45	731,095	600,125	130,970
CWMC (Account 1860)	100.00%	82.09%	17.91%
Number of meters installed	8,078	6,816	1,262
Number of meters installed	100.00%	84.38%	15.62%
Revenue Requirement Allocation before PILs - Cost Allocation, Tab O1, Row 35 - Row 27	3,279,037	2,213,619	1,065,418
Revenue Requirement Allocation before PILs	100.00%	67.51%	32.49%
Total Return (deemed interest plus return on equity)	\$ 198,845	\$ 163,224	\$ 35,622
Amortization	\$ 245,930	\$ 201,874	\$ 44,057
OM&A	\$ 125,623	\$ 105,997	\$ 19,626
PILs	-\$ 5,929	-\$ 4,002	-\$ 1,926
Total Revenue Requirement 2006 to 2011	\$ 564,470	\$ 467,092	\$ 97,377
	100.00%	82.75%	17.25%
Smart Meter Rate Adder Revenues	(\$344,376)		
Carrying Charge	(\$8,909)		
Smart Meter True-up	\$ 211,185	\$ 174,753	\$ 36,432
Metered Customers	8,078	6,816	1,262
Years for collection	2	2	2
Rate Rider to Recover Smart Meter Costs	\$ 1.09	\$ 1.07	\$ 1.20

Table 6 below sets out the Incremental Revenue Requirement Rate Rider Calculation, again based on the inputs and calculations in the OEB Smart Meter Model V2_17 as filed with this Application. NOTLHI is also requesting recovery of these costs through the Incremental Revenue Requirement Rate Rider until such time as these costs can be incorporated into its next Cost of Service Application.

Table #6: Smart Meter Incremental Revenue Requirement Rate Rider (“SMIRR”)

Smart Meter Actual Cost Recovery Rate Rider Calculated by Rate Class			
	Total	Residential	GS < 50
Allocators			
CWMC (Account 1860) - Cost Allocation, Tab I6, Row 45	731,095	600,125	130,970
CWMC (Account 1860)	100.00%	82.09%	17.91%
Number of meters installed	8,078	6,816	1,262
Number of meters installed	100.00%	84.38%	15.62%
Revenue Requirement Allocation before PILs - Cost Allocation, Tab O1, Row 35 - Row 27	3,279,037	2,213,619	1,065,418
Revenue Requirement Allocation before PILs	100.00%	67.51%	32.49%
Total Return (deemed interest plus return on equity)	\$ 102,554	\$ 84,182	\$ 18,372
Amortization	\$ 155,933	\$ 127,999	\$ 27,934
OM&A	\$ 39,667	\$ 33,470	\$ 6,197
PILs	\$ 9,173	\$ 6,193	\$ 2,981
Total Revenue Requirement 2006 to 2011	\$ 307,328	\$ 251,844	\$ 55,484
	100.00%	81.95%	18.05%
Smart Meter Rate Adder Revenues			
Carrying Charge			
Smart Meter True-up	\$ 307,328	\$ 251,844	\$ 55,484
Metered Customers	8,078	6,816	1,262
Rate Rider to Recover Smart Meter Costs	\$ 3.17	\$ 3.08	\$ 3.66

Table 7 below summarizes the Rate Riders applied for within this Application in comparison to the funding adder included in NOTLHI’s rates up to April 30, 2012:

Table #7: Disposition Rider and Incremental Revenue Requirement Rate Rider

Residential	30-Apr-12	1-May-12	Variance
Funding Adder to April 30, 2012	\$1.00	\$0.00	(\$1.00)
Disposition Rider	\$0.00	\$1.07	\$1.07
Incremental Revenue Rate Rider	\$0.00	\$3.08	\$3.08
Smart Meter Rate Change	\$1.00	\$4.15	\$3.15
GS<50kW	30-Apr-12	1-May-12	Variance
Funding Adder to April 30, 2012	\$1.00	\$0.00	(\$1.00)
Disposition Rider	\$0.00	\$1.20	\$1.20
Incremental Revenue Rate Rider	\$0.00	\$3.66	\$3.66
Smart Meter Rate Change	\$1.00	\$4.87	\$3.87

As mentioned above in Table #2, once these Rate Riders are applied, Residential customers will see an increase of 28.05% on distribution rates and a 6.05% increase as a total bill impact. General Service <50kW customers will see an increase of 21.58% on the distribution rates and a 5.13% increase as a total bill impact.

17. CONCLUSION:

NOTLHI has worked collaboratively with NEPA, UCS and other LDCs across the Province of Ontario to fulfill the Provincial government's initiative in providing the residents of Ontario conservation tools. NOTLHI has achieved economies of scale where possible and has acted prudently in obtaining best possible pricing. NOTLHI submits all costs incurred are justified as set out throughout this Application and respectfully requests recovery through the Rate Riders as submitted.

18. Addenda:

Addendum 1 Util Assist - NEPA Smart Meter Project Summary January 18, 2012

Addendum 2 Attestation Letter of the Fairness Commissioner

Addendum 3 Installation Services RFP

Addendum 4 Meter Disposal Services RFI

Addendum 5 AMI Contract Negotiation

Addendum 6 Sensus Security Audit RFP

Addendum 7 Bill Impacts

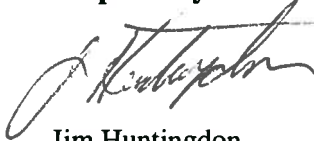
Addendum 8 Smart Meter Model

Addendum 9 Summary of Smart Meter Costs by Vendor

Addendum 10 Confidential Materials Filed Separately with Board

- Advanced Metering Infrastructure Services Agreement between NOTLHI and Sensus;
- Smart Meter Installation Agreement between NOTLHI and Olameter Inc.;
- Operational Data Store Agreement between NOTLHI, Kinetiq Canada Ltd. and 437967 Ontario Ltd. o/a Savage Data Systems;
- NEPA ODS Vendor Selection Report
- Bell – Network Security Audit Statement of Work
- Uti-Assist – NEPA MDMR Integration and Testing Scope Document
- Uti-Assist – NEPA Consulting and Sync Operator Proposal
- Greenport – Disposal Purchase Order

Respectfully submitted,



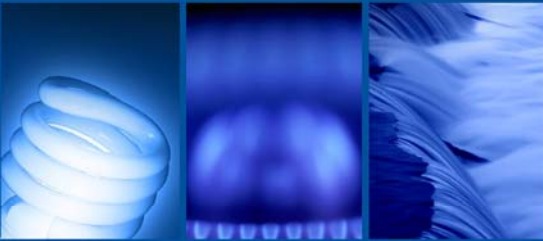
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Addendum 1

Util Assist - NEPA Smart Meter Project Summary January 18, 2012



NIAGARA ERIE POWER ASSOCIATION

(NEPA)

Smart Meter Project Summary

January 18, 2012

Prepared By:
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Executive Summary

In June of 2004, the Minister of Energy issued a Directive under Section 27.1 of the *Ontario Energy Board Act*, 1998 which required the Board to develop and, upon approval by the Minister of Energy, implement a plan to achieve the government's objectives for the deployment of smart electricity meters. In conjunction with the development of its implementation plan, the Directive also required the Board to examine the need for and effectiveness of time of use rates for non-commodity charges - in addition to season/time-based standard supply service commodity rates the Board is already in a position to establish - to complement the implementation of and maximize the benefits of smart meters.

The provincial Smart Meter Initiative would stem from this Directive and all Local Distribution Companies (LDCs) in Ontario would be heavily involved in creating a conservation culture in Ontario and making the Province a North American leader in energy efficiency. Key initiatives included the introduction of flexible, time-of-use pricing for electricity, and a targeted reduction in Ontario's energy consumption of 5%.

The provincial initiative mandated the installation of 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. The underlying premise behind the mandate to install these meters was to educate customers on their consumption habits and to implement new rate structures that encouraged load shifting and conservation of energy, thereby reducing the requirement for increased power generation capabilities.

This was an enormous undertaking for all LDCs; a project that took months of planning and carefully managed execution. To accommodate the needs of the Ministry of Energy and Infrastructure, NEPA members installed approximately 178,000 meters to fulfill their requirements for the mandate. Combined with the magnitude of the metering project, members also had the challenge of choosing technologies and installation service providers that could accommodate the stated requirements within their diverse LDC service territories.

Other Ontario Regulations that applied to the initiative include:

Reg. 425/06 Criteria and Requirements For Meters and Metering Equipment, Systems and Technology

Reg. 426/06 Smart Meter: Costs Recovery

Reg. 427/06 Smart Meters: Discretionary Metering Activity and Procurement Principles

Reg. 235/08 Amending Reg. 427/06 Smart Meters: Discretionary Metering Activity and Procurement Principles Functional Specification for an Advanced Metering Infrastructure – July 5, 2007

Education and Preparation for the Initiative

As indicated above, the SMI required preparation and execution for the selection and deployment of new technology on an unprecedented scale. As this initiative was new to Ontario utilities, the NEPA group members recognized that there was much to be learned about the new AMI technologies to ensure that the operational efficiencies that become available through AMI would be realized as part of the initiative.

NEPA member utilities had achieved great success when working together on previous initiatives and elected for a collaborative approach to the education required for a successful Smart Meter Implementation. In so doing, utilities were involved with the Ontario Utility Smart Metering (OUSM) working group starting with its inception in March of 2005. Through this involvement, much was learned regarding prominent AMI systems and the technologies associated with back office integration of meter data, as well as the vendors associated with the installation of these products.

OUSM Working Group Participation

To satisfy the due diligence requirements of a project of this magnitude, an all-inclusive process was undertaken. In order to become educated on all aspects of the AMI initiative, NEPA members maintained involvement in the Ontario Utilities Smart Meter (OUSM), a working group that consisted of over 50 utility members that came together in an educational effort.

NEPA members supported the concept of the OUSM from the outset, embracing the collaborative approach to acquiring the required education for a successful Smart Meter Implementation. Through their involvement much was learned regarding all prominent AMI technologies available to the North American marketplace by:

1. Sharing information on the success of AMI pilots installed in utilities across the province
2. Reporting on the testing of different AMI technologies and components related to the AMI initiative which was completed in 2005.
 - a. Standard Test Scripts were created and used for testing all AMI technologies, helping to provide comfort and back-up documentation to justify future vendor selection to a utility's board members and the OEB.
 - b. The testing of products ensured an understanding not only of the functionality of the products *available* in this market, but also to understand the functionality that would be *required* of the different components of the Smart Meter system in order to accomplish the needs of the regulators. Acquiring insight into how different products delivered such components as time stamping of intervals, synchronization of register reads, network diagnostic components, etc, ensured that the chosen products could deliver the requirements of the regulators as well as accomplish the unique requirements of individual members.

- c. The following AMI Systems were part of the testing completed by the OUSM and detailed reports are available on the Util-Assist Web Portal which provides test results and detailed information regarding functionality.

OUSM Tested AMI Systems

Elster	Tantalus	EKA Systems	Trilliant	Cellnet
Sensus	Itron	SilverSpring	Quadlogic	SmartSynch

By acting collaboratively with the OUSM, NEPA members were able to gain an understanding of the base functionality and advanced feature sets of these installed products, as well as the other prominent technologies available to the North American market.

NEPA Strategy

To cost-effectively plan for the deployment, and ensure due diligence was accommodated, NEPA members came together, and through a concerted effort, examined the benefits of a collaborative approach to planning, as well as procurement of AMI and Installation services. As part of this plan, the NEPA member utilities retained the services of Util-Assist Inc., an Ontario consulting firm who would provide guidance and direction to the group to assist in the preparation, deployment and back office integration for the SMI.

Satisfying NEPA's due diligence requirements entailed an all-encompassing process, accounting for:

1. Planning
2. Implementation
3. Testing, and
4. Complete Back Office Integration.

NEPA members worked together throughout the initiative, taking full advantage of the benefits that collaboration brings. The SMI project would touch every department in the utility and would touch every residential and small commercial customer in each LDC's service territory. All tasks had to be considered, from the selection and installation of the AMI infrastructure right down to the disposal of the redundant meters and ensuring that the recycling vendors were engaged so as to divert the meters from landfills. Benefits were found in on-going operational costs. By working together, the NEPA members drastically reduced the labour components associated with maintaining the health of the installed network, as well as the daily data collection requirements for the deployed system (i.e. 2 employees to maintain a NEPA AMI system vs. 9 employees to maintain an AMI system for each individual NEPA member).

By collaborating with Util-Assist to develop an extensive plan, NEPA Members were sufficiently prepared to accommodate the established timelines. A project of this magnitude is not without risk and within this document we have identified the potential problems and risks which may impede progress (Rate Recovery, Meter Base Repairs, etc).

All aspects of the deployment were considered, including:

1. Rate recovery,
2. Regulatory requirements regarding AMI functionality
3. Strategic planning to minimize costs for deployment
4. Audit tools during deployment
5. Back office integration
6. Meter disposal
7. AMI security
8. WEB presentment
9. Sub-metering
10. Coordination with local municipalities
11. Change management and
12. most importantly, the continued dedication to Health and Safety;

Throughout the initiative, NEPA members stayed focused on mitigating associated risks, thereby ensuring the successful implementation of the Smart Meter Initiative.

Following is a brief timeline demonstrating the order of events that the NEPA group followed:

Timeline

1. 2007: Participation in Ministry of Energy and Infrastructure authorized London Hydro AMI RFP process (establishing best practice procurement procedures).
2. Q4 2008: release of ODS provider RFP (November 7, 2008)
3. Q4 2008: vendor submittal due date for responses to ODS RFP (December 5, 2008)
4. Q1 2009: release of Meter Disposal RFQ
5. Q3 2008: release of Installation Service Provider RFP
6. Q3 2008: vendor submittal due date for responses to RFP (September 26, 2008)
7. Q4 2008: evaluation of Installation vendor submittals
8. Q4 2008: vendor negotiation (secure best pricing, discuss associated risk)
9. Q1 2009: commence deployment of residential Smart Meters

AMI Selection Process

As mass deployment rapidly approached, the strategy of the NEPA group was to work together and create a process that accomplished the goals of the Smart Meter Initiative, while controlling the risks to customers and share holders.

The phase one approved processes included the Coalition of Large Distributors (CLD) RFPQ in conjunction with the MOE and the Hydro One procurement process, through this process, 13 utilities would be authorized to move forward with the procurement and installation of smart meters.

The remaining LDCs in Ontario would be part of the consortium of utilities working together as part of the authorized London Hydro AMI RFP process (phase two) that is summarized below.

London Hydro Phase Two AMI RFP Process Summary

- ❖ A Request for Proposal procurement transaction was conducted by London Hydro Inc., as the lead sponsoring Local Distribution Company (LDC) and with a consortia of another 63 LDCs, during the period August 2007 to July, 2008;
- ❖ The evaluation and selection phase of the RFP provided for the determination of the #1 and #2 ranked Proponents for each LDC;
- ❖ RFP Provision 7.5.141 provides the framework (principle) for negotiations and contracting based on the principle of “first right to negotiation and execution of a contract” being accorded to the ranked order of Proponents commencing with the highest ranked Proponent and proceeding in a consecutive order thereafter; and
- ❖ Each LDC was provided the evaluation results for their #1 and #2 ranked Proponents supported by the Attestation Letter of the Fairness Commissioner as to those rankings.

From a final contract negotiation perspective the NEPA LDCs each initiated good faith contract negotiations with their identified “best value” bidder, KTI/Sensus Limited.

The Fairness Commissioner provided each NEPA LDC with a letter that stated “that the successful conclusion of negotiations between the NEPA LDCs and KTI/Sensus Limited, were undertaken in accordance with the principle for such negotiations and contract award set out in the RFP, issued in August 2007.”

Ultimately the result for NEPA member utilities was that the NEPA group was awarded the Sensus’ FlexNet™ AMI system. This evaluation process was termed as phase two in the Ontario market place and was the method by which AMI systems were selected for the vast majority of utilities in the province.

Following the selection of an AMI provider, attention was turned to the selection of an Installation Vendor.

Install Vendor Selection Process

NEPA's involvement in the London Hydro Phase Two Procurement Process proved to be of great value as the experience formed a foundation that ensured a sound and prudent procurement path was followed. An Installation Services RFP was created and seven (7) vendors from across North America were invited to respond.

The invited vendors included Corix, Honeywell, Olameter, PowerQuest, (Keywell), VSI, Rodan Energy and Trilliant, representing both vendors with local representation as well as vendors with extensive experience in larger markets. NEPA was confident that the most qualified and successful vendors were given the opportunity to submit proposals in response to the RFP.

NEPA's clearly stated requirement for the highest possible standards with regards to Safety were evident in every stage of the procurement process. The Request for Proposal identified NEPA's stringent Safety requirements, and included a requirement for bidder's to state their ability to either meet or exceed NEPA's guidelines. In addition to comprehensive Safety policies and procedures, NEPA's preference for a turnkey solution with the successful vendor performing all site related services and workforce management (i.e. customer communication, installation and commissioning, scheduling, dispatch and integration to back office systems, etc) was expressed.

In total, the operational considerations accounted for 45% of weighting of the evaluation with the remaining 55% attributed to the pricing received. The weighting structure was chosen to closely match that used in the 2006 CLD RFPQ process which had been found to be prudent by the regulator.

At the close of financial and technology evaluations, it was determined that Trilliant most closely matched all of NEPA's requirements; providing clear and concise Safety protocols as well as strong managerial tools to ensure all communicated policies and procedures would be properly implemented by the staff utilized within each NEPA member's service territory. These strong functional components were to be provided at a highly competitive price, which in combination resulted in the best service package being provided at the best price. Shortly after Trilliant was selected as the winning proponent, the group received notice that Olameter had acquired Trilliant and thus Olameter would be providing the services to the group.

As many utilities had a relationship with Olameter for meter reading services and Olameter was quite active in the Ontario market, this worked in the group's favour. Olameter's operational score in the RFP evaluation was strong; however their pricing was not the most favourable which attributed to their ranking as number three in the evaluation model. Given the success being enjoyed by Olameter within Ontario, there was confidence that there was minimal risk in the decision to award Olameter with the installation of NEPA's residential Smart Meters.

ODS Vendor Selection Process

NEPA member utilities recognized early on that an Operational Data Store (ODS) would be of value to support their needs for the introduction of efficiencies which would become possible through the use of the operational data available from the AMI system as the MDM/R didn't store operational data.

According to the Ministry of Energy's Functional Specification, the Advanced Metering Control Computer (AMCC – AMI network server) is limited to a maximum of 60 days for the storage of AMI data. Whereas ODS systems act as a repository to store unlimited data and have the architecture with the mechanisms in place to retain and archive data for analysis by the utility.

Many benefits can be realized through the use of an ODS system, one of which is to use the ODS to audit the mass meter installation to prevent the situation of deploying the AMI network "blind". The AMI systems traditionally will indicate that the meters are communicating but the ODS will verify the quality of the data coming from the AMI system.

Other examples of the available functionality in ODS systems include verification of all data fields being transmitted from AMI, such as:

- Readings (kWh, kW)
- Alarm Filtering (Tamper, Outage)
- Power Quality Data (Voltage)
- Perform Data Gap Analysis
- SLA management of AMI system

Due to the possibility that the provincial centralized Meter Data Management and Repository (MDM/R) would one day accommodate operational needs in addition to the billing requirements, and in keeping with the desire to minimize duplication in utility infrastructure, the utilities chose to procure a system that was an Application Service Provider (ASP) model, allowing the system to grow with the needs of each utility, and also provide flexibility with regards to contract term.

To be prepared for the deployment of residential smart meters in each utility's service territory, the ODS RFP was developed focusing on data management functionality which would definitively determine a utility's compliance with the requirements of the Ministry of Energy's Functional Specification. Additionally, the ODS system would be required to store operational data which will allow utilities to implement operational efficiencies in the immediate future.

The ODS Request for Proposal (RFP) was distributed to selected vendors in North America with thirty (30) vendors invited to respond. Of the vendors invited to bid on the RFP, six (6) vendors chose to submit a written response for an ODS solution. These vendors included local representation as well as vendors with extensive experience in larger markets. NEPA was confident that the most qualified and successful vendors were given the opportunity to submit proposals in response to the RFP.

The evaluation team consisted of representatives from five utilities in the NEPA group with resources from Brantford Power Inc., Canadian Niagara Power Inc., Haldimand County Hydro Inc., Norfolk Power Distribution Inc. and Welland Hydro Electric System Corp. volunteering to be part of the committee. This committee provided for a mixture of Elster and Sensus AMI users and a wealth of both technical and operational knowledge.

The evaluation criteria and scoring documents were prepared in advance of the release of the RFP to support a prudent process and identify scoring criteria that ensured a consistent and fair approach in the evaluation of the bids. Many of the ODS systems were considered new technology and to ensure that the written responses and functionality descriptions in the RFP matched the state of the actual technology released, vendor demonstrations were held allowing utilities the opportunity to see the actual software.

The team evaluated Bidders objectively with the end goal of selecting the best-fit service provider for an ODS solution, thereby allowing utilities to achieve their internal goals of maximizing the value from the assets in the field, while ensuring that the requirements of the provincial government are met. With financial and technology evaluations completed, it was originally determined that the Accenture ODS proposal most closely matched all of the requirements; providing strong support for the functionality requirements expressed through the RFP, as well as project management support tailored to the needs of each utility to ensure project success. During the implementation process, Accenture amended their offering so significantly that contract negotiations failed.

NEPA revisited the evaluations performed on the six vendors who had submitted a proposal and selected the second and third ranked vendors, Harris and Kinetiq, for re-evaluation. At the same time, changes also began to occur with Brantford Power Inc. and Niagara-on-the-Lake Hydro Inc. electing to work in collaboration with other utilities following the same procurement path for an ODS solution. Brantford Power Inc. and Niagara-on-the-Lake Hydro Inc. (NOTL) did not participate in the re-evaluation process and they opted to select Kinetiq as their vendor of choice.

Westario Power Inc. and Orillia Power Distribution Corporation, originally part of the CHEC group (Cornerstone Hydro Electric Consortium), joined the NEPA group in their efforts to secure a suitable ODS solution. Both Westario Power Inc. and Orillia Power Distribution Corporation participated in the re-evaluation of the second and third ranked vendors.

There were a number of technology changes that occurred during this time period and in order to gain an understanding of any new differences between these vendor offerings, NEPA invited both Harris and Kinetiq to demonstrate their solutions and submit revised pricing. NEPA re-evaluated both vendors resulting in Harris becoming the new vendor of choice.

Supplied documentation reflects the analysis that went into this important decision by noting the functionality provided by the bidders as well as the pricing and associated risk of the different vendors. The decision making process regarding ODS solutions has been well documented and conclusive, to provide each utility's Executive Management team with the confidence to support the decision made by

the committee. The well organized approach has ensured that the proper decisions have been made and documented with the end goal of achieving all SMI related timelines.

MDM/R Integration Process Project planning

Ontario Regulation 393/07: Designation of Smart Metering Entity would authorize the Independent Electricity System Operator (IESO) as the Smart Metering Entity responsible for processing all meter read interval data to provide billing quantity data to all LDCs in Ontario. This centralized system is termed as the Provincial Centralized MDM/R (MDM/R).

Having made such tremendous progress in the acquisition and implementation of systems, NEPA recognized the value in collaboration and continued to work together with Util-Assist to complete the necessary steps required to integrate their systems into the MDM/R.

As part of this strategy, Util-Assist developed and presented a series of MDM/R Education Sessions in which the NEPA members were educated about the MDM/R and the Business Process changes that would be required to effectively integrate and interact with the MDM/R on an enduring basis.

Standard processes were provided to members allowing them to tailor the processes for their own situations. Several members elected to have Util-Assist provide a more in-depth analysis of their processes and ultimately assist the LDCs in the design and development of specific processes unique to their utility.

Successfully integrating to the MDM/R would require months of education to prepare for the formalized enrolment testing run by the IESO. Dedicated resources would be required from each utility to be the test lead and engage with the IESO during the 8 week enrolment timeframe leading up to the cutover to the MDM/R (flowing all meter data). The flowing of all residential and small commercial customers' meter data to the MDM/R would be required in order for utilities to successfully implement the new time-of-use rate structures.

On June 24, 2010, the Board issued for comment a Proposed Determination (the "June Proposed Determination") to mandate time-of-use ("TOU") pricing for RPP consumers by establishing the "mandatory TOU date" for each electricity distributor as contemplated in section 1.2.1 of the Standard Supply Service Code (the "SSS Code"). In the June Proposed Determination, the Board proposed that a distributor's mandatory TOU date will be one of two dates, depending on the distributor's progress to date against the schedule set out in its baseline plan (updated to the date of the June Proposed Determination, where applicable).

This would require the NEPA member utilities to implement time-of-use rates in their service territory based on the dates provided in the OEB determination. As of the writing of this report, approximately 65% of the NEPA member utilities have implemented time-of-use pricing in their service territories while all other members are on a path to successfully fulfill their requirements to the regulator.

Conclusion

The NEPA group members are confident that a comprehensive process has been undertaken and successfully completed, and that the due diligence requirements for all decisions related to this initiative have been satisfied.

Through the process of working together with other LDCs, NEPA has realized the true value of collaboration, having received support as well as operational and pricing efficiencies that were not possible had each LDC gone through the process on their own.

Appendix A

- a) Ontario Regulation 425/06
- b) Functional Specifications document



ONTARIO REGULATION 425/06

made under the

ELECTRICITY ACT, 1998

Made: August 10, 2006

Filed: August 29, 2006

Published on e-Laws: August 31, 2006

Printed in *The Ontario Gazette*: September 16, 2006**CRITERIA AND REQUIREMENTS FOR METERS AND METERING EQUIPMENT, SYSTEMS AND TECHNOLOGY****Adoption of criteria and requirements**

1. For residential and small general service consumers, the prescribed criteria and requirements for meters, metering equipment, systems and technology and any associated equipment, systems and technologies are the criteria and requirements specified in the document entitled "Functional Specification for Advanced Metering Infrastructure" dated July 14, 2006 and available at the Ministry of Energy, 4th Floor, Hearst Block, 900 Bay Street, Toronto, Ontario or at

http://www.energy.gov.on.ca/english/pdf/electricity/smartmeters/Functional_Specification_for_Advanced_Metering_Infrastructure.pdf.

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FUNCTIONAL SPECIFICATION

FOR AN

ADVANCED METERING INFRASTRUCTURE

JULY 14, 2006

**FUNCTIONAL SPECIFICATION
FOR AN ADVANCED METERING INFRASTRUCTURE**

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FUNCTIONAL SPECIFICATION FOR AN ADVANCED METERING INFRASTRUCTURE

1.0 APPLICATION OF SPECIFICATION

This Specification sets the required minimum level of functionality for AMI in the Province of Ontario for residential and small general service consumers where the metering of demand is not required. This Specification is not intended to apply to net metering applications.

2.0 FUNCTIONAL SPECIFICATION

2.1 *Deployment*

This Specification shall be met regardless of the size or scope of the AMI deployment by a distributor.

2.2 *Minimum Functionality*

2.2.1 As a minimum:

2.2.1.1 AMI shall collect Meter Reads on an hourly basis from all AMCDs deployed by a distributor and transmit these same Meter Reads to the AMCC and MDM/R, as required, in accordance with these Specifications; and

2.2.1.2 A Meter Read shall be collected, dated and time stamped at the end of each hour (i.e. midnight as represented by 24:00).

2.2.2 The date and time stamping of Meter Reads shall be recorded as year, month, day, hour, minute (i.e. YYYY-MM-DD hh:mm).

2.2.3 All meters shall have a meter multiplier of one (1).

2.2.4 Distributors shall provide the MDM/R with the service multiplier for transformer-type meters.

2.3 *Performance Requirements*

2.3.1 Collection and Transmission of Meter Reads:

2.3.1.1 AMI shall successfully collect and transmit to the AMCC and MDM/R at least 98.0% of the Meter Reads from all AMCDs deployed by a distributor in any Daily Read Period.

2.3.1.2 Meter Reads unsuccessfully collected or transmitted shall not be due to the

same AMI component (including, without limitation, any AMCD) during any three (3) month consecutive time period.

- 2.3.1.3 AMI shall be able to collect and transmit Meter Reads during its operating life without requiring a field visit.
- 2.3.2 Transmission Accuracy: Over the Daily Read Period, 99.9% of the Meter Reads received by the AMCC shall contain the same information as that collected by all AMCDs deployed by the distributor.
- 2.3.3 AMI shall be capable of providing Meter Reads with a precision of at least 10 Watt-hours (0.01 kWh).

2.4 Technical Requirements

- 2.4.1 When an AMI includes AMRCs, the AMRCs shall have the ability to store meter data to accommodate the performance requirements in section 2.3.1.
- 2.4.2 Time Synchronization:
 - 2.4.2.1 AMI shall be operated and synchronized to Official Time, as set by the National Research Council of Canada.
 - 2.4.2.2 AMI shall have the capability of adjusting for changes due to local daylight savings time.
 - 2.4.2.3 AMI installed within a distributor's service area shall have the capability of accommodating more than one (1) time zone.
 - 2.4.2.4 Time synchronization shall be maintained in the AMI to the specified accuracy parameters set out in section 2.4.3.1 following a loss of power.
 - 2.4.2.5 All Meter Reads shall adhere to accurate time synchronization processes to ensure an accurate accounting of electricity consumption at each meter.
- 2.4.3 Time Accuracy:
 - 2.4.3.1 At all times, time accuracy in the AMI shall not exceed a ± 1.5 minute variance from the time established in section 2.4.2.1.
 - 2.4.3.2 AMI shall be able to prove that time accuracy does not exceed the permitted time variance identified in section 2.4.3.1.
- 2.4.4 Loss and Restoration of Power:
 - 2.4.4.1 AMI shall detect and identify the interval in which a loss of power occurred during a Daily Read Period.
 - 2.4.4.2 AMI shall detect and identify the interval in which power was restored following a loss of power.

- 2.4.5 Environmental Tolerances: All AMI components (except the AMCC) shall operate and meet the requirements in these Specifications within a temperature range of minus thirty degrees Celsius (-30°C) to positive sixty-five degrees Celsius ($+65^{\circ}\text{C}$), and within a humidity range of zero percent (0%) to ninety-five percent (95%) non-condensing.

2.5 Advanced Metering Communication Device (AMCD)

2.5.1 Installation Within the Meter:

- 2.5.1.1 The AMCD shall not impair the ability of the meter to be visually read.
- 2.5.1.2 Meters in which an AMCD is installed shall be able to be installed in existing meter sockets or enclosures.
- 2.5.1.3 AMCD shall meet or exceed ANSI standards to withstand electrical surges and transients.

2.5.2 Labelling:

- 2.5.2.1 The AMCD shall be permanently labelled with:
 - (1) Legally required labelling;
 - (2) Manufacturer's name;
 - (3) Model number;
 - (4) AMCD identification number;
 - (5) Input/output connections;
 - (6) Date of manufacture; and
 - (7) Bar code for tracking and inventory management.
- 2.5.3 When installed at a consumer's location, the meter shall visibly display, as a minimum, the AMCD identification number, meter serial number and LDC badge number for the meter.
- 2.5.4 The AMCD shall be able to be initialized or programmed during, or prior to, field installation.

2.6 Transmission of Meter Reads

- 2.6.1 All Meter Reads collected during the Daily Read Period shall be received by the AMCC and transferred to the MDM/R no later than 5:00 a.m. local time following the Daily Read Period.
- 2.6.2 Meter Reads are not required to be transmitted in a single transmission and may be transmitted as frequently as necessary in order to meet the requirements in section 2.6.1.

- 2.6.3 AMCC shall transfer the information identified in section 2.6.1 using an approved protocol and file structure.

2.7 Advanced Metering Regional Collectors (AMRC)

- 2.7.1 LAN Communication Infrastructure:

- 2.7.1.1 The spectrum allocation and wattage of the radio signal used by an AMI shall not impede neighbouring frequencies.

- 2.7.2 When an AMI includes AMRCs:

- 2.7.2.1 The AMI shall provide for the continuous powering of AMRCs regardless of their location and placement.

- 2.7.2.2 All AMCDs shall be able to collect and transmit Meter Reads when one or more AMRC has a loss of power.

- 2.7.2.3 Memory and software parameters shall be maintained at all AMRC during a loss of power, whether by the provision of backup/alternate power or other solution.

2.8 Advanced Metering Control Computer (AMCC)

- 2.8.1 Each AMCC shall have the ability to store a rolling sixty (60) days of Meter Reads.

- 2.8.2 A distributor shall not aggregate Meter Reads into rate periods or calculate consumption data from the Meter Reads collected through its AMI either in its AMCC or any other component.

- 2.8.3 The AMCC shall be able to perform basic operational verification of Meter Reads received before transmitting these Meter Reads to the MDM/R.

2.9 Customer Account Information

- 2.9.1 Distributors shall provide initial information associated with customer accounts to the MDM/R on a date to be determined.

- 2.9.2 On an ongoing basis, distributors shall provide information associated with any change to the initial information identified in section 2.9.1 to the MDM/R at a frequency to be determined.

- 2.9.3 Information to be provided to the MDM//R pursuant to sections 2.9.1 and 2.9.2 is to be determined.

2.10 Monitoring & Reporting Capability

2.10.1 The AMI shall have non-critical reporting functionality and critical reporting functionality as required in this section 2.10. Information generated from this reporting functionality shall be available to the MDM/R.

2.10.2 Non-critical reporting:

2.10.2.1 At the completion of every Daily Read Period and following a transmission of Meter Reads, the AMCC shall generate a status report that includes information regarding anomalies and issues affecting the integrity of the AMI or any component of the AMI including information related to any foreseeable impact that such anomalies or issues might have on the AMI's ability to collect and transmit Meter Reads.

2.10.2.2 In addition to section 2.10.2.1, the AMCC shall generate reports:

- (1) Confirming successful initialization of the AMCD's installed in the field;
- (2) Confirming data linkages among an AMCD identification number, LDC badge number, serial number and customer account;
- (3) Confirming that the MDM/R has successfully received notification of any changes to customer account information;
- (4) Confirming that the AMCC has successfully made changes to customer account information following receipt of same from the MDM/R;
- (5) Confirming the successful collection and transmission of Meter Reads or logging all unsuccessful attempts to collect and transmit Meter Reads, identifying the cause, and indicating the status of the unsuccessful attempt(s) pursuant to section 2.3.1;
- (6) Confirming the accuracy of the Meter Reads received by the AMCC pursuant to section 2.3.2;
- (7) Confirming that all Meter Reads have a precision of at least 10 Watt-hours (0.01 kWh) pursuant to section 2.3.3;
- (8) Confirming whether the Meter Reads acquired within the Daily Read Period are in compliance with the time accuracy levels identified in section 2.4.3;
- (9) Confirming whether time synchronization within the AMI or any components of the AMI has been reset within the Daily Read Period;
- (10) Identifying the intervals in which a loss of power occurred and at which power was restored, following a loss of power;
- (11) Addressing the functionality of the AMCD communication link, including status indicators related to the AMCD and AMRC;
- (12) Identifying suspected instances of tampering, interference and theft;

- (13) Flagging potential network, meter and AMCD issues; and
- (14) Identifying any other instances that impact or could potentially impact the AMI's ability to collect and transmit Meter Reads to the AMCC and/or MDM/R on a daily basis.

2.10.2.3 Following a transmission of Meter Reads or at the completion of every Daily Read Period, the information in section 2.10.2.2 (5) shall be stored and used by the AMCC to assess compliance with the requirement specified in section 2.3.1.2.

2.10.2.4 The reports generated in sections 2.10.2.1 and 2.10.2.2 shall be made available to the MDM/R with a frequency to be determined.

2.10.3 Critical reporting:

Critical events are defined to include any AMI operational issue that could adversely impact the collection and transmission of Meter Reads during any Daily Read Period.

2.10.3.1 The AMI shall identify and report the following to the distributor:

- (1) AMCD failures;
- (2) AMRC failures;
- (3) Issues related to the storage capacity of any component of the AMI;
- (4) Communication links failures;
- (5) Network failures; and
- (6) Loss of power and restoration of power.

2.10.3.2 The reports generated in section 2.10.3.1 shall be made available to the MDM/R.

2.11 Security and Authentication:

2.11.1 The AMI shall have security features to prevent unauthorized access to the AMI and meter data and to ensure authentication to all AMI elements.

2.12 Proven Technology

2.12.1 No distributor shall install more than five hundred (500) units of a particular model of electricity AMCD if a minimum of five thousand (5,000) units of the same model of electricity AMCD that is to be installed by the distributor is not currently functioning in the field as part of one or more functioning AMI.

2.13 Regulatory Requirements

2.13.1 The AMI shall meet all applicable federal, provincial and municipal laws, codes, rules, directions, guidelines, regulations and statutes (including any requirements of any

applicable regulatory authority, agency, board, or department including Industry Canada, the Canadian Standards Association, the Ontario Energy Board and the Electrical Safety Authority) (collectively, “**Laws**”). For greater certainty, the AMI shall meet all applicable Laws that are necessary for the measurement of data and/or the transmission of data to and from the consumers within the Province of Ontario, including Laws applicable to metering, safety and telecommunications.

2.14 Water or Natural Gas Meter Reads

2.14.1 The AMI should be capable of supporting an increased number of Meter Reads associated with the reading and transmission of water and/or natural gas meters through additional ports on the AMCD, through optionally available multi-port AMCDs, or through additional AMCD/AMRC devices that are compatible with operating on the AMI. When procuring AMI, distributors shall obtain an indication of the capabilities of the proposed AMI to read water and natural gas meters, indicating the makes and models of such meters that can be read, and any requirements for retrofitting them.

3.0 DEFINITIONS

Within this Specification the following words and phrases have the following meanings:

“**AMCC**” is an advanced metering control computer that is used to retrieve or receive and temporarily store Meter Reads before or as they are being transmitted to the MDM/R. The information stored in the AMCC is available to log maintenance and transmission faults and issue reports on the overall health of the AMI to the distributor.

“**AMCD**” is an advanced metering communication device that is housed either under the meter’s glass or outside the meter. It transmits Meter Reads from the meter directly or indirectly to the AMCC.

“**AMI**” means an advanced metering infrastructure. It includes the meter, AMCD, LAN, AMRC, AMCC, WAN and related hardware, software and connectivity required for a fully functioning system that complies with this Specification. With some technologies, an AMI does not include AMRCs. An AMI does not include the MDM/R.

“**AMRC**” is an advanced metering regional collector that collects Meter Reads over the LAN from the AMCD and transmits these Meter Reads to the AMCC.

“**consumer**” or “**customer**” means a person who uses, for the person’s own consumption, electricity that the person did not generate.

“**distributor**” has the meaning provided in the *Ontario Energy Board Act, 1998*.

“**Daily Read Period**” means the 24-hour period for collecting Meter Reads, subject to the two periods annually during which changes to and from daylight savings time take place. The Daily Read Period ends at 12:00 midnight of each day.

“**LAN**” means a local area network, the communication network that transmits Meter Reads from the AMCD to the AMRC.

“**meter multiplier**” is the factor by which the register reading must be multiplied to obtain the registration in the stated units.

“**Meter Read**” is a number generated by a meter that reflects cumulative electricity consumption at a specific point in time.

“**MDM/R**” means the meter data management and meter data repository functions within which Meter Reads are processed to produce rate-ready data and are stored for future use.

“**Specification**” means these functional specifications.

“**transformer-type meter**” means a meter designed to be used with instrument transformers.

“**WAN**” means a wide area network, the communication network that transmits Meter Reads from the AMRC to the AMCC or, in some systems from the AMCD directly to the AMCC, and from the AMCC to the MDM/R.

Appendix B

a) Ontario Regulation 426/06



Ontario Energy Board Act, 1998
Loi de 1998 sur la commission de l'énergie de l'Ontario

ONTARIO REGULATION 426/06
SMART METERS: COST RECOVERY

Consolidation Period: From June 25, 2008 to the [e-Laws currency date](#).

Last amendment: O. Reg. 234/08.

This Regulation is made in English only.

Cost recovery, general

1. (1) In relation to the acquisition of smart meters, a distributor may recover its costs relating to functionality that does not exceed the minimum functionality adopted in Ontario Regulation 425/06 (Criteria and Requirements for Meters and Metering Equipment, Systems and Technology) made under the *Electricity Act, 1998*, subject to final approval by the Board and the Board's review and determination that the agreement entered into for the acquisition is economically prudent and cost effective. O. Reg. 234/08, s. 1 (1).

(1.01) In determining whether an agreement referred to in subsection (1) is economically prudent and cost effective, the Board's review shall take into consideration, but not be limited to,

- (a) all costs associated with the agreement; and
- (b) the costs of the agreement relative to any agreements entered into by the distributor and other distributors for comparable acquisitions. O. Reg. 234/08, s. 1 (1).

(1.1) Subject to final approval of the Board, a distributor may recover the costs it prudently incurred to comply with the enrolment requirements and technical interface requirements of the Smart Metering Entity. O. Reg. 441/07, s. 1; O. Reg. 234/08, s. 1 (2).

(2) In relation to the acquisition of smart meters, a distributor may not recover its costs relating to functionality that exceeds the minimum functionality adopted in Ontario Regulation 425/06 (Criteria and Requirements for Meters and Metering Equipment, Systems and Technology) made under the *Electricity Act, 1998* unless the costs are approved by the Board. O. Reg. 426/06, s. 1 (2); O. Reg. 234/08, s. 1 (3).

(3) In reaching a decision under subsection (2), the Board may consider the matters that it considers appropriate, including evidence that the functionality that exceeds the minimum functionality adopted in Ontario Regulation 425/06 (Criteria and Requirements for Meters and Metering Equipment, Systems and Technology) made under the *Electricity Act, 1998* benefits the distributor's consumers. O. Reg. 426/06, s. 1 (3).

(4) In this section,

“smart meters” includes smart meters, metering equipment, systems and technology and any associated equipment, systems and technologies. O. Reg. 234/08, s. 1 (4).

Cost recovery, meter data functions

2. (1) No distributor shall recover any costs associated with meter data functions to be performed by the Smart Metering Entity. O. Reg. 426/06, s. 2 (1).

(2) Despite subsection (1), distributors may recover costs associated with functions related to meter data that are contemplated to be performed by distributors by the criteria and requirements adopted in Ontario Regulation 425/06 (Criteria and Requirements for Meters and Metering Equipment, Systems and Technology) made under the *Electricity Act, 1998*. O. Reg. 426/06, s. 2 (2).

(3) Subsection (1) does not prevent distributors from recovering costs that are approved by the Board pursuant to section 1 that are associated with functions related to meter data that relate to a distributor’s operation of its distribution system, but only if those functions are not meter data functions to be performed by the Smart Metering Entity. O. Reg. 426/06, s. 2 (3).

(4) Subsection (1) does not apply to distributors with service areas identified as priority installations in Ontario Regulation 428/06 (Priority Installations) made under the *Electricity Act, 1998*. O. Reg. 426/06, s. 2 (4).

(4.1) Subsection (1) does not prevent a distributor from recovering costs, if approved by the Board, that the distributor incurred as a result of supporting the IESO with finalizing the design of the requirements and processes for the interface and integration of the Smart Metering Entity’s system with the distributor’s billing and metering systems. O. Reg. 392/07, s. 1.

(4.2) The distributor’s cost recovery under subsection (4.1) is subject to the Board receiving confirmation from the IESO that the distributor supported the IESO as described in subsection (4.1) and that the distributor was one of the first five distributors whose billing and metering systems were integrated with the Smart Metering Entity’s system. O. Reg. 392/07, s. 1.

(5) In this section,

“meter data functions” means those functions for which the Smart Metering Entity has the exclusive authority to carry out pursuant to Ontario Regulation 393/07 (Smart Metering Entity) made under the *Electricity Act, 1998*. O. Reg. 426/06, s. 2 (5); O. Reg. 234/08, s. 2.

Cost recovery, replaced meter assets

3. (1) Subject to Board order, to ensure that distributors are not financially disadvantaged by the implementation of the smart metering initiative, distributors may recover the costs associated with meters owned before, on or after January 1, 2006 being replaced because of the smart metering initiative if,

(a) the meter being replaced was not acquired in contravention of section 53.18 of the *Electricity Act, 1998*; and

(b) the meter is replaced with a smart meter authorized for installation under the *Electricity Act, 1998*. O. Reg. 441/07, s. 2.

(2) The Board shall determine the period of time over which the costs referred to in subsection (1) may be recovered, in order to protect the interests of consumers with respect

to prices. O. Reg. 441/07, s. 2.

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Appendix C

- a) Ontario Regulation 427/06
- b) Ontario Regulation 235/08



**Electricity Act, 1998
Loi de 1998 sur l'électricité**

ONTARIO REGULATION 427/06

**SMART METERS: DISCRETIONARY METERING ACTIVITY AND
PROCUREMENT PRINCIPLES**

Consolidation Period: From June 25, 2008 to the [e-Laws currency date](#).

Last amendment: O. Reg. 235/08.

This Regulation is made in English only.

Definition

0.1 In this Regulation,

“smart meters” includes smart meters, metering equipment, systems and technology and any associated equipment, systems and technologies. O. Reg. 235/08, s. 1.

Authorized discretionary metering activity

1. (1) The following activities are authorized discretionary metering activities for the purposes of section 53.18 of the Act:

1. Metering activities conducted pursuant to the distributor's Conservation and Demand Management Plan approved by a Board order referenced as RP - 2004 - 0203, including pursuant to a reallocation of funds within an approved Conservation and Demand Management Plan as authorized by the Board order approving the Conservation and Demand Management Plan or that is otherwise approved by the Board.
2. If not otherwise authorized by this subsection, a distributor may utilize funds to conduct metering activities that are for the purpose of testing smart meter technology if,
 - i. the distributor has the prior approval of the Board, and
 - ii. the funds that are utilized were collected pursuant to the Board's approval to include capital and operating costs related to smart meters in distributors' revenue requirements for 2006, as set out in the Board's Generic Issues decision, dated March 21, 2006 and referenced as RP - 2005 - 0020, as is incorporated into each distributor's 2006 electricity distribution rate order provided by the Board pursuant to section 78 of the *Ontario Energy Board Act, 1998*.
3. Metering activities conducted by Enersource Corporation, Powerstream Inc., Hydro Ottawa Limited, Horizon Utilities Corporation, Toronto Hydro-Electric System

Limited and Veridian Connections Inc. pursuant to the process initiated in the Request for Pre-Qualification for Advanced Metering Infrastructure Procurement and Installation issued by Enersource Corporation on behalf of itself and the other referenced utilities and dated May 2, 2006.

- 3.1 Metering activities conducted by a distributor listed in paragraph 3, if the smart meters were procured subsequent to the process referred to in paragraph 3.
4. Metering activities conducted by a distributor that has had its smart meters procured on its behalf by one or more of Enersource Corporation, Powerstream Inc., Hydro Ottawa Limited, Horizon Utilities Corporation, Toronto Hydro-Electric System Limited or Veridian Connections Inc. pursuant to the process referred to in paragraph 3.
5. Metering activities conducted pursuant to the Request for Proposal for Smart Metering Services issued by Hydro One Networks Inc. and dated March 4, 2005.
6. Metering activities conducted by a distributor that has had its smart meters procured on its behalf by Hydro One Networks Inc. pursuant to the process referred to in paragraph 5.
7. Metering activities conducted by distributors if the activities meet the following criteria:
 - i. the activities are for service areas identified as priority installations by Ontario Regulation 428/06 (Priority Installations) made under the Act, and
 - ii. smart meter deployment plans have been filed with the Minister by the distributor.
8. Metering activities conducted by a distributor that has procured its smart meters pursuant to and in compliance with the parameters and process established by the Request for Proposal for Advanced Metering Infrastructure (AMI) – Phase 1 Smartmeter Deployment dated August 14, 2007, together with any amendments to it, issued by London Hydro Inc. O. Reg. 427/06, s. 1 (1); O. Reg. 153/07, s. 1 (1); O. Reg. 235/08, s. 2 (1-4).

(2) The smart meters used in relation to activities authorized as discretionary metering activities in subsection (1) shall comply with the criteria and requirements adopted in Ontario Regulation 425/06 (Criteria and Requirements for Meters and Metering Equipment, Systems and Technology) made under the Act. O. Reg. 427/06, s. 1 (2); O. Reg. 153/07, s. 1 (2); O. Reg. 235/08, s. 2 (5).

(2.1) Despite subsection (2), the smart meters used in relation to activities authorized as discretionary metering activities in paragraph 1 of subsection (1) that were conducted before the day this subsection comes into force are not required to comply with the criteria and requirements adopted in Ontario Regulation 425/06 (Criteria and Requirements for Meters and Metering Equipment, Systems and Technology) made under the Act. O. Reg. 153/07, s. 1 (3); O. Reg. 235/08, s. 2 (6).

(3) Any procurement associated with the activities authorized as discretionary metering activities under subsection (1), other than activities referenced in paragraphs 1 and 2 of subsection (1), shall comply with the procurement requirements set out in section 2. O. Reg. 427/06, s. 1 (3); O. Reg. 153/07, s. 1 (4).

(4) The activities authorized as discretionary metering activities in subsection (1) are subject to the cost recovery requirements set out in Ontario Regulation 426/06 (Smart

Meters: Cost Recovery) made under the *Ontario Energy Board Act, 1998*. O. Reg. 427/06, s. 1 (4).

Procurement

2. (1) When a distributor enters into a procurement process in relation to the smart metering initiative, the distributor shall ensure,

- (a) that the procurement process complies with the principles set out in subsection (2); and
- (b) that any agreement entered into as a result of the procurement is economically prudent and cost effective, taking into consideration, but not limited to,
 - (i) all costs associated with the agreement, and
 - (ii) the costs of the agreement relative to any prior agreement entered into by the distributor for comparable acquisitions. O. Reg. 427/06, s. 2 (1); O. Reg. 235/08, s. 3 (1).

(2) Distributors shall ensure that a procurement process in relation to the smart metering initiative complies with the following principles:

1. The procurement process, including the procedures used in the process and the selection criteria, must be fair, open and accessible to a range of interested bidders.
2. The procurement process must be competitive.
3. Conflicts of interest, both actual and potential, of bidders must be disclosed in the bidders' proposals and the process must ensure that,
 - i. the selected bidder will not have a conflict of interest in respect of the deliverables under the agreement entered into as a result of the procurement, or
 - ii. the selected bidder will be required to comply with requirements established by the distributor to address an actual or potential conflict of interest.
4. There must be no unfair advantage in the procurement process. O. Reg. 427/06, s. 2 (2).

(3) A distributor may only procure or utilize smart meters from an affiliate, if the affiliate is the selected bidder in a procurement process that satisfies the requirements of this section. O. Reg. 427/06, s. 2 (3); O. Reg. 235/08, s. 3 (2).

(4) The Minister or the Board may on notice require that a distributor provide to the Minister or the Board, as the case may be,

- (a) information relating to the procurement or installation of smart meters including information concerning pricing, contractual arrangements, and status of installations; and
- (b) information relating to a procurement, which information was obtained or developed during the procurement, including information concerning the selection of the successful bidder. O. Reg. 153/07, s. 2; O. Reg. 235/08, s. 3 (3).

(5) The notice in subsection (4),

- (a) shall be in writing;
- (b) shall set out a time frame in which the distributor must reply; and

(c) shall specify the information that the distributor must supply. O. Reg. 427/06, s. 2 (5).

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**ONTARIO REGULATION 235/08**

made under the

ELECTRICITY ACT, 1998

Made: June 17, 2008

Filed: June 25, 2008

Published on e-Laws: June 26, 2008

Printed in *The Ontario Gazette*: July 12, 2008

Amending O. Reg. 427/06

(Smart Meters: Discretionary Metering Activity and Procurement Principles)

Note: Ontario Regulation 427/06 has previously been amended. Those amendments are listed in the Table of Current Consolidated Regulations – Legislative History Overview which can be found at www.e-Laws.gov.on.ca.

1. Ontario Regulation 427/06 is amended by adding the following section:**Definition**

0.1 In this Regulation,

“smart meters” includes smart meters, metering equipment, systems and technology and any associated equipment, systems and technologies.

2. (1) Subsection 1 (1) of the Regulation is amended by adding the following paragraph:

3.1 Metering activities conducted by a distributor listed in paragraph 3, if the smart meters were procured subsequent to the process referred to in paragraph 3.

(2) Paragraph 4 of subsection 1 (1) of the Regulation is amended by striking out “meters, metering equipment, systems and technology and any associated equipment, systems and technologies” and substituting “smart meters”.

(3) Paragraph 6 of subsection 1 (1) of the Regulation is amended by striking out “meters, metering equipment, systems and technology and any associated equipment, systems and technologies” and substituting “smart meters”.

(4) Subsection 1 (1) of the Regulation is amended by adding the following paragraph:

8. Metering activities conducted by a distributor that has procured its smart meters pursuant to and in compliance with the parameters and process established by the Request for Proposal for Advanced Metering Infrastructure (AMI) – Phase 1 Smartmeter Deployment dated August 14, 2007, together with any amendments to it, issued by London Hydro Inc.

(5) Subsection 1 (2) of the Regulation is amended by striking out “meters, metering equipment, systems and technology and any associated equipment, systems and technologies” and substituting “smart meters”.

(6) Subsection 1 (2.1) of the Regulation is amended by striking out “meters, metering equipment, systems and technology and any associated equipment, systems and technologies” and substituting “smart meters”.

3. (1) Clause 2 (1) (b) of the Regulation is revoked and the following substituted:

(b) that any agreement entered into as a result of the procurement is economically prudent and cost effective, taking into consideration, but not limited to,

(i) all costs associated with the agreement, and

(ii) the costs of the agreement relative to any prior agreement entered into by the distributor for comparable acquisitions.

(2) Subsection 2 (3) of the Regulation is amended by striking out “metering equipment, systems and technology and any associated equipment, systems and technologies”.

(3) Clause 2 (4) (a) of the Regulation is amended by striking out “metering equipment, systems and technology and any associated equipment, systems and technologies”.

4. This Regulation comes into force on the day it is filed.

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Appendix D

a) Ontario Regulation 393/07



ONTARIO REGULATION 393/07

made under the

ELECTRICITY ACT, 1998

Made: March 28, 2007

Filed: July 26, 2007

Published on e-Laws: July 27, 2007

Printed in *The Ontario Gazette*: August 11, 2007

DESIGNATION OF SMART METERING ENTITY**Designation of IESO**

1. The IESO is designated as the Smart Metering Entity.

Non-application of *Business Corporations Act*

2. Other than as prescribed in Ontario Regulation 610/98 (The IMO) made under the Act, the *Business Corporations Act* does not apply to the IESO.

Exemption, s. 53.10 of Act

3. The IESO is exempt from section 53.10 of the Act.

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Addendum 2

Attestation Letter of the Fairness Commissioner



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PRP International, Inc.

Fairness Advisory Services

August 1, 2008

Mr. Jim Huntingdon
President
Niagara-on-the-Lake Hydro Inc.
8 Henegan Rd, PO Box 460
Virgil, ON L0S 1T0

Dear Mr. Huntingdon:

Subject: Attestation of the Fairness Commissioner
Advanced Metering Infrastructure RFP, August-July 2008
London Hydro, Consortium & Add-On LDCs Smartmetering Project

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

*"It is the judgment of PRP International, Inc., as the Fairness Commissioner, that the determinations of the two (2) highest ranked Proponents for the **NEPA Collective of LDCs (Brant County Power Inc., Brantford Power Inc., Canadian Niagara Power Inc. (Fortis), Grimsby Power Incorporated, Haldimand County Hydro Inc., Niagara-on-the-Lake Hydro Inc., Niagara Peninsula Energy Inc., Norfolk Power Distribution Inc., and Welland Hydro Electric System Corp.)** requirements are:*

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

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

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

Yours truly,

Peter Sorensen
President

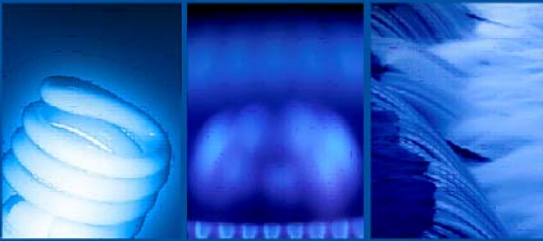
cc: Mr. Gary Rains, RFP Project Director

Addendum 3

Installation Services RFP

util-assist

utility strategic operational assistance



**Niagara Erie Power Association
(NEPA)**

**Request for Proposal
Smart Meter Installation
Services**

RFP#: 2008-926

September 26, 2008

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Section 1: Introduction

1.1 Background

Niagara Erie Power Association (NEPA) members have been working collaboratively through the planning and preparation stages for the Smart Meter Initiative. The NEPA Group consists of ten electricity distribution utilities who have found great benefit in sharing resources and proficiencies through many past collaborative efforts.

Collectively the NEPA group represents over 180,000 endpoints in Ontario and is comprised of the following member utilities:

Brant County Power Inc.
Brantford Power Inc.
Canadian Niagara Power Inc.
Grimsby Power Incorporated
Haldimand County Hydro Inc.

Niagara-on-the-Lake Hydro Inc.
Niagara Peninsula Energy Inc.
Norfolk Power Distribution Inc.
Welland Hydro Electric System Corp.

NEPA members wish to procure Installation Services from a qualified Bidder at a firm, fixed price; this documentation sets out the procedural and technical requirements of NEPA for its Advanced Metering Infrastructure (AMI) System Installation service requirements.

1.1.1 Provincial Mandate

As part of its energy conservation effort, the Ontario government has made a commitment to replace all existing meters (5 million) with smart meters by 2010. Phase One utilities have fulfilled their commitments to install 1 million smart meters by Dec 31, 2007 which assisted the government in exceeding their interim goal of 800,000 by Dec 31, 2007. Focus now shifts to the Phase Two implementation of a Smart Meter Network.

The underlying premise behind the provincial mandate to install these meters is to educate customers on their consumption habits and implement new rate structures that will encourage load shifting, and the conservation of energy.

1.1.2 The NEPA Approach to Smart Metering

With respect to the Provincial government's Smart Metering Initiative, Niagara Erie Power Association (NEPA) has taken a collaborative approach to becoming educated on this mandate by working with other Ontario utilities and advocacy groups. NEPA hopes to evaluate Bidders as objectively as possible with the end goal of selecting the best-fit service provider for implementation services, thereby allowing NEPA to achieve their goals, as well as those of the provincial Smart Meter mandate.

Along with satisfying the provincial mandate of measuring "how much electricity a customer uses each hour of the day, and to use that data to charge customers an energy price that varies depending on when the electricity was consumed" (OEB Smart Meter Plan; January 26, 2005; page i); NEPA will also implement the Smart Meter Network to improve overall efficiency within the associated service territories.

Real time connectivity with the end use consumer through the installed networks will allow for improvements in the maintenance and management of the distribution network (i.e. improved outage management and restoration) and the utilization of existing infrastructure (e.g. Fiber) where available will allow for cost effective implementation of these systems.

1.1.3 AMI Terminology

For the purposes of this procurement process, NEPA has opted to utilize the terminology as defined by the Ministry of Energy in their *Functional Specification for an Advanced Metering Infrastructure Version 2* (dated July 5, 2007), Section 3, *Definitions*. For reference, this document has been included herein as Appendix “A”. Any additional terms that have been utilized in this document, which have not been defined in the aforementioned document, which may require clarification, have been defined in Section 1.1.4 *Other Terms*.

1.1.4 Other Terms

1. **Route Acceptance** shall refer to the process by which NEPA accepts an existing meter reading route as having been 100% saturated with the AMI being procured through this RFP. Route Acceptance is the process which definitively determines whether the responsibilities of the Installation Vendor (being procured through this document) have been achieved.
2. **Bidder** shall mean those vendors which submit a Proposal.
3. **Costs and Price**. Within this document, the terms “Costs” and “Price” are used interchangeably, and should be interpreted as including conversion costs, life-cycle costs, etc. Vendors should be sure to provide details regarding the amount charged for the given commodity or service.
4. **Proposal** shall mean the Vendor’s written response provided to NEPA in accordance with this RFP. The Proposal shall include all written material submitted by Vendor as of the date set forth in the Key Dates (Section 2.1 *Key Dates*).
5. **Unsafe Meter** shall mean meters, meter bases, or other infrastructure which creates an electrically unsafe situation for the meter installer or for the general public. This can include situations where access to the meter for the purpose of meter exchange poses a safety risk (i.e. confined spaces). The manner in which Unsafe Meters are to be dealt with has been detailed in Section 3.2.2 *Unsafe Meter Bases*.
6. **Refused Access** shall refer to situations where the customer is present at the location where a meter exchange is required, but refuses access to the meter. It is expected that the Installer would accommodate unique situations such as Refused Access through the policies and procedures which NEPA have requested in Section 7: *Customer Communications*.
7. **Non Installable Account** is the “Comment Code” or “Note” that will be used by the Bidder to indicate that a meter installer has visited a premise three (3) times and utilized telephone scheduling attempts two (2) times, and has not been successful at installing a meter. In this case the meter exchange service order can be returned to NEPA for resolution with no associated implications for not meeting installation targets.
8. **Installer** shall refer to the successful Bidder. The term Installer will be used when stating future requirements, to be performed only by the successful Bidder.
9. **Field Service Representative** or **Field Service Personnel** shall refer to the employees of the Installer which are actually performing the work, and which are monitored by the Installer to ensure proper protocols are followed.
10. **Contractor** shall refer to the Electrical Contractor retained by NEPA for upgrading infrastructure, and performing any other services beyond the scope of this document.

1.2 Description of Environment

Please refer to NEPA_InstallationRFP_PricingSheet_Sept08.xls for details regarding customer count, meter count, etc.

For reference, we have also included the following information pertaining to NEPA’s back office systems.

Customer Information Systems (CIS):	Advanced, APPX, Daffron, Harris Northstar, SAP
--	---

Section 2: Instructions to Bidders

This Request for Proposals (RFP), establishes the system products and services that the NEPA group wish to acquire. This bid document is the basis upon which NEPA seeks firm proposals from selected Bidders and upon which proposals will be evaluated. The documents are:

- This RFP (a pdf document), including Appendices that are integral to it.
- NEPA_InstallationRFP_PricingSheet_Sept08.xls, a Microsoft Excel workbook. This file contains scoring criteria, the compliancy signoff sheet that is to be printed and included with the response, and tabs that allow for entry of pricing information. This workbook will heretofore be referred to as the Pricing and Compliancy spreadsheet.

2.1 Key Dates

Below is the expected timeline that NEPA will be following during the evaluation of submitted proposals. As can be seen, it is the intention of NEPA to make its decision by November 28th, 2008. This time line will allow for contract negotiation and signing, so that installation can begin according to the anticipated start date of March 2, 2009.

Installation Services RFP released by NEPA :	September 26th, 2008
Intention to bid:	October 3rd, 2008
Final Questions Due:	October 8th, 2008
Answers to Questions:	October 13th, 2008
Closing Time (Proposals Due):	3:00 PM EST October 24th, 2008
Proposal Decision:	November 28th, 2008
Anticipated Start Date:	March 2, 2009
Required Project Completion Date:	July 30, 2010

2.2 Intention to Bid

Recipients of this RFP are asked to inform NEPA of their intention to bid, by completing the template form found in Section 2.15 *Proposal Forms*, and by submitting this form by the date shown in Section 2.1 *Key Dates*. Recipients that express intention to bid will be included in all correspondence (if any) during the bidding process. Please provide full contact information and expression of intention via the provided form to the NEPA contact named in Section 2.4 *Submission of Bids*.

2.3 Components of Service

It is the intent of NEPA to procure a turn-key solution. Strategic alliances may be formed to provide a turn-key solution, or Bidders may be interested in performing only certain components of the project. Bidders are asked to clearly indicate which components of the Project are being bid.

NEPA reserves the right to award some, none, or all of the components through this process to one or many Bidders.

2.4 Submission of Bids

Proposals submitted in response to this RFP will be submitted by 3:00 PM Eastern Time on October 24th, 2008 (the due date, as per Section 2.1 *Key Dates*) to:

Mr. Jim Huntingdon
Niagara-on-the-Lake Hydro Inc.
8 Henegan Road, PO Box 460
Virgil, ON L0S 1T0
905-468-4235
Email: NEPA@util-assist.com

Bidders are requested to submit bids that are complete and unambiguous without the need for additional explanation or information. NEPA reserves the right to make a final determination as to whether a bid is acceptable or unacceptable solely on the basis of the bid as submitted, and proceed with bid evaluation without requesting further information from any Bidder. If NEPA deems it desirable and in its best interest, NEPA may, in its sole discretion, request from any Bidder or Bidders additional information clarifying or supplementing any submitted bid.

Proposals received after the due date will remain unopened and will not be considered for selection. NEPA does not currently plan to grant extensions of the proposal due date, but reserves the right to do so. In the unlikely case that an extension is granted, notice of such extension will be provided to all Bidders at least one week prior to due date. Proposals will be submitted in hard copy to the street address above. All Proposals will remain the property of NEPA.

2.4.1 Submission Requirements

- 1) A complete Proposal will consist of one (1) original and ten (10) copies complete with all supporting data, and one (1) electronic soft copy complete with all supporting data.
- 2) Accompanying the Bidder's response document should be the Proposal Form provided in Section 2.15 *Proposal Forms*.
- 3) The required format of the Bidder's response document is outlined in Section 2.4.3 *Proposal Format Instructions*.
- 4) The Pricing and Compliancy spreadsheet will allow for the Bidder to enter their pricing information in a standard format, as well as allow the Bidders to attest to their company's compliancy with the appropriate Health and Safety Requirements. Failure to properly complete this document is grounds for disqualification, as highlighted in Section 2.4.4 *Grounds for Disqualification*.
- 5) The original hard copy shall be clearly identified as "ORIGINAL"; the remainder (i.e. ten) shall be marked as "COPY". In the event of discrepancy between the copies of the Proposal Submission, the one marked "ORIGINAL" shall prevail. Each Bidder's submission shall consist of the required documents with the required number of copies of all commercial information, including pricing, terms and conditions and exceptions (if applicable). Faxed or late Proposals will not be accepted. Proposals must be sealed and marked clearly quoting the Proposal Number referred to on the cover sheet of the Proposal Documents. The use of any means of delivery of a Proposal shall be at the risk of the Bidder.
- 6) Any Bidder wishing to provide additional information other than what is requested in the RFP Document must place such additional information in a separate envelope marked Additional Information attached to the outside of the Proposal envelope. Any Additional Information or any unsolicited value-added alternatives may, in NEPA's absolute discretion, be given due consideration, or not.

- 7) NEPA shall not be liable for, nor shall it reimburse any Bidder for costs incurred in the preparation of Proposals, or any other services or samples that may be requested as part of the evaluation process.
- 8) The Proposal Forms shall be signed under the Corporate Seal of the Bidder, by the duly authorized signing officer(s). All submitted pages of the original document shall be initialled by such officer(s).

2.4.2 Pricing and Compliancy Spreadsheet

A Microsoft Excel workbook has been provided with this pdf document (entitled NEPA_InstallationRFP_PricingSheet_Sept08.xls). The following tabs are included within this Pricing Spreadsheet:

- i) NEPA_BidderCompliancy: This tab requires completion by the Bidder, and will act as their compliancy statement according to the requirements of Section 2.4.4 *Grounds for Disqualification*
- ii) Pricing_Option1: This tab requires completion by the Bidder, and is the pricing for the Bidder to provide installation services as outlined within this RFP.
- iii) Pricing_Option2: This tab is optional and allows the Bidder to provide pricing in an alternative format, should they desire to do so, and are of the opinion that their services are better represented with pricing apart from that outlined on the Pricing_Option1 tab. Bidders are free to add additional pricing tabs as required should they feel that there are more than one alternative option which may allow for more competitive pricing (i.e. according to a more or less aggressive timeline, holding off project commencement until a different time of year (i.e. spring vs. winter, etc.)).

Note: Pricing_Option1 is mandatory, Pricing_Option2 is optional.

- iv) Eval_Criteria: this tab is for reference, it is a copy of the table that is shown in Section 2.9 *Proposal Evaluation*.
- v) WFM_Functionality: This tab requires completion by the Bidder, and will demonstrate the functionality inherent to the WFM system being utilized to provide installation services.

2.4.3 Proposal Format Instructions

Each Bidder's response will be organized as per the following:

- a) Section 1 of the proposal will contain the Bidder's Executive Summary, no more than two pages in length that introduces the Bidder and highlights key features of the proposal.
- b) Section 2 of the proposal will contain the statement of compliance that is included within the Pricing and Compliancy Spreadsheet, and which is described in Section 2.4.2 *Pricing and Compliancy Spreadsheet*, subsection i).
- c) Section 3 of the Bidder's proposal will contain the requirements of Section 3 of this RFP Document (Section 3: *Health and Safety*), in the order presented in this document, with the numbering used in this document.
- d) Section 4 of the Bidder's proposal will contain a statement of recognition that the Bidder understands NEPA's schedule for deployment and the deployment territories, and that they are providing a bid response with the intention of performing the required services for NEPA. Given the diverse nature of the service territories, and that there are Smart Meter Deployments occurring across the province, Bidders have the opportunity within this section to demonstrate, through submitted documentation/statements, how they will be able to accommodate the unique requirements of NEPA (i.e. staffing across the area, for the timelines projected).

- e) Section 5 of the Bidder's proposal will contain the requirements of Section 5 of this RFP Document (Section 5: *Bidder Information*), in the order presented in this document, with the numbering used in this document.
- f) Section 6 of the Bidder's proposal will contain the requirements of Section 6 of this RFP Document (Section 6: *Installation Services*), in the order presented in this document, with the numbering used in this document.
- g) Section 7 of the Bidder's proposal will contain the requirements of Section 7 of this RFP Document (Section 7: *Customer Communications*), in the order presented in this document, with the numbering used in this document.
- h) Section 8 of the Proposal will contain the summary pages pertaining to the Price Offer, contained within the Pricing and Compliancy Spreadsheet. The Bidder's detailed itemized pricing information for all goods or services is to be contained within the Pricing and Compliancy Spreadsheet which is to be included with the response in its entirety as well as within this section. Any alternative pricing offers may also be included within the Pricing and Compliancy Spreadsheet (tab Pricing_Option2 is included for this purpose, as described in Section 2.4.2 *Pricing and Compliancy Spreadsheet*). All pricing shall be expressed in Canadian currency, exclusive of taxes.

2.4.3.1 Sample Responses to Demonstrate Format

Within the section or subsection heading an indicator has been included to specify whether the Bidder should provide information pertaining to the functionality of their product/service (with regards to the section requirements), or a statement of compliancy AND information pertaining to the functionality of their product with respect to the requirement of the section. Where no indicator is included, a response is not required.

- (I) When an (I) has been included with the section heading, NEPA requires Information regarding the proposed system's functionality, and the methodology utilized to satisfy the RFP requirement.
- (C) When a (C) has been included with the section heading, NEPA requires a statement of compliancy from the Bidder. Within the proposal documentation, the Bidder is required to state the compliancy with the requirement by stating Fully Compliant, Partially Complaint, or Not Compliant.
- (CI) When a (CI) has been included with the section heading, NEPA requires both a statement of compliancy, and Information regarding the proposed functionality, and the methodology utilized to satisfy the RFP requirement.

The method with which the Bidder provides information and compliancy statements is detailed within the individual sections, as well as within the Pricing and Compliancy Spreadsheet.

In Section 2.4.3 Proposal Format Instructions, subsections c) through g) it has been specified that the order and numbering used within this document be utilized. A sample has been provided here.

5.2 Company Size and Location (I)

What is the current size (number of employees), turnover rates for last three (3) years, and location(s) of the Bidder's company?

Bidder's Functionality Statement: Vendor X currently employs 600 employees. 500 of these employees are Field Service Representatives. Of the 100 remaining office and management staff, 37

are within the Operations division providing ample redundancy and support to effectively manage this project. Vendor X's head office is located in Alabama, with satellite offices in Toronto, London, and Ottawa. This project will be managed from the Toronto office. Turnover, while generally higher in the field service industry, is considered low at 3%. We attribute this to an effective Safety and Training program (1 week) in which employees receive ample safety training as well as introduction to the company incentive program which has been seen to improve morale amongst field service employees.

SAMPLES of response for Section 6: *Installation Services*, demonstrating that the section numbering from this document is to be retained, and that each section should be included, and where required shall include a statement of compliance.

6.1.1 Minimum Competencies (C)

Before installing meters the Installer shall ensure the Field Service Personnel are customer service oriented, have flexible work hours and are bonded, and the Installer shall maintain a process to ensure these requirements are met.

The Installer shall operate within specific procedures and operating conditions in adherence with procedures and training that NEPA will provide. Upon conclusion of the NEPA training, it will be the Installer's responsibility to ensure that new employees receive the same level of training as those employees which receive the training through NEPA.

Bidder's declaration of compliance: **Fully Compliant**

6.5.6 GPS (CI)

In addition to installing the meter, capturing the LAN ID and Meter ID data from the barcode on the installed meter, and the start read, NEPA members desire to update service location information by having the Bidder capture the GPS co-ordinates of the installed endpoint. Where meters are located in basements or in areas where satellite signal may not be possible, the closest co-ordinates will be collected once communication has been established.

Bidder's declaration of compliance: **Fully Compliant**

Bidder's Functionality Statement: The WFM system is capable of automatically capturing the GPS location of the installed meter, and this information is automatically recorded within the assigned service order. The GPS device is integrated (i.e. not a separate device), and is accurate to within 3m (10 feet).

2.4.4 Grounds For Disqualification

It is a requirement of this RFP document that the Bidders submitting proposals for evaluation complete a compliancy statement within the Pricing and Compliancy spreadsheet which will attest to the Bidder's compliance with the Health and Safety Policies and Procedures as outlined in Section 3.1 *NEPA Health and Safety Policies and Procedures*. In addition to having read this section, and all applicable subsections, the Bidder agrees that their company's own Health and Safety Policies will, at minimum, meet NEPA's Safety Policies, and that their bid response will provide the information to properly satisfy the requirements of Section 3.2 *Safety* (and applicable subsections), and that the content of the response is consistent with the policies being agreed to here.

NOTE: Failure to complete these compliancy documents (found within the Pricing and Compliancy Spreadsheet; tab named "NEPA_BidderCompliancy", or where compliancy has been misrepresented, NEPA reserves the right to disqualify the Bidder from contention of the RFP process.

2.5 Clarifications

Upon the issuance of this RFP to Bidders, and continuing through the submission date, all questions or other communications with NEPA shall be by email only, with NEPA's authorized representative, whose contact information is provided in Section 2.4 *Submission of Bids*.

NEPA will respond to the question in writing, with both the question and response provided to each Bidder that has declared intention to bid according to Section 2.2 *Intention to Bid*. No response will be made to questions submitted after October 8, 2008 (as per Section 2.1 *Key Dates*).

2.6 Modifications or Withdrawals of Bids

A Bidder may modify or withdraw its bid by written declaration, provided that the declaration is received by NEPA's authorized representative prior to the time specified for the submission of bids (the due date). Following withdrawal of its bid, a Bidder may submit a new bid, provided that such new bid is received by NEPA prior to the due date. The last bid received by NEPA shall supersede and invalidate all bids previously submitted by the Bidder.

NEPA may modify any provision of the Request for Proposal at any time prior to the due date. Such modifications may be made in the form of addenda, which will be issued simultaneously to all prospective Bidders that have declared their intention to bid. No addenda will be issued within five calendar days of the due date.

2.7 Bid Inconsistencies

Any provisions in Bidder's proposal that are inconsistent with the provisions of this Request for Proposals, unless expressly described in the proposal as being exceptions or alternates in the Table of Compliance, are deemed waived by the Bidder. In the event the Order is awarded to Bidder, any claim of inconsistency between the proposal and this RFP will be resolved in favour of this RFP unless otherwise agreed to in writing by NEPA.

2.8 Post-Bid Meeting

NEPA reserves the right to invite any or all Bidders to make an in-person presentation on the proposed smart meter installation services.

2.9 Proposal Evaluation

NEPA will evaluate proposals using an internal scoring method that weights various parameters to give the NEPA team insight into the strengths of each proposal relative to the NEPA group's needs.

Answers to sections 3 through 7 will represent 45% of the total weighting of the RFP. Pricing submitted will represent 55% of the total weighting of the RFP. Bidders will be selected for further discussion based on the Team's judgment, developed using the scoring method. NEPA reserves the rights to alter its internal scoring method and to exercise whatever judgment it deems is in the best interest of NEPA in selecting an Installation Service Provider.

NEPA's internal scoring method values the following proposal attributes (order of presentation does not reflect priority):

Figure 1: Proposal Evaluation Criteria

Proposal Evaluation Criteria	Section	% Total Points
Safety	3	
Project Overview	4	
Bidder Information	5	
Installation Services	6	
Service Offering / Capability		
Inventory Control		
Scheduling and Coordination		
Reporting		
Used Meter Disposal Handling		
A to S Adaptor Installation		
Meter Base Repairs		
Tamper / Theft		
Customer Communications	7	
Call Centre		
Pre Canvas		
Perspectives expressed by reference utilities		
Section 3 through 7 inclusive:		45%
Pricing Weighting:		55%
Total		100%

2.10 Award or Rejection

Issuance of this RFP does not constitute a commitment by NEPA to award a winning Bidder or purchase products or services offered in response to this RFP. NEPA reserves the right to reject any or all bids. NEPA will not reimburse Bidders' costs to respond to this RFP.

2.11 Execution of the Order

If requested by NEPA, the successful Bidder must assist NEPA in preparing the Purchase Order, which will be governed by the Terms and Conditions set out herein, or others as mutually agreed by the parties. The successful Bidder must duly execute the Purchase Order within ten (10) days after receipt and return it to NEPA. Failure of the successful Bidder to duly execute and return the Order, together with any other required documents will constitute a breach of contract by such Bidder and entitle NEPA to award the Order to any other Bidder, in addition to all other rights and remedies of NEPA.

2.12 Freedom of Information

Proposals submitted to NEPA become the property of NEPA and, as such, are subject to the *Freedom of Information and Protection of Privacy Act*, R.S.O. 1990, c. F.31, as amended.

2.13 Ownership of Data

NEPA shall own all data used and/or collected by any systems being utilized to perform the services. Data shall not be used for any purpose without the approval of NEPA.

2.14 Conflict of Interest

The Bidder is required to disclose in its Submission and on an ongoing basis thereafter any conflict of interest, real or perceived, that exists now or may exist in the future, with respect to this RFP, any resulting contract, or in relation to NEPA or their affiliates.

2.15 Proposal Forms

Within this section, there are two (2) forms required for submission. The first form is found in Section 2.15.1 *Intention to Bid Form*; the intention of this form is to allow the Bidder to provide a standard email response to NEPA to notify NEPA of the Bidder's intent to respond to the RFP.

2.15.1 Intention to Bid Form

Bidders intending to respond to this RFP should notify the contact, using the contact information provided in Section 2.4 *Submission of Bids*, according to the time line as established by Section 2.1 *Key Dates*, by sending an email with the following content inserted:

INTENTION TO BID NOTIFICATION FORM

PROPOSAL NO. 2008-926

Intention to Bid:

Please allow this email to represent “ Insert Company Name Here ” intention to respond to NEPA RFP#: 2008-926.

Contact for communication regarding bid: _____
Contact phone number: _____
Contact email address: _____

We acknowledge the requirement that our company meets the minimum Safety Requirements as outlined in Section 3. Our proposal will include the required compliance statements and documents to properly express our ability to meet these requirements. We also acknowledge the Submission Deadline is 3:00 pm Eastern Time on October 24, 2008.

2.15.2 RFP Submission Form

The procedure to be utilized for the RFP Submission form is to print the following pages, and include them with the RFP submission, which should be addressed to the contact listed in Section 2.4 *Submission of Bids*, and which should be submitted according to the time line as established by Section 2.1 *Key Dates*.

RFP SUBMISSION FORM

Niagara Erie Power Association (NEPA group of utilities)

Proposal Number: **RFP# 2008-926**

FOR: Installation Services

THIS PROPOSAL IS SUBMITTED BY: _____

ADDRESS:

TELEPHONE:

FAX NO.:

BIDDER G.S.T. No.:

PERSON(S) SIGNING ON BEHALF: _____(print)

POSITION(S) OF THE PERSON(S): _____(print)

To Niagara Erie Power Association, Hereafter called "Owner":

I/WE _____ the undersigned declare:

1. THAT no Person(s), Firm or Corporation other than the one whose signature(s) of whose proper officers and the seal is or are attached below has any interest in this Proposal or in the contract proposed to be taken.
2. THAT this Proposal is made without any connections, knowledge, comparison of figures or arrangements with any other company, firm or person making a Proposal for the same work and is in all respects fair and without collusion or fraud.

THE Bidder insures that no Owner and or employee of the NEPA group, is, or has become interested, directly or indirectly, as a Contracting Party, Partner, Stockholder, surety or otherwise howsoever in or on the performance of the said contract, or in the supplies, work or business in connection with the said contract, or in any portion of the profits thereof, or of any supplies to be used therein, or in any monies to be derived there-from.

3. THAT the several matters stated in the said Proposal are in all respects true.
4. THAT I/WE have carefully examined the requirement(s), as well as all sections of the document including Instruction to Bidders, Project Overview, Installation Services, Proposal Forms, and Appendices relating thereto, prepared, submitted and rendered available by NEPA and hereby acknowledge the same to be part and parcel of any contract to be let for the work therein described or defined.

**Smart Meter Installation Services
Request For Proposals**

Niagara Erie Power Association

5. THAT I/WE do hereby Propose and offer to enter into a contract to deliver all work as described or implied therein including in every case freight, duty, exchange, G.S.T. and P.S.T. in effect on the date of the acceptance of Proposal, and all other charges on the provisions therein set forth and to accept in full payment therefore, the sums calculated in accordance with the actual measured quantities and unit prices set forth in the Proposal herein.
6. THAT Addendum/Addenda No. ____ to ____ inclusive relate to the said contract and Bidder hereby accepts and agrees to the same as forming part and parcel of the said contract.
7. THAT additions or alterations to or deductions from the said contract, if any, shall be made in accordance with the prices stated in the Schedule of Items of Unit Prices in strict conformity with the requirements of the Contract.
8. THAT this offer is irrevocable and open to acceptance until the formal contract is executed by the awarded Bidder for the said requirement(s) or Sixty (60) working days, and unit prices for as long as stated elsewhere in the document, whichever event first occurs and that NEPA may at any time within that period without notice, accept this Proposal whether any other Proposal has been previously accepted or not.
9. THAT the awarding of the contract, by NEPA is based on this submission which shall be an acceptance of this Proposal.
10. THAT I/WE also understand that NEPA reserves the right to accept or reject all or part of this Proposal or any other and also reserves the right to accept other than the lowest Proposal.

The undersigned affirms that he/she is duly authorized to execute this Proposal.

BIDDER'S SIGNATURE AND SEAL:

NAME:

(Please Print)

POSITION:

WITNESS SIGNATURE:

WITNESS NAME:

(Please Print)

POSITION:

(If Corporate Seal is not available, documentation should be witnessed)

DATED AT THE _____ THIS _____
(City/Town) (Day)
DAY OF _____ 2008.
(Month)

Section 3: Health and Safety

3.1 NEPA Health and Safety Policies and Procedures

Sections 3.1.1 *NEPA Health and Safety Policy* through Section 3.1.6 *Health and Safety Legislation that Applies* are requirements for which compliance are required in order for any external contractors to be permitted to provide services to NEPA. As such, a Statement of Compliancy pertaining to each section is required, and a form has been provided within the Pricing and Compliancy Spreadsheet as outlined in Section 2.4.2 *Pricing and Compliancy Spreadsheet*.

Section 3.2 *Safety* is where the Bidder is provided the opportunity to demonstrate, through the submitted documents, that their own internal Health and Safety Policies, either meet, or exceed those outlined in Section 3.1 *NEPA Health and Safety Policies and Procedures*. Bidders that cannot meet, or exceed those requirements outlined in Section 3.1 *NEPA Health and Safety Policies and Procedures*, or that do not (or cannot) provide a completed Compliancy statement is eligible for disqualification from the evaluation process.

3.1.1 NEPA Health and Safety Policy (C)

NEPA members proclaim that the Health & Safety of each employee is of vital importance in the successful operation of the utility.

Our objective is to develop a keen sense of health & safety awareness in each and every employee and thereby prevent personal illness/injury and damage to property and equipment.

Management is responsible for providing a healthy and safe work environment and for training employees to ensure that they can perform their duties safely.

It is the duty and responsibility of every employee to work safely with equal concern for themselves, co-workers and the public.

It is our collective responsibility to ensure compliance with legislated requirements of Occupational Health & Safety Act.

It is our commitment to provide a safe and healthy work environment by reducing hazards that cause accidents and injuries.

3.1.2 NEPA Field Service Personnel Health and Safety Conditions (C)

Based on the nature of the work being procured through this RFP, and in accordance with the NEPA Health and Safety Policy, the following items shall be received prior to the start of work:

- Acknowledgement from the contractor that they are aware of and agree to adhere to the terms and conditions.
- WSIB Certificate
- NEER firm summary statement
- Liability Insurance
- Health & Safety Policy / Program
- Staff Competency List
- Confirmation of applicable EUSA training

- Documentation of injury experience
- WHMIS MSD documentation for any hazardous materials used in the job
- Equipment Fitness List

3.1.3 NEPA Field Service Personnel Health and Safety Policy (Basic Procedures) (C)

In accordance with NEPA Operating Policies and Procedures, all installers performing work such as that being procured through this RFP shall:

- Wear rubber gloves, Category 2 Fire Retardant Clothing or better
- Class 'O' rubbers for voltage checks
- Hard Hats
- Flash glasses
- Face Shields (must be Arc rated, Category 2 or better)
- Safety boots
- Ensure meter voltage and type is correct (utilizing Cat 4 voltmeters with fused leads)
- Observe safe limits of approach
- Observe wiring to determine if a back feed could be present, e.g. capacitors, standby generator, co-generator
- Not remove meter if meter base is damaged or not secure
- Use meter puller

3.1.4 NEPA Health and Safety Policy: Field Service Personnel (C)

In accordance with NEPA Operating Policies and Procedures, all installers performing field service work shall be:

- Responsible for knowing, understanding and working in compliance with the appropriate safety legislation, EUSA rules, NEPA rules, policies, procedures and safe work practices that apply to the work.
- Responsible for using and wearing at all times the appropriate personal protective and safety equipment required for the work.
- Responsible for using the equipment, materials, protective devices in the proper and safe manner.
- Responsible for participating in, and holding tailboard conferences as required in order to safely complete the work.
- Responsible to participate in any coaching sessions, training, safety meetings, and company general meetings in order to ensure continued competence in the most up-to-date rules, policies, procedures and safe work practices.
- Responsible for reporting all hazardous conditions or equipment defects to the supervisor immediately, fill out the proper documentation and assist with corrective action.
- Responsible to ensure loss incidents and potential loss incidents are reported to the supervisor immediately. Provide preliminary details, fill out the proper documentation and participate in the incident investigation as required.
- Responsible to follow the Internal Responsibility System.
- Responsible to take every precaution reasonable in the circumstances for the protection of the safety of fellow employees.

3.1.5 NEPA Health and Safety Policy: Supervisor/Manager (C)

In accordance with NEPA Operating Policies and Procedures, all Supervisors and/or Managers of Field Personnel shall be:

- Responsible for knowing, understanding and ensuring that work is done in compliance with the appropriate safety legislation, EUSA rules, NEPA members' rules, policies, procedures and safe work practices that apply to the work.
- Responsible for identifying the job hazards, determining the solutions or barriers required to provide safe working conditions and communicating this information to all workers under their supervision.
- Responsible for ensuring all job information such as tailboard conference sheets, traffic plans, vehicle and equipment inspection sheets are filled out properly and returned to the office as appropriate.
- Responsible for holding documented tailboard conferences as required and ensuring appropriate worker participation in order to complete the work safely. Responsible for directing the work in a safe manner.
- Responsible for using and ensuring all crew members use and wear at all times the appropriate personal protective and safety equipment required for the work.
- Responsible for using and ensuring all crew members use the equipment, materials, and protective devices in a proper and safe manner.
- Responsible to ensure loss incidents and potential loss incidents are reported to NEPA immediately. Provide preliminary details, fill out the proper documentation and participate in the incident investigation as required.
- Responsible to report workers who do not comply with their health and safety responsibility, for corrective action by their supervisor.

3.1.6 Health and Safety Legislation That Applies (C)

The Provincial, Federal and Municipal acts & regulations that must be adhered to include, but are not necessarily limited to, the following:

- Bill C45
- Transportation of Dangerous Goods Act , 1992
- Ontario Occupational Health & Safety Act & Regulations
- Ontario Regulation 632/05 – Confined Spaces
- Ontario Regulation 213/91 – Construction Projects
- Ontario Regulation 835-846 – Designated Substances
- Ontario Regulation 851 – Industrial Establishments
- Ontario Regulation 860 – WHMIS
- Ontario Highway Traffic Act & Regulations
- Ontario Regulation 595 – Commercial Motor Vehicle Inspections
- Ontario Regulation 4/93 – Hours of Service
- Ontario Traffic Manual
- Ontario Regulation 22/04 – Electrical Distribution Safety
- Electrical NEPA Operations Rule Book (EUSA Rules)
- NEPA Work Protection Code
- Electrical Safety Code

3.2 Safety (CI)

NEPA's number one requirement will always remain the health and safety of its employees and customers. In addition to stating compliance to NEPA Health and Safety Policies as outlined in Sections 3.1 *NEPA Health and Safety Policies and Procedures*, the Contractor shall ensure that all installation personnel complete all required training for meter installation, meter testing, and for the installation and testing of any other endpoint devices to be installed. NEPA will be expected to work with the Contractor to identify specific gaps in training and testing. The Contractor will communicate to NEPA how it will complete all training in advance of any installations taking place. The Bidder's ability to provide the required training (according to NEPA's requirements) for successful on-time deployment must be approved and properly documented by both NEPA's Project Manager and Health and Safety Officer.

To reflect a similar commitment to Health and Safety, all contracted vendor's policies and procedures 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 and Unsafe Meter Bases).

Included with the Bidder's response document should be current documentation regarding WSIB clearance.

Additionally, all contracted field service employees will provide to NEPA's Health and Safety Officer (prior to commencement of services), proof that contracted employees:

- Hold a valid drivers license,
- Hold valid drivers insurance,
- Have provided a Driver's Abstract to their employer,
- Have provided a Criminal Background Check to their employer.
- Provide proof of WSIB CAD Experience (WSIB Clearance Certificate)
- Provide proof of EUSA Electrical Safety and Awareness Course
- Provide proof of EUSA Electric Power Meters Course
- Health and Safety Training Program
- Environmental Management System Training
- Utilize Tailboard Conference/Tailgate Safety Talks
- Conform to Technical, Quality Assurance, and other NEPA specific training requirements
- Have received WHMIS Training
- Have any necessary First Aid Training/CPR Training
- Have received Customer Service Training
- Have completed In-field Training
- Comply with NEPA Contractor Checklist

Note: There is a requirement (as per Section 2.4.4 *Grounds For Disqualification*) for Bidders to declare compliancy with the appropriate safety regulations. Failure to do so will make the Bidder's response eligible for disqualification from the remainder of the evaluation.

3.2.1 Safety Policies (I)

NEPA believes that none of its meter sites presents a threat to the personal safety of field workers. It is the responsibility of the Bidder to ensure the safety of their staff, and to ensure that the necessary precautions are taken to ensure the security of any required tools.

- i. Bidders shall describe their training and safety program.

- ii. Bidder will provide their Health and Safety Policies and Procedures manual, complete with listing of assigned equipment, and required PPE. Documentation on the competency of staff utilizing PPE will also be provided.
- iii. Bidder will provide the Emergency procedures that are provided to their installation staff; and indication that relevant staff have been trained on the procedures.
- iv. Bidder should provide their Joint Health and Safety Committee meeting schedule/frequency, and membership.
- v. Bidder should provide details on the number of staff that meet the safety requirements as outlined.

NEPA reserves the right to review and approve training materials and methods before the start of deployment. Bidders should note that NEPA Safety committee members will be conducting their own random audit process on installation staff.

3.2.2 Unsafe Meter Bases (I)

Bidders should provide details on their procedures for the handling of meter sites where installation is delayed by unforeseen circumstances such as required infrastructure upgrade, accident, or customer objection. Bidders will describe notification procedures and method for tracking the status of such sites.

Acceptable security precautions are to be maintained during all installation activities. The Installer will identify, report and resolve unsafe conditions on a daily basis or as they are identified according to established safety policies. In the case of electrical or mechanical hazards, these shall be reported to NEPA immediately.

Some meter bases have been deemed unsafe. The Contractor shall not attempt, at any time, to remove a meter that has been deemed unsafe. When encountered, the Contractor will be required to identify unsafe meter bases in the WFM handheld device using the appropriate codes and notify NEPA's Installation coordinator. Bidders shall include, within their response, a description of the procedures that are invoked upon discovery of an unsafe meter base, as well as description of the pre-installation inspection protocols which may result in the discovery of an unsafe meter base.

Section 4: Project Overview

Section 4 of the Bidder's proposal shall contain a statement of recognition that the Bidder understands NEPA's schedule for deployment and the deployment territories, and that they are providing a bid response with the intention of performing the required services for NEPA. Given the diverse nature of the service territories, and that there are Smart Meter Deployments occurring across the province, Bidders have the opportunity within this section to demonstrate, through submitted documentation/statements, how they will be able to accommodate the unique requirements of NEPA (i.e. staffing across the area, for the timelines projected).

4.1 NEPA Anticipated Schedule for Deployment (C)

Section 2.1 *Key Dates* shows the anticipated start date for deployment, and the end date required by NEPA. Within this time frame, the successful Bidder will be required to install the quantity of Smart Meters documented in Section 4.4 *NEPA Installation Volumes*. (The statement of recognition that is required for Section 4: *Project Overview* should include recognition of these timelines, and the Bidder's ability to accommodate them.)

4.2 Approved Hours of Installation (C)

Meter installations are to take place between the hours of 8:30 a.m. to 4:30 p.m., Monday to Friday. In special circumstances, extended hours of 8:00 a.m. to 8:00 p.m. and/or Saturday work may be considered by NEPA if required to accommodate the timelines as communicated within Section 2.1 *Key Dates*. No Meter installation is to take place on statutory holidays observed by NEPA.

The Installer shall develop and maintain an installation schedule to ensure installations are completed on time and on budget without interfering with the meter-reading schedule. The Installer can modify the work schedule with permission of NEPA to best meet installation goals and project milestones.

4.3 NEPA Deployment Territories (C)

Maps for NEPA's service territories have been provided within Appendix "B" to better illustrate the service territories within which the residential Smart Meter deployment will take place. It is anticipated that all smart meter installations being procured through this RFP will take place within these territories.

4.4 NEPA Installation Volumes (C)

NEPA projects that all of the required 180,000+ residential smart meter installations, with the exception of any reported safety concerns, will be installed by the successful Bidder.

Service territory details for each NEPA member are provided within Appendix "B".

The chart below depicts the meter volumes for the NEPA Group.

Type	Volume
Inside Residential	8,495
Outside Residential	135,249
Semi-Urban Residential	500
Rural Residential	34,195

4.4.1 Electrical Contractor

NEPA shall provide a qualified Electrical Contractor to complete repairs to customer plant deemed necessary installations based on the identified safety concerns.

4.5 NEPA Meter Depot (C)

For the duration of this deployment, meter installers will be required to pick up, and drop off, their inventory at the following addresses, between the hours specified in the following chart:

NEPA Member Utility	Meter Depot	Hours of Access
Brant County Power Inc.	65 Dundas St. E. Paris, ON N3L 3H1	7:30am – 5:00 PM
Brantford Power Inc.	84 Market Street P.O. Box 308 Brantford ON N3T 5N8	7:30am – 5:00 PM
Canadian Niagara Power Inc.	1130 Bertie Street Fort Erie ON L2A 5Y2 OR 380 Elm Street Port Colborne, ON L3K 4P2	7:30am – 5:00 PM
Grimsby Power Incorporated	231 Roberts Road Grimsby, Ontario L3M 5N2	8:30am - 4:00pm
Haldimand County Hydro Inc.	1 Greendale Drive Caledonia, ON N3W 2J3	7:30am – 5:00 PM
Niagara-on-the-Lake Hydro Inc.	8 Henegan Road, PO Box 460 Virgil, ON L0S 1T0	7:30am – 5:00 PM
Niagara Peninsula Energy Inc.	7447 Pin Oak Drive, P.O. Box 120 Niagara Falls, ON L2E 6S9 - 2 nd phase of installation depot location TBA	8:00am – 4:00pm
Norfolk Power Distribution Inc.	70 Victoria St., PO Box 588 Simcoe, ON N3Y 4N6	7:30am – 4:30pm
Welland Hydro Electric System Corp.	950 East Main St., PO Box 280 Welland, ON L3B 5P6	7:30am – 3:30pm

Each utility has provided a location for pick up and drop off of meters and supply of other related equipment required for the installation of the meters. All pick up and delivery of meters by the Installer shall be at the warehouse facility for the term of this contract unless otherwise agreed upon. Field Service Personnel shall pick up new meters and equipment and return the removed meters, in the new cartons, once daily to the designated locations provided by NEPA. No meter shall be returned without an associated transaction record and must be in actual cartons from new installs duly marked.

The Installer will be responsible for all meters from time of signing out of inventory/warehouse until successfully installed. Information regarding inventory in the Installer's custody shall be provided to NEPA upon request.

Note: For deployment within the outlying areas, arrangements will be made between the successful Bidder, and NEPA members, to minimize travel time for the Installers. For pricing purposes, Bidders should assume minimal impact to the work day (i.e. meter pick-up and drop-off will not impact the 8:30 am to 4:30 pm work day).

Section 5: Bidder Information

5.1 Experience (I)

- i. How many years has the Bidder been in business?
- ii. How long has the Bidder been providing installation services?
- iii. The Bidder should describe their primary line of business and the percentage of business derived from the installation of meters.
- iv. The Bidder should describe the organization and provide an organization chart of the team or department that would have specific resources used in the deployment of AMI. (Include the number of personnel assigned to installation services and project management of the AMI installation.)
- v. Identify and describe any AMI/AMR project where the delivery schedule has been delayed as compared to the original Statement of Work per the contract when signed and describe the causes, current status and plans to address the delay(s). (If you lack AMI experience please provide the most comparable projects you have completed to date).

5.2 Company Size and Location (I)

What is the current size (number of employees), turnover rates for last three (3) years, and location(s) of the Bidder's company?

5.3 Financial Statement (I)

What is the current financial condition of the Bidder's company? Provide supporting documentation and annual reports for the last three years. If the company is privately held, supply sufficient information to document the company's financial status.

5.4 Subcontractors (I)

Does the Bidder intend to subcontract any component, service or support requested in this RFP? If so, indicate which components, services or support and identify the subcontractors.

5.5 References (I)

Provide a list of at least three (3) references (contact names and phone numbers) from companies that have used the Bidder's proposed services in the past three (3) years. Please indicate the number of meters installed and type (gas, water or electric).

5.6 Litigation (I)

Bidder will indicate if there are any anticipated or pending lawsuits or any litigation within the past five (5) years or bankruptcy filings within the past ten (10) years.

5.7 Environmental Policy (I)

NEPA recognizes environmental protection as a guiding principle and key component of sound business performance. NEPA is committed to providing quality customer service in a manner that ensures a safe and healthy workplace for our employees and minimizes our potential impact on the environment. We not

only operate in compliance with, but also strive to exceed all relevant federal, provincial, and municipal environmental legislation; and we will strive to use pollution prevention and environmental best practices in all we do.

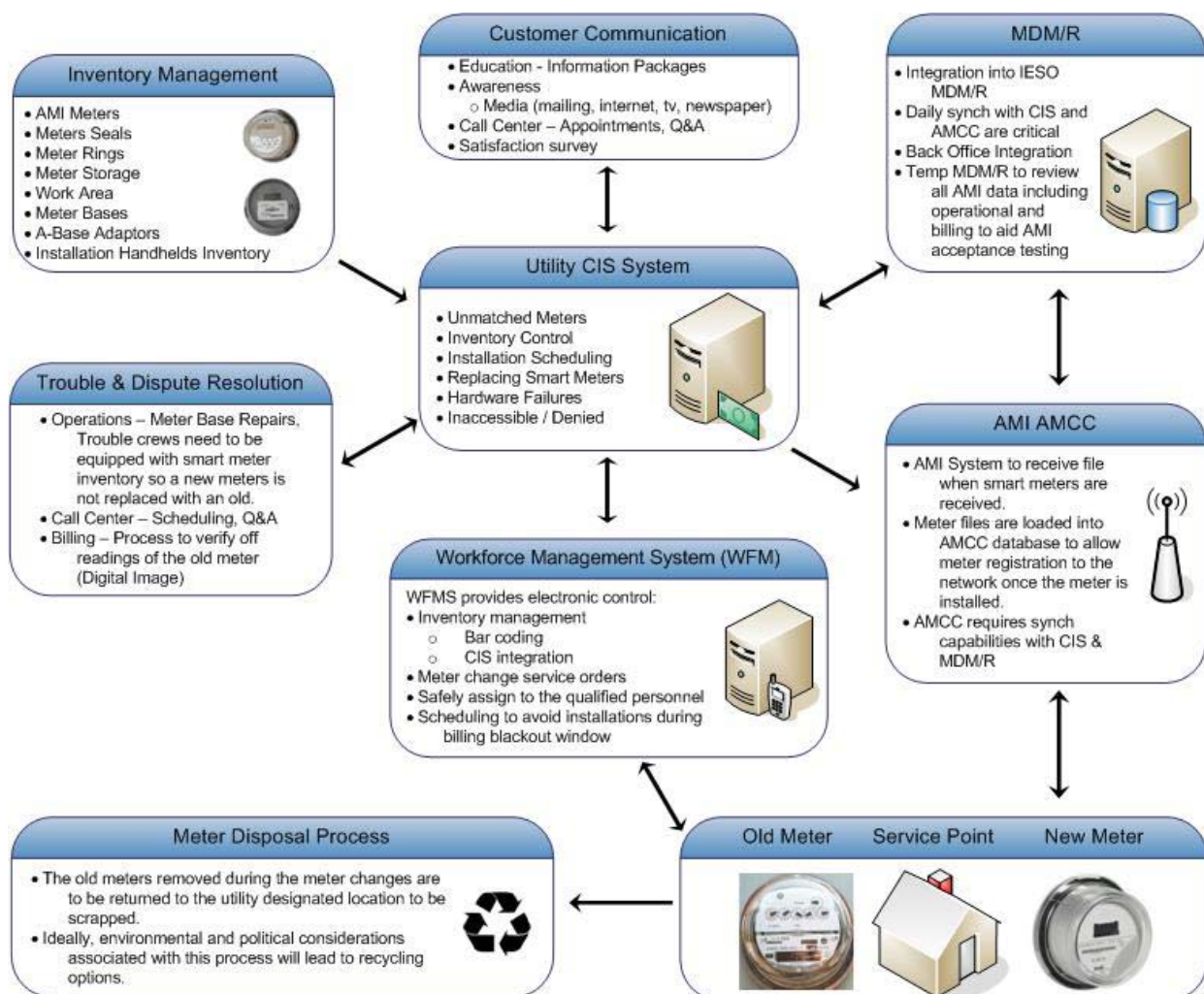
Bidders should indicate if they have a written environmental policy statement, whether the policy statement includes a commitment to continual improvement of environmental performance, whether the company has documented environmental performance objectives/targets and implementation plans, and what their three most significant environmental performance objectives/targets are. In addition, Bidders should describe the extent to which employees understand, accept, and share the environmental values of the company, and how the company uses environmentally friendly products in its day-to-day operations.

Section 6: Installation Services

With the execution of this province wide mandate, we would stress the importance of providing our customers with the highest level of customer service possible. **Figure 2** is a high level view of the work flow process that encompasses the Smart Meter Installation process. Bidders will note the requirements for:

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

Figure 2: High Level Work Flow of Installation Process



6.1 Installation Overview (C)

The Smart Meter Installer will be responsible for installing Smart Meters on all single phase, network and self contained meter installations for all residential and General Service under 50 kW locations. The Contractor will not be required to install any transformer rated installations or polyphase meters. The total number of non-transformer rated customer electric meter installations being procured through this RFP can be found in Section 4: *Project Overview*.

NEPA will perform upgrade or repair to electric services found to require this during the Smart meter inspection or installation process. Installer will notify NEPA as rapidly as practical when such requirement poses a hazard to field workers. Bidders will describe notification procedures and method for tracking the status of such sites.

- **All Field Personnel must be well groomed, and in full uniform with the required NEPA member utility photo identification.** Installer will not issue daily assignments to Field Personnel who do not comply with this policy, and the appropriate disciplinary action should follow.
- All Field Personnel will strictly adhere to NEPA inventory control processes, including the proper use of any associated Workforce Management System.
- All Field Personnel will ensure that any required ancillary meter supplies (seals, rings, etc) are acquired prior to beginning the days' work (to ensure travel time is minimized).
- Meter installations are to take place between the hours of 8:30 am to 4:30 pm Monday to Friday, between March 2, 2009 and July 30, 2010. No meter installations are to take place on statutory holidays observed by NEPA.
- NEPA will provide meter seals and other security hardware to be placed on the meter by the Contractor when installing the meter. A-to-S Base meter adapters will be provided by NEPA for A-Base meter change outs.
- As part of providing exemplary customer service, the Bidder is expected to handle customer complaints that are related to installation services and provide customer assistance to resolve issues resulting from installation negligence to the satisfaction of NEPA, ensuring all claims are reported to NEPA. Claims not resolved after 10 days should be reported to NEPA for resolution.

6.1.1 Minimum Competencies (C)

Before installing meters the Installer shall ensure the Field Service Personnel are customer service oriented, have flexible work hours and are bonded, and the Installer shall maintain a process to ensure these requirements are met.

The Installer shall operate within specific procedures and operating conditions in adherence with procedures and training that NEPA will provide. Upon conclusion of the NEPA training, it will be the Installer's responsibility to ensure that new employees receive the same level of training as those employees which receive the training through NEPA.

6.1.2 Suggested Installation Procedure (CI)

The Installer shall follow the following process for the installation of all Smart Meters:

- i. The Field Service Representative (FSR), as a minimum, will visit the site as the first attempt to install the Smart Meter.
- ii. Prior to installation, FSR will knock on the door prior to removing the meter to advise the customer of the work to be performed and pending power outage.

- iii. If the first attempt is not successful due to inability to access the meter, the FSR shall visit the customer site a second time on a different day, at a time of day at least (2) hours different from the first visit, to perform the Smart Meter installation.
- iv. If necessary, a third visit attempt shall be made by the FSR.
- v. If necessary, the Contractor shall also attempt to reach the customer by telephone, to schedule access to the meter.
- vi. If necessary, a second telephone attempt shall be made.
- vii. If (3) visits and (2) phone contacts have been exhausted without successful access to the meter, the Installer may declare the account non-installable and refer it to NEPA for resolution.
- viii. All customer contact, interaction and communications shall meet NEPA standards.
- ix. The customer shall be accommodated with a scheduled appointment with a specific day and time within a 1 hour window arranged and scheduled by the Installer, through their call centre which will be open between the hours of 8:00 am and 7:00 pm.
- x. The utility will provide a list of known customers on Medic Alert as per the Control Centre list.
- xi. Installer will deliver upon completion of meter change an information “Drop” package for the customer.
- xii. Installer will ensure the install site is left “clean” (i.e. under no circumstances is the customer site to be left littered with any installation associated debris)
- xiii. Should an incident occur at the property (i.e. Broken meter jaws), the contractor shall remain at the property until the contract electrician or NEPA staff can arrive at the property.

When every meter on a route has either passed the field installation operating test or been declared non-installable by Installer, that route will be declared ready for Route Acceptance.

With regards to the installation procedure above, Bidders are requested to discuss:

- a) concurrence with suggested procedure
- b) concurrence with suggested definition of non-installable account
- c) PPE utilized by Field Service Personnel (i.e. in addition to the equipment required, does the Installer assign any additional equipment such as meter pullers?)

6.1.3 Installer Vehicles (C)

Installer will provide Field Personnel a vehicle to be used for installation services. The requirement for a uniform fleet of vehicles is to minimize the call centre traffic associated with customer inquiries related to the appearance of Field Service Personnel. Field Service Personnel are expected to maintain vehicles in respectable condition (i.e. reasonably clean, presentable and without excessive damage) as well as perform and document a daily vehicle safety check. Vehicles will be properly marked to indicate the company providing services. The meter installation vehicles are to be capable of carrying a minimum of 60 boxed meters (15 boxes). Removed meters are to be placed in the boxes that the new meters were shipped in and returned to the NEPA designated facility.

The Installer shall be responsible for all related parking fines and parking fees through the course of the Agreement.

NEPA member utilities shall provide their corporate logo and “Under Contract” signage, which must be affixed to all vehicles used by the Contractor. The Contractor may display its own corporate logo as approved by NEPA. Preference will be given to vehicles that are otherwise unmarked (ie. Display no other significant signs or marking such as a rental agency logo).

6.2 Pre-Installation Inspection (CI)

The pre-installation inspection shall include knocking on the door of the customer premise to determine if the site is occupied, and to inform occupants of the imminent, brief power interruption. Meter Installers will utilize the appropriate PPE and Equipment (including, but not limited to, arc/flame resistant uniforms (Category 2), meter installer identification, etc.) at all times.

The pre-installation inspection shall discern whether:

- The work site is unsafe to complete the assigned task (unsafe meter base, confined space, etc.)
- There is tampering or energy diversion evident at the meter site
- The existing physical equipment and installation do not conform to applicable codes
- The existing meter base is a Murray Jensen style. (Note: Faulty type of meter base to be identified; not all Murray Jensen meter bases are a problem)
- The existing meter and installation is transformer rated
- An electrical hazard may arise upon installation of the Smart Meter

If ANY of the above (6) conditions exist, the Contractor shall perform no work at the site, but shall notify the Installer Project Manager, who shall notify the NEPA Contract Administrator. It is possible that the pre-installation will fail to detect a hazard, such as tension (frost pull) on the underground secondary service conductor that will move broken meter socket jaws when the meter is removed. The Installer shall comply with NEPA procedures that apply if, at any time during the Smart Meter process, a serious hazard arises.

6.2.1 Tampering (C)

The Installer is responsible for reviewing electric metering facilities for obvious signs of tampering and interference, including jumpers, stopped meters (if not disconnected), un-metered load on the line side of the meter, damage caused by apparent attempts to open the meter, or any other situation where tampering/interference appears to have been involved. If the Installer suspects tampering or diversion, no work (or further work) shall be performed at that site. The Installer shall notify NEPA on a daily basis of all power diversion, tampering or interference-related situations that might impact revenues to NEPA.

Any meters that are scheduled to be replaced and are disconnected using disconnect sleeves or have a Programmable Service Interrupter unit installed will be re-installed by the Installer after the meter change unless the utility directs otherwise. All meters that are disconnected with sleeves, must be installed on the new smart meter with tabs on the bottom lugs only to ensure the meter will continue to act as a communication hop.

6.2.2 Power Diversion (I)

During the process of installing Smart Meters, NEPA wishes to discover meter installations (if any) where there is meter tampering and/or energy diversion. As such, a financial incentive of an agreed to amount per proven occurrence will be paid to the Installer for each verified instance of meter tampering and/or power diversion.

Bidders are requested to provide any information pertaining to this or other incentive programs which are thought to ensure high service levels from Field Service Personnel.

6.3 Scheduling & Coordination (I)

Coordination among the flow of materials, installer labour, customer response/acceptance, and NEPA data updates is a principal determinant of whether the smart meter installation proceeds on-time and within budget. A well-coordinated project can run smoothly and finish on time. No unusual mandatory work rules or wage constraints apply to the work solicited in this RFP.

The Bidder should propose normal work hours to NEPA for its approval. Installers are to be available for work on evenings and weekends and for special-need installations. The Bidder should be prepared to modify the work schedule to best meet installation goals and project milestones set by NEPA.

Bidders are requested to provide information regarding the manner in which work is assigned, including such details as number of outside installs per day assigned, number of indoor installs assigned per day, and the capabilities of the Bidder's WFM system with regards to routing, personnel qualifications to avoid assigning work to the wrong people/trucks, etc. The Installer shall provide a detailed deployment schedule that accomplishes NEPA's meter installation targets. The Installer is responsible to manage the installation schedule to ensure the satisfaction of NEPA. The Installer is responsible to design, propose, and possibly implement a plan to advance the installation services timeframe in the event that the project schedule is delayed in any way.

The Installer is responsible for responding to calls from NEPA regarding the loss of service and other high priority problems associated with installations on an expedited basis. NEPA will do everything within its control to aid the progress of the Installer in meeting the goals of this Agreement. However, minor delays in productivity due to day-to-day operational issues management will occur and are considered typical and normal in the course of regular business. (ie. Software irregularities, computer downtime, wireless communications gaps or emergencies.)

6.4 Project Management (CI)

The Contractor shall designate a Project Manager who shall have the authority to handle and resolve any disputes or contractual issue with NEPA.

The Project Manager is expected to spend sufficient time on the project and the project site to identify any areas that are not fully meeting the stated requirements, and manage corrective actions to bring the results within said requirements.

The Project Manager's role will be to coordinate activities among the Contractor, the Smart Meter provider and the various functional parts of NEPA. Problem resolution will be high on the Manager's agenda. The Project Manager will maintain clearly defined levels of installation problem categories and associated escalation levels to facilitate quick recognition and resolution of problems. The Project Manager will involve NEPA on appropriate issues in a timely manner.

Section 3.2 *Safety* and Section 6.1.1 *Minimum Competencies* requires that the meter installer's meet certain qualifications, and that the installation service provider provide NEPA with certain documentation. The Project Manager will facilitate satisfaction of these requirements,

Bidders should provide suggested procedures for Problem Resolution / Problem Escalation.

6.4.1 Quality Assurance (I)

The Installer's policies/procedures shall include an integrated quality control / quality assurance program:

Bidders will describe the proposed approach to staffing the field deployment, including:

- a. Positions to be filled by permanent employees of Bidder
- b. Positions to be filled by temporary employees or contractors
- c. Qualifications of employees or contractors
- d. Training of employees or contractors
- e. Strategy for monitoring the work quality of employees or contractors and correcting any encountered deficiencies

NEPA understands that there may be several AMI deployments occurring concurrently across Ontario to accommodate the Provincial mandate, and requires the Bidders written acknowledgement that the appropriate staff will be dedicated to the requirements of NEPA deployment.

6.4.2 Installation Field Audit (CI)

The Installer's Project Manager / Supervisor will conduct random audits of staff in the field to check for safety compliance as well as for the quality of work completed by the meter installers. The Contractor's Project Manager / Supervisor will, on a weekly basis, randomly check a minimum of 2% of sites for quality control. All results are to be reported to NEPA on a weekly basis. Items to be audited include at minimum:

- Proper line and load wiring associations on bottom connected installations
- Identification of hot metering installations when a main switch exists at a service entrance and is supposed to provide isolation to the meter and it is actually on the load side of the meter
- Validation of crossed units, on multi-unit dwellings
- Work order data validation and transfer to NEPA systems

6.4.3 Service Quality Standard (C)

All work shall be completed according to the agreed schedule using milestones. Checkpoints and corrective action on slipped timelines shall be assessed on an interval of duration no longer than (2) weeks.

In keeping with the stringent safety requirements of NEPA, as communicated herein, Bidders will strive for no less than zero preventable safety incidents and accidents.

Failure to report any safety incident or accident to NEPA will put the Contractor in breach of the Agreement and may disqualify them from competing for future service contracts and may result in the termination of the present Agreement without a notification period.

6.5 Workforce Management (WFM) System

The Workforce Management (WFM) system plays an integral role in the success of the project acting as the main system responsible for work order completion, project reporting and task management, and ensuring safety for meter installations. Due to the critical nature of the WFM, it is imperative that the 3rd

party installation service provider be comfortable with the functionality of the WFM system. For this reason, NEPA will require that the Bidder provide their own WFM as part of their service package.

It is a fundamental requirement that this system is in place with functional interfaces to the NEPA CIS systems prior to the start of deployment. NEPA is interested in the functionality provided as part of the WFM system; information will be requested as part of Section 6.5 *Workforce Management (WFM) System* and associated subsections. A compliancy statement is required which will have Bidder's acknowledge proficiency with an electronic WFM system, and a commitment to ensuring integration with NEPA's back office systems prior to project commencement (as per Section 2.1 *Key Dates*).

NEPA will provide to the vendor, in electronic format, information concerning the locations that will require meter changes / installations (i.e. customer name and contact information, service location address and location number along with an expected completion date). By way of electronic WFM the Installer will add to this record, the final meter read from the mechanical meter at the time of removal. The Installer will also take a photograph of the old meter, showing its dials prior to removal. This photo will be date and time stamped and the file name recorded in the data record associated with the specific installation.

As there are multiple CIS Systems in use within the NEPA member service territories, Bidders should provide their output format requirements to ensure that the CIS Systems can accommodate this format.

6.5.1 WFM System Overview (I)

Within the Pricing and Compliancy spreadsheet, NEPA has provided a tab labelled WFM_Functionality, within which Bidders are requested to submit information pertaining to their WFM system, specific to the different devices that may be utilized with the system.

Below we have provided an example of a completed the NEPA WFM system functionality matrix. Bidders are requested to complete this spreadsheet for all devices that are compatible with the WFM software platform. In addition to acquiring the information regarding a variety of functionality, NEPA looks to understand any potential functionality differences between devices being offered as part of a solution. If multiple devices are possible, NEPA members may opt to purchase more than one type of device. In this case it would be important to understand if any functionality is lost in moving from one device to another.

Completion of the chart may satisfy some of the following sections. However the following sections provide Bidders with the opportunity to supply additional supporting information which may differentiate their product.

**Smart Meter Installation Services
Request For Proposals**

Niagara Erie Power Association

Workforce Management (WFM) Functionality

WFM Functionality	WFM Bidder: Sample	
	(S/O)	Add-On Cost
Devices		
Handheld	S	
Tablet	O	\$1200/tablet
Signature tool	O	Standard with tablet
Touch Screen	O	Standard with tablet
Printing Capabilities	O	\$600/print device
Connectivity		
Real Time	O	cost to interface
Batch upload (offline storage)	S	
Carriers		
Bell	S	
Rogers	S	
Telus	S	
Multiple Network Roaming	O	\$300/comm card
Utility RF	NA	
Other	NA	
Existing Utility Interfaces		
T&W	S	
SAP	S	
SPL	O	cost to interface
Other	S	
Forms		
Template only	S	
Customized	S	
Other	NA	
Reporting		
Fat Client	No	
Thin Client	Yes	
Canned	S	
Customized	S	
Safety	S	
Inventory	S	
Completed vs. Schedule	S	
Route Summary	S	
Problem Installs	S	
Other	S	programming fees
Operational Tools*		
Bar Code Scanner	S	
GPS Recording	S	
Camera	NA	
GPS Tracking of Workers	NA	
Scheduling		
Automated dispatch	S	
Dispatching based on qualifications & Equipment	S	
Map based dispatching	O	
Street level routing	O	
Other	NA	

Bidders are required to complete chart for their WFM product. If more than one product is offered, copy the columns as required.

Bidders are required to specify an S or an O to represent standard functionality vs. optional functionality. If the optional functionality is available only at an incremental cost, this must be specified.

NA may be used to represent Not Available.

*For Operational Tools, please indicate in the associated documentation whether this functionality is integrated with the WFM device, or whether they are separate tools.

6.5.2 Dispatching (CI)

In support of the priority which NEPA places on safety, NEPA is interested in the ability to assign worker qualifications to their field staff to assist in the dispatching of orders to only the personnel with the qualifications required to complete the work. This may be achieved through assigning qualifications to staff, or toolsets to trucks, or any other of a variety of methods. Details should be provided regarding all the safety features inherent to the WFM system.

Bidders are asked to provide detailed information regarding the dispatching of work orders. The manner in which work orders are sorted/listed (i.e. by customer, location, schedule, etc) is critical in realizing efficiencies with the assignment of field services.

If GPS capabilities are inherent to the system, and are integrated into the dispatch process, Bidders are asked to provide explanation, and screen shots of the views that are possible for the dispatcher. In addition to the mapping of orders, NEPA is interested in accessing the real time location of their workers to assist in the completion of on demand requests (i.e. service disconnect / reconnect, outage restoration, etc). Details regarding this functionality are requested.

In addition to the manner in which the dispatcher accesses information, Bidders are asked to explain the ease with which the field service worker (and any associated options) can sort work. If GPS capabilities exist, and are integrated with the sorting of work while in the field, screen shots of the views possible for the field service worker are requested.

6.5.3 Data Management & Integrity (I)

The Installer shall record and retain the meter identification information and the register read of the removed meter, the meter identification information and the register read of the installed Smart Meter using a handheld WFM system equipped with a barcode reader.

The Installer shall maintain an effective process to assure the quality of the electronic data records and transactions. All field data shall be pre-filled on orders. The Installer shall place emphasis on quality data management from the beginning of the training, and will remain responsible for correcting errors in data collected during the installation process.

Data quality (including Meter Reads) shall be accurate 99.9% of the time over the course of the project. The Installer shall collect data from specified collection locations and transfer data in a specified electronic file format for use by NEPA in accordance with a schedule that will be provided by the utility.

6.5.4 WFM Handheld Device (I)

NEPA would like to understand the device being utilized by the contractor. Information should include format of device (tablet, PDA, laptop, phone, etc.), how many orders per day the handheld device can manage (i.e. how many can be downloaded), and what the expected daily battery life is of the device.

6.5.5 Installation Hours (i.e. WFM Charging) (CI)

NEPA's policy for installation hours are that installations should be occurring between the hours of 8:30 am and 4:30 pm. NEPA prefers that there are no evening installs. Saturday installs are acceptable with proper planning (minimum 1 week notice) and staffing of the call center. This should be a last resort / catch up for installation backlog, so as not to inconvenience customers. Installer would be required to provide a minimum number of installers in this instance to ensure that it is a productive day (i.e. NEPA will have to pay overtime to warehouse staff).

6.5.6 Digital Imaging (CI)

The handheld Workforce Management Equipment must be able to take a picture with a resolution no less than 3 Mp of the removed meter. The Installer will take a photograph of the old meter, showing its dials. This photo will be date and time stamped and the file name recorded in the data record associated with the specific installation.

Digital imaging is performed to mitigate the risk associated with Dispute Resolution. If the WFM system allows for read validation which might be used in conjunction with the Digital Imaging process, Bidder should provide details.

6.5.7 GPS (CI)

In addition to installing the meter, capturing the LAN ID and Meter ID data from the barcode on the installed meter, and the start read, NEPA desires to update service location information by having the Bidder capture the GPS co-ordinates of the installed endpoint. Where meters are located in basements or in areas where satellite signal may not be possible, the closest co-ordinates will be collected once communication has been established.

6.5.8 Inventory Control (CI)

Given the volume of daily meter installations that will be performed, maintaining accurate control of inventory will be critical. All sealed meter deliveries will be sent to the NEPA location and loaded into inventory via an import into CIS.

Daily workflows will need to be established that have an assigned point of contact for the installation vendor to verify and sign-out the meters required each day for installation in the field. At the end of each day or at the start of the next shift, the same point of contact will verify the meters that were not installed are recorded in inventory ensuring adequate controls are in place to manage the assets.

Managing the inventory of essential hardware is an important step in keeping the installation process moving while controlling costs.

- i. The Workforce Management system will be capable of utilizing bar code scanning for recording newly deployed meters.
- ii. Bidders will describe methods used to track inventory of all essential ancillary supplies needed to support the deployment including any associated smart meter devices and installation tools, meter seals, meter rings, meter adaptors, security devices, etc. Vendors should provide details on how their company will ensure that accurate data is provided back to NEPA and their back office systems.

6.6 Reporting Requirements (CI)

The NEPA Project Manager will hold weekly meetings together with the Installer's Project Manager to review status, identify problems, and plan resolution. The Installer shall provide reporting (as per following subsections) to support these meetings. Where possible, reports should be generated from the WFM system, made possible by the daily data transfers identifying sites visited and completed.

Following is a sample of items that might be included in these reports:

- i. Safety Issues;
- ii. Bidders will describe installation problem categories and escalation levels, identifying the point at which the NEPA Project Manager will become involved;

- iii. Inventory status;
- iv. Installers will provide daily data transfers identifying sites visited and completed and providing work order data;
- v. Bidders should supply automated reports regarding success/failure of daily installation targets;
- vi. The Installer shall report progress, including numbers and percentages of meters installed, attempts to complete the installation process, appointments scheduled and completed and other pertinent installation data to NEPA on a weekly basis (if project plan timeline has been affected, Bidders will provide their plan which will put them back on schedule according to the originally submitted schedule);
- vii. It is expected that the successful Bidder will invoice based on the data in the WFM system.

Bidders should provide detailed information regarding the reporting functions that are possible through their WFM or other systems.

The Installer will provide all required equipment, along with the trained staff. The Installer shall be required to report all relevant data from the field to the NEPA Installation Coordinator. This includes, but is not limited to meter exchanges that cannot be completed because of access, physical space limitations, or safety reasons.

6.6.1 Reporting: Beginning of the Project (C)

In addition to any other data and reporting requirements outlined, the following report / information will be required at project commencement:

The Bidder will provide NEPA with a Project Plan that indicates the number of meter installers per week for the duration of the project as well as the meters to be installed per week. The Plan shall include contingency plans in the event the installation numbers fall behind the milestone schedule.

6.6.2 Reporting: Daily Reports (C)

In addition to any other data and reporting requirements outlined, the following reports and information will be required on a daily basis through the duration of the project:

The Bidder will identify, report and resolve unsafe conditions on a daily basis or as they are identified according to established safety policies, and report all tampering / interference related situations that might impact revenues, to NEPA on a daily basis.

6.6.3 Reporting: Weekly Reports (C)

In addition to any other data and reporting requirements outlined, the following reports and information will be required at weekly interval through the duration of the project:

The Bidder will provide NEPA with Project Plan Update which includes number of meters installed to date, and number of meters remaining to be installed. If behind schedule, Action Plans will be identified that are being used to bring the installation schedule back on track.

In addition, the Bidder shall provide details related to any identified unsafe conditions, safety issues, customer diversions, tampering.

6.6.4 Reporting: Bi-Weekly Reports (C)

In addition to any other data and reporting requirements outlined, the following reports and information will be required at bi-weekly intervals through the duration of the project:

The Bidder will provide NEPA with an invoice indicating: The number of meters installed, the number of identified and NEPA validated power diversions, the number of identified and NEPA validated unsafe meter installation sites, the month end invoice shall indicate the number of meters that didn't comply with the month-end target milestone installations.

6.7 Service Level Agreements (I)

Bidders should provide their standard Service Level Agreements, citing such measurable performance indicators as:

- i. Outside Urban installation per week
- ii. Inside Urban installation per week
- iii. Installation Error rate
- iv. Customer Claim rate

6.8 Installation Warranties (I)

The Bidder must state term on guarantee of workmanship for all installation work performed under this contract.

6.9 Meter Disposal (I)

NEPA will be utilizing a Meter Disposal Vendor to properly, and in an environmentally sound manner, discard of the redundant meters. Should the Bidder desire to provide a Meter Disposal Labour rate, a line item has been added to Pricing Option 1 for this purpose. The Labour that would be required for this service would potentially be for the separation of glass covers from meters, and organization of meter packing supplies (cardboard, Styrofoam packing etc) into the appropriate bins that would be provided by the Meter Disposal Vendor. NEPA would provide the work space for this service to be performed.

Section 7: Customer Communications

7.1 Call Centre Services (I)

Installer will be responsible for customer communications associated with gaining access to the customer's meter. NEPA recognizes that some accounts, despite extensive effort by Installer, may be non-installable for any of many reasons. NEPA accepts responsibility for installing smart meters at these non-installable accounts. Bidders will describe the customer communications plan, including;

- i. Call Centre Services Overview (including hours of operation, and policies/procedures)
- ii. Customer contact methods/strategies
- iii. Appointment management (management of multiple sequential (unsuccessful until the last) customer contacts)
- iv. Steps in achieving successful completion of Smart Meter installation
- v. Definition of a non-installable account
- vi. Customer claims administration
- vii. Record keeping and coordination with NEPA Customer Service (NEPA member utilities are interested in understanding the tracking of Service Quality Indicators (SQIs) which may include (but not limited to) such indicators as inbound/outbound calls, appointments attempted/made, complaints, call waiting period, etc.)

Call operations shall be maintained from 8:00 a.m. to 7:00 p.m., Monday to Friday, and shall have a provision for taking calls using an automated method outside of the regular operating hours. NEPA recognizes that their agents may take calls, other than those for the purpose of appointments, once a phone number is provided to the customer. NEPA wishes the Contractor to transact only those calls related to the appointments to be fielded by their staff, and the operator for disposition shall direct all others to NEPA.

The Contractor shall provide in detail:

- The scripting for communicating with customers by phone
- A means of managing the collected customer information and appointments (i.e. managing ongoing coordination and customer communications related to the appointment and meter exchange by the Contractor)
- The fee structure for managing customer communications for the purpose of collecting appointment data

7.1.1 Communications Materials (I)

NEPA requires that communications materials provided to the customer by their meter installers when the meter is inaccessible contain the phone number of the Contractor for future follow-up. The Contractor shall manage inbound phone communication to secure appointments for Smart Meter installations using a professional and courteous protocol that shall be approved by NEPA.

7.1.2 Customer Contact (I)

Each meter installer shall be responsible for customer communications associated with gaining access to customer meter. Meter installers will be provided with communications materials to be distributed to customers as part of the meter installation process.

Prior to beginning the meter exchange, each meter installer shall attempt to notify each customer by knocking on the front door and/or ringing the doorbell and waiting a minimum of (1) minute for a

response. If the customer does respond, the Installer shall inform the customer of the meter exchange and short power interruption according to the standardized script. If the customer does not respond, the Installer shall proceed with the installation of the Smart Meter.

7.1.3 Customer Information (CI)

Each meter installer shall provide each customer with communication materials as provided by NEPA, either in person, in the mailbox or through the mail slot. These materials are not to be left where they are readily visible to passers-by or may blow away or damaged (i.e. rain damage)

7.1.4 Customer Complaints and Claims Administration (CI)

The Installer shall have a procedure to process and manage customer claims, arising from the provision of the Services pursuant to this Agreement, which will successfully resolve issues in a timely manner. All claims shall be reported to NEPA once the Installer has been made aware of the incidence. Claims outstanding for (10) days or greater are to be reported to NEPA for resolution. The Installer shall have full accountability for customer claims and complaints, especially for the response to initial reports of half or full power outage following a Smart Meter change. This accountability applies regardless of the time of call and may fall outside business and work hours. NEPA crews and resources are prepared to aid the Installer in a resolution based on the initial findings of Field Staff if the call ends up being systemic rather than an oversight on the part of the Contractor. Additional compensation shall not be provided by NEPA to meet the Installer's obligations for after-hour response and site visits that are required to mitigate customer complaints.

7.2 Pre-Canvassing Service (I)

Pre-Installation Customer Information Packages are to be delivered to customers approximately 2 weeks before the scheduled meter replacement date. Customer Contact and Information Packages would be provided by NEPA.

As an option, Bidders that are able to provide input based on experience regarding suggested processes for Customer Communications that may take place prior to deployment are requested to do so. If possible, the Bidder should provide any marketing material that they may have used in the past that was found to be effective.

Section 8: Contract Terms and Conditions

8.1 General

This Agreement covers the general conditions under which the work shall be performed.

Bidder shall be aware and acknowledges that the work to be performed may be on or within close proximity to electrical apparatus that may be energized at normal potential and with normal current carrying capacity during the course of the work. This may involve the equipment or facilities being worked on directly, or equipment or facilities adjacent to the actual devices and location being worked on.

Bidder will under no circumstances replace anything except single phase meters.

8.2 Information to Contractors

Bidder represents that it has carefully examined the specifications and requirements of the municipality(s) having jurisdiction in the work location(s) and any other authorities having jurisdiction, and has thoroughly familiarized themselves with all permit, inspection and other requirements of all of these agencies and authorities.

Bidder will not rely solely upon any information or representations made or furnished by NEPA respecting the nature of the site conditions, the work to be performed or the quality of any materials to be used.

8.3 Approvals

Bidder shall work closely with the authorities having jurisdiction. Bidder shall satisfy all authorities on specific concerns on work permits. No permit costs have been included in this Agreement. Should the need for any permits arise, Bidder will invoice NEPA for the costs thereof.

8.4 Sub-Contractors

Bidder shall set out herein, all Sub-Contractors to be employed in the performance of the Agreement. No other Sub-Contractor shall be employed without the approval of NEPA.

8.5 Officials in Charge, Personnel, Employment Conditions

Bidder shall identify in Schedule "A", prior to commencing work, a work site manager (the person on the job) who will be in charge of the work and all work sites, as well as an office official (officer, principle, or senior manager) at his central place of business who will be responsible for the work.

NEPA's key contacts are also identified in Schedule "A".

Bidder shall take every step to minimize a change of site manager during the course of the work, but when necessary, Bidder will make such change with an individual of similar or greater capability.

Bidder will provide conditions of employment in accordance with the Occupational Health and Safety Act, and the Employment Standards Act and their latest revisions, and any other statutory requirements in force and effect.

Bidder hereby agrees that no person shall be employed who is unfit to do the work or anyone unskilled to do the work assigned to him. Persons under the influence of intoxicating drugs or beverages shall be declared unfit.

Bidder agrees that for the purpose of the work to be undertaken, they will not discriminate in the hiring and implementation of labour against any person's gender, race, national origin, colour or religion.

8.6 Work Protection

Work protection from electrical hazards, where required, shall be applied for prior to beginning work and shall be consistent with the Electric & Utilities Safety Association's Protection Code, and upon review and acceptance by Bidder, NEPA requirements. Protections shall be surrendered at the end of each working day. In general, daily requests shall be available during NEPA normal working hours only.

Signalling and traffic protection shall be done according to the Occupational Health and Safety Act, the Highway Traffic Act, and NEPA requirements.

Only competent personnel shall work within the ten feet limit of approach for apparatus energized over 750 volts. NEPA Manager of Engineering and Maintenance shall have the sole discretion to determine such competence, but Bidder will assume full liability in respect of any such personnel, even if approved of by NEPA. Equipment, tools, and protective clothing shall be in accordance with the Electric Utilities Safety Act, the Occupational Health and Safety Act, and other authorities having jurisdiction.

8.7 Site Housekeeping

During the performance of the work, Bidder shall ensure that the work site is kept as neat and orderly as possible, in keeping with the nature of the work in progress. When work is interrupted for any length of time, or at the completion of the work, all waste material shall be removed and tools, equipment and surplus material shall be removed or stored or secured in a neat and safe fashion.

8.8 Term

The Agreement will terminate as per the agreed to date in the contract. The Agreement may be extended on terms mutually agreeable to the parties.

8.9 Training and Safety

Before beginning installation of smart meters, all Bidder installers must receive the following training:

- EUSA Training for residential smart meter changes. Proof of training must be provided and approved by NEPA.
- NEPA Health and Safety orientation
- Work procedures and workforce management orientation

Bidder shall comply with all NEPA safety rules, when Bidder has reviewed and accepted such rules.

8.10 Schedule

Bidder shall submit, at such times as may reasonably be requested by NEPA, schedules which shall show the order in which it is proposed to do the work, with dates showing commencement and completion of the various parts of the work.

8.11 Public Relations

Bidder shall respect private property and do whatever necessary to prevent damage to landscaping, buildings, fences and other appurtenances on private property and where damage results will make restoration to the pre-damaged state. Public lands on rights of way shall be restored to the satisfaction of the authority having jurisdiction.

8.12 Identification

Bidder vehicles must be properly identified with the company name. Bidder employees must carry proper identification at all times.

8.13 Materials and Labour

Unless otherwise stipulated, the lump sum price or prices quoted in this Agreement shall include the furnishing of all of the Bidder designated supplied materials, supplies and equipment and the providing of all labour, construction tools and equipment, utility and transportation services necessary to perform and complete all the work required under this Agreement.

All designated material, major or minor, supplied by Bidder must be approved by NEPA prior to its installation. Any material supplied by Bidder and installed without NEPA approval will be replaced at Bidder's expense. Co-ordination of the delivery of materials shall be by Bidder. No claims will be considered due to late deliveries.

8.14 Working Hours

Unless otherwise stated, all labour and services under this Agreement will be performed during the hours of 8:30 am - 4:30 pm local time Monday through Friday, excluding statutory holidays (except for telephone call answer services). If for any reason NEPA requests Bidder to furnish any such labour or services outside of the hours of 8:30 am - 4:30 pm local time Monday through Friday, or on statutory holidays, any overtime or other additional expense occasioned thereby, such as repairs or material costs not included in this Agreement, will be billed to and paid by NEPA.

8.15 Taxes

NEPA agrees to pay the amount of any new or increased Canadian taxes or governmental charges upon labour or the production, shipment, sale, installation, or use of equipment or software which become effective after the date of this Agreement. If NEPA claims any such taxes do not apply to transactions covered by this Agreement, NEPA will provide Bidder with a tax exemption certificate acceptable to the applicable taxing authorities. NEPA to the extent required by applicable law may retain and remit any withholding taxes on behalf of Bidder and provide evidence of that to Bidder. NEPA shall not be required to make any "gross up" payment to Bidder to compensate Bidder for such withholding.

8.16 Insurance Obligations

Bidder shall, at its own expense, carry and maintain in force at all times from the effective date of the Contract through final completion of the work the following insurance. It is agreed, however, that Bidder has the right to insure or self-insure any of the insurance coverage's listed below:

- (a) Commercial General Liability Insurance to include contractual liability, products/completed operations liability with a combined single limit of CDN \$5,000,000 per occurrence. Such policy will be written on an occurrence form basis.

- (b) If automobiles are used in the execution of the Contract, Automobile Liability Insurance with a minimum combined single limit of CDN \$5,000,000 per occurrence. Coverage will include all owned, leased, non-owned and hired vehicles.
- (c) Where applicable, "All Risk" Property Insurance, including Builder's Risk insurance, for physical damage to property which is assumed in the Contract.
- (d) Workers Safety Insurance Board (WSIB) clearance certificates are to be provided to NEPA.

Prior to the commencement of the Contract, Bidder will furnish evidence of said insurance coverage in the form of a Memorandum of Insurance, and warrants that such coverage will be maintained for the duration of the Agreement, and that proof of maintenance will be routinely supplied.

Bidder will not issue coverage on a per project basis.

8.17 Hazardous Substances, Mould and Unsafe Working Conditions

8.17.1

NEPA has not observed or received notice from any source (formal or informal) of (a) Hazardous Substances or Mould, either airborne or on or within the walls, floors, ceilings, heating, ventilation and air conditioning systems, plumbing systems, structure, and other components of the Site, or within furniture, fixtures, equipment, containers or pipelines in a Site; or (b) conditions that, to NEPA's knowledge, might cause or promote accumulation, concentration, growth or dispersion of Hazardous Substances or Mould on or within such locations.

8.17.2

If any such materials, situations or conditions, whether disclosed or not, are in fact discovered by Bidder or others and provide an unsafe condition for the performance of the work or Services, the discovery of the condition will constitute a cause beyond Bidder's reasonable control and Bidder will have the right to cease the work or Services until the area has been made safe by NEPA or NEPA's representative, at NEPA's expense. Bidder will have the right to terminate this Agreement if NEPA has not fully remediated the unsafe condition within sixty (60) days of discovery.

8.17.3

NEPA represents that NEPA has not retained Bidder to discover, inspect, investigate, identify, prevent or remediate Hazardous Substances or Mould or conditions caused by Hazardous Substances or Mould.

8.18 Warranty and Limitation of Liability

8.18.1

Bidder will have all work performed by appropriately trained and experienced personnel in a workmanlike manner consistent with industry standards and applicable law. Bidder will replace or repair any work Bidder provides under this Agreement that fails within the warranty period (one) 1 year because of defective workmanship or Bidder supplied materials, except to the extent the failure results from NEPA negligence, or from fire, lightning, water damage, or any other cause beyond the control of Bidder. This warranty applies to all work Bidder provides under this Agreement, whether or not manufactured by Bidder. The warranty is effective as of the date of installation.

8.18.2

The warranties set forth herein are exclusive, and Bidder expressly disclaims and NEPA expressly waives all other warranties, whether written or oral, implied or statutory, including but not limited to, any warranty of workmanship, construction, merchantability or fitness for a particular purpose, with respect to the services, equipment, and materials provided hereunder. Bidder will not be liable for any property damage, personal injury, loss of income, emotional distress, death, loss of use, loss of value, adverse health effect or any special, incidental, indirect, speculative, remote, consequential, punitive, or exemplary damages, arising from, or relating to, this limited warranty or its breach.

8.18.3

Bidder makes no representation or warranty, express, implied or otherwise, regarding Hazardous Substances or Mould. Bidder will have no duty, obligation or liability, all of which NEPA expressly waives, for any damage or claim, whether known or unknown, including but not limited to property damage, personal injury, loss of income, emotional distress, death, loss of use, loss of value, adverse health effect or any special, consequential, punitive, exemplary or other damages, regardless of whether such damages may be caused by or otherwise associated with defects in the Services, in whole or in part due to or arising from any investigation, testing, analysis, monitoring, cleaning, removal, disposal, abatement, remediation, decontamination, repair, replacement, relocation, loss of use of building, or equipment and systems, or personal injury, death or disease in any way associated with Hazardous Substances or Mould.

8.19 Indemnity

Bidder agrees to indemnify and hold NEPA and its agents and employees harmless from all claims for bodily injury and property damages to the extent such claims result from or arise under Bidder's negligent actions or willful misconduct in its performance of the work required under this Agreement, provided that such indemnity obligation is valid only to the extent (i) NEPA gives Bidder prompt notice in writing of any such claims and permits Bidder, through counsel of its choice and Bidder's sole cost and expense, to answer the claims and defend any related suit and (ii) NEPA gives Bidder the authority and reasonable assistance and access to all applicable information in its possession, at Bidder's expense, to enable Bidder to defend such suit. Bidder will not be responsible for any settlement without its written consent, which consent shall not be unreasonably withheld or delayed. Bidder will not be liable for loss or damage caused by the negligence of NEPA or any other party or such party's employees or agents. This obligation will survive termination of this Agreement. Notwithstanding the foregoing, NEPA agrees that Bidder will not be responsible for any damages caused by Mould or any other fungus or biological material or agent, including but not limited to property damage, personal injury, loss of income, emotional distress, death, loss of use, loss of value, adverse health effect or any special, consequential, punitive, exemplary or other damages, regardless of whether such damages may be caused by or otherwise associated with defects in the Services.

8.20 Limitation of Liability

8.20.1

Subject to: (1) Bidder's obligations under the above indemnity (s. 8.19), (ii) a breach of its confidentiality or privacy obligations, (iii) breach of applicable law; or (iv) intentional or willful misconduct, in no event will Bidder be liable for any special, incidental, indirect, speculative, remote, consequential, punitive or exemplary damages, whether arising out of or as a result of breach of

contract, warranty, tort (including negligence), strict liability, mould, moisture, indoor air quality, or otherwise, arising from, relating to, or connected with the services, equipment, materials, or any goods provided hereunder.

8.20.2

Notwithstanding anything to the contrary herein, Bidder's total liability arising out of or as a result of its performance under this agreement will not exceed the amount of this agreement.

8.21 Excusable Delays

Bidder will not be liable for damages caused by delay or interruption in Services due to fire, flood, corrosive substances in the air, strike, lockout, dispute with workmen, inability to obtain material or services, commotion, war, acts of God, the presence of Hazardous Substances or Mould, or any other cause beyond Bidder's reasonable control (the "Force Majeure Event") provided that Bidder: (i) promptly notifies the other Party immediately and in detail of the commencement and nature of such a cause; (ii) promptly develops a workaround strategy if one is reasonably available; and (iii) uses all commercially reasonable efforts to render performance in a timely manner utilizing to such end all resources reasonably required in the circumstances, including obtaining supplies or services from other sources if same are reasonably available and to otherwise resume service to the applicable standard. A failure by a sub-contractor or other agent to perform shall only be considered a Force Majeure Event if the failure by that sub-contractor or agent to perform is due to a Force Majeure Event suffered by that sub-contractor or agent and such sub-contractor or agent is taking the same actions as are required by Bidder under this Section in respect of a Force Majeure Event. The benefit of this section shall not apply to the performance or an obligation which is thirty (30) or more days in default. In the event of any such delay, date of shipment or performance will be extended by a period equal to the time lost by reason of such delay.

8.22 Dispute Resolution

With the exception of any controversy or claim arising out of or related to the installation, monitoring, and/or maintenance of fire and/or security systems, the Parties agree that any controversy or claim between Bidder and NEPA arising out of or relating to this Agreement, or the breach thereof, will be settled by arbitration, conducted in accordance with the Arbitration Rules of the Canadian Commercial Arbitration Center. Any award rendered by the arbitrator will be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof. Either party can terminate for cause without the obligation to engage in dispute resolution, mediation or arbitration.

8.23 Acceptance of Contract

This proposal and the pages attached will become an Agreement upon signature above by Bidder and NEPA. The terms and conditions are expressly limited to the provisions hereof, including Bidder's General Terms and Conditions attached hereto, notwithstanding receipt of, or acknowledgment by, Bidder of any purchase order, specification, or other document issued by NEPA. Any additional or different terms set forth or referenced in NEPA's purchase order are hereby objected to by Bidder and will be deemed a material alteration of these terms and will not be a part of any resulting order.

8.24 Miscellaneous

8.24.1

This Agreement represents the entire Agreement between NEPA members and Bidder for the work described herein and supersedes all prior negotiations, representations or Agreements between the Parties related to the work described herein.

8.24.2

None of the provisions of this Agreement will be modified, altered, changed or voided by any subsequent Purchase Order or other document unilaterally issued by NEPA that relates to the subject matter of this Agreement. This Agreement may be amended only by written instrument signed by both Parties.

8.24.3

This Agreement will be governed by the law of the province where the work is to be performed.

8.24.4

Any provision or part of this Agreement held to be void or unenforceable under any laws or regulations will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Bidder and NEPA, who agree that this Agreement will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

8.24.5

NEPA may not assign its rights or delegate its obligations under this Agreement, in whole or in part, without the prior written consent of Bidder. Bidder may assign its right to receive payment to a third party.

8.24.6

Bidder will provide services in accordance with the attached work scope documents and the terms and conditions herein, which form a part of this Agreement.

8.24.7

The parties are independent contractors and no other relationship is intended. Nothing herein shall be deemed to constitute either party as an agent, representative or employee of the other party, or both parties as joint venturers or parties for any purpose to create a fiduciary relationship between the parties. Neither party shall act in a manner that expresses or implies a relationship other than that of an independent contractor. Each party shall act solely as an independent contractor and shall not be responsible to third parties for the acts or omissions of the other party. Neither party will have the authority or right to represent or obligate the other party in any way except as expressly authorized by this agreement.

8.24.8

If Bidder is delayed in its performance of the work due to the delayed performance or non-performance of NEPA or its suppliers, NEPA shall notify Bidder one (1) week in advance. In the

event Bidder is notified (1) one week in advance, Bidder shall relieve NEPA of all costs except for the following: In the event Bidder incurs any costs in retaining staff or recruiting and staffing a new position as a result of the delay then NEPA will reimburse Bidder at its actual documented costs incurred plus 10%. Bidder shall invoice NEPA no more than weekly for such reimbursement and NEPA shall pay such invoices within the terms of this Agreement. All such invoices will itemize the costs incurred and proof will be provided to the extent possible.

8.25 Terms of Payment

Subject to Bidder's approval of each NEPA member utility's credit, payment terms are as follows:

Progress Payments: Bidder will invoice monthly for all materials delivered to the job site or to an off-site storage facility and for all installation, labour, and services performed, both on and off the job site. NEPA agrees to pay the full amounts invoiced, less holdback, upon receipt of the invoice at the address specified by NEPA. Invoices not paid within thirty (30) days of the invoice date are past due and accrue interest from the invoice date to the date of payment at the rate of one percent (1%) per month, compounded monthly.

Holdback: NEPA will not withhold, as holdback, a greater percentage than is withheld from NEPA under a prime contract, if applicable. NEPA will pay all holdback to Bidder within 30 days after Bidder's work is substantially complete.

Suspension of work: If Bidder, having performed work per Agreement requirements, does not receive payment within thirty (30) days after submission of a Bidder invoice, Bidder may suspend work until NEPA provides remedy unless NEPA provides evidence disputing such amount is owing.

8.26 Work by Others

8.26.1

Unless otherwise indicated, the following items are to be furnished and installed by others: electric wiring and accessories, all in-line devices (including but not limited to flow tubes, hand valves, orifice plates, orifice flanges, etc.), pipe and pipe penetrations including flanges for mounting pressure and level transmitters, temperature sensors, vacuum breakers, gauge glasses, water columns, equipment foundations, riggings, steam tracings, and all other items and work of like nature. Automatic valve bodies and dampers furnished by Bidder are to be installed by others.

8.26.2

Services Bidder will provide under this Agreement specifically exclude professional services which constitute the practice of architecture or engineering unless specifically set forth by NEPA. NEPA or Owner will specify all performance and design criteria that Bidder will follow in performing work under this Agreement. If professional design services or certifications by a design professional related to systems, materials, or equipment is required, such services and certifications are the responsibility of others.

8.27 Delivery

Delivery of equipment not agreed on the face hereof to be installed by or with the assistance of Bidder will be F.O.B. at Bidder's factory, warehouse, or office selected by Bidder. Delivery of equipment agreed on the face hereof to be installed by or with the assistance of Bidder will be C.I.F. at site of installation.

8.28 Damage or Loss

Bidder will not be liable for damage to or loss of equipment and software after installation.

8.29 Termination

A party may terminate this Agreement for cause if the other party defaults in the performance of any material term of this Agreement, or fails or neglects to carry forward the work (in the case of Bidder) in accordance with this Agreement, after giving the other party written notice of its intent to terminate. If the defaulting party has not, within seven (7) business days after receipt of such notice, remedied such deficiencies, the other party may terminate this Agreement.

8.30 Changes in the Work

NEPA, without invalidating the Agreement, may direct the Contractor to perform extra work or make changes in the work, provided that all changes or additions form an inseparable part of the contracted work. The contractor shall make such changes or additions only after receipt of written instructions to do so from NEPA. If such changes or additions cause an increase or decrease in the cost of the Agreement, or in the time required to complete the Agreement, an equitable adjustment shall be made and the Agreement shall be modified accordingly by a Change Order in writing.

When a change is ordered, NEPA and the Contractor shall execute a change order before any change order work is performed. Any increase or decrease in the contract price and the time required for the completion of the contract work due to a change order shall be specifically set out in the change order. All terms and conditions contained in the Agreement shall be applicable to change order work. The amount of any increase or decrease shall be added to or subtracted from the contract price as appropriate.

8.30.1

A Change Order is a written order signed by NEPA and Bidder authorizing a change in the work.

8.30.2

NEPA may request Bidder to submit proposals for changes in the work, subject to acceptance by Bidder. If NEPA chooses to proceed, such changes in the work will be authorized by a Change Order.

8.31 Acceptance of the Work

NEPA designated representative will determine if any work has not been performed in accordance with this Agreement.

Upon receipt of notice by Bidder that the work is ready for final inspection and acceptance, NEPA will make such final inspection and issue acceptance within five (5) business days (except for work performed in the first thirty (30) days of the Agreement, in which case it shall be ten (10) business days). Acceptance will be in a form provided by Bidder, stating that to the best of NEPA's knowledge, information and belief, and on the basis of NEPA's on-site visits and inspections, the work has been fully completed in accordance with the terms and conditions of this Agreement. If NEPA finds the work unacceptable due to non-compliance with a material element of this Agreement, which non-compliance is due solely to the fault of Bidder, NEPA will notify Bidder in writing within the five (5) business days (or ten (10) business days, as applicable) setting forth the specific reasons for non-acceptance. Failure to respond shall result in cancellation of the Agreement. Any payment then made will be based on proration, per unit, quantities of acceptable work performed, less costs assessed by NEPA for correction of deficiencies and noted issues.

Nothing in this Section 8.31 will be construed to require that NEPA indemnify and hold harmless the Bidder from claims and costs resulting from Bidder's negligent actions or wilful misconduct.

8.32 Confidentiality and Privacy

"Confidential Information" means all information relating to either Party or to such Party's business, products, sales, customers, trade secrets, technology or financial position to which access is obtained or granted hereunder, which when disclosed to the other Party is marked or otherwise designated as confidential, provided, however, that Confidential Information shall not include any data or information which: (i) is or becomes publicly available through no fault of the other Party; (ii) is already in the rightful possession of the other Party prior to its receipt from the other Party as evidenced by documentation; (iii) is independently developed by the other Party as evidenced by documentation; (iv) is rightfully obtained by the other Party from a third party whose lawful right to provide such data or information is evidenced by documentation; (v) is disclosed with the written consent of the Party whose information it is; or (vi) is disclosed pursuant to a Canadian court order or other Canadian legal compulsion.

8.33 Definitions

8.33.1

"Hazardous substance" includes all of the following, and any by-product of or from any of the following, whether naturally occurring or manufactured, in quantities, conditions or concentrations that have, are alleged to have, or are believed to have an adverse effect on human health, habitability of a Site, or the environment: (a) any dangerous, hazardous or toxic pollutant, contaminant, chemical, material or substance defined as hazardous or toxic or as a pollutant or contaminant under state or federal law, and (b) any petroleum product, nuclear fuel or material, carcinogen, asbestos, urea formaldehyde, foamed-in-place insulation, polychlorinated biphenyl (PCBs), and (c) any other chemical or biological material or organism, that has, is alleged to have, or is believed to have an adverse effect on human health, habitability of a Site, or the environment.

8.33.2

"Mould" means any type or form of fungus or biological material or agent, including mould, mildew, moisture, yeast and mushrooms, and any mycotoxins, spores, scents, or by-products produced or released by any of the foregoing. This includes any related or any such conditions caused by third parties.

8.33.3

"Covered Equipment" means the equipment covered by the Services to be performed by Bidder under this Agreement, and is limited to the equipment included in the respective work scope attachments.

Appendix A

Ministry of Energy
*Functional Specification for an Advanced
Metering Infrastructure Version 2*
(dated July 5, 2007)

Appendix B

NEPA Member
Service Territory Maps
and
Supplemental Information

Addendum 4

Util Assist – Meter Disposal Services RFI and Response Summary



RFI 2008-01107

Request for Information:
Meter Disposal Services

November 7, 2008

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Background

As part of its energy conservation effort, the Ontario government has made a commitment to replace all existing meters (5 million) with smart meters by December 31, 2010. Phase One utilities have fulfilled their commitments to install 1 million smart meters by Dec 31, 2007 which assisted the government in exceeding their interim goal of 800,000 by Dec 31, 2007. Focus now shifts to the Phase Two implementation of a Smart Meter Network.

The underlying premise behind the provincial mandate to install these meters is to educate customers on their consumption habits and implement new rate structures that will encourage load shifting, and the conservation of energy.

With respect to the Provincial government's Smart Metering Initiative, many Ontario utilities have taken a collaborative approach to becoming educated on this mandate by working with other local distribution companies and advocacy groups. Ontario utilities are interested in options for disposal of redundant meters with the end goal of selecting the best-fit service provider for their service territory. A proper disposal process will avoid the potentially negative environmental and political considerations associated with meter disposal. The new technology is required to accommodate the end goals of the government, but dumping meters into landfill sites is not necessary. By researching alternative avenues of disposal, the OUSM 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. As leaders in our communities, utilities should be concerned with finding a process that impacts the environment as minimally as possible. With the Provincial Government implementing the Smart Meter Initiative to provide an infrastructure which should lead to a conservation culture, it would seem counterproductive to dump the old meters in landfill sites. As well as violating common sense, not using the more efficient processes as researched by the OUSM could result in political backlash if the public were to determine that less than ideal processes were employed to implement this program.

The information contained herein has been prepared to assist interested parties in their investigation to determine their options with regards to the disposal of redundant electricity meters.

OUSM Findings: 2006

After considerable effort by the OUSM working Group in 2006, several common considerations were noted by the group after hearing from several vendors. During this process the OUSM was encouraged to hear that our intention to act collectively would prove to be an advantage. The OUSM has realized benefit in the past; finding that through group effort much can be accomplished in the areas of education, research and testing. By continuing this collaborative effort (increased volume of meters being provided to a single source), utilities could gain the advantage of increased value and decreased shipping and handling charges.

- Meter Disposal companies will be able to provide better pricing for the scrap meters, and a more organized process if utilities work together. Smaller volumes may mean increased shipping costs, which was the major component of the cost to have meters

- disposed of. By working together, more efficient processes for pickup can be created, reducing shipping costs.
- As well as the uncertainty associated with fuel costs, the commodity prices for the other common metals found within the meters (i.e. aluminum, copper, etc.) have been found to be extremely volatile. In 2006, the meters were found to have value, while the prices for metals have dropped significantly in recent months meaning the value in the scrap has decreased significantly.
- Domestic de-manufacturing processes (manual disassembly) of the meter would require approximately 10 minutes of manual labour per meter. This cost would have to be covered through the Installation Service Provider (rates provided within RFP response) as an Additional Fee.

As a result of these commonalities across vendors, and the uncertainty of pricing due to the volatility associated with both fuel costs, and commodity pricing, the Util-Assist recommendation at the time was to continue in our attempts to work together in hopes that by acting as a group we could streamline processes (i.e. reduce shipping costs) and increase the volume of meters (i.e. maximize the commodity value for the disposal vendor). By attempting to increase the volume of meters, acting as a group would open up opportunities to negotiate a No-Cost Option with the chosen scrap vendor. This option would see the vendor take the redundant meters from the utility under a guarantee of no cost. In exchange for the security associated with this cost free option, the vendor would retain any value associated with the scrapped meters. In this scenario, the scrap vendor would accept the risk associated with the commodity prices and shipping costs in exchange for their any associated value. In the event that the spot market prices were lower than anticipated, the scrap vendors could potentially store meters until pricing allowed for a more lucrative transaction.

In part these recommendations were due to the low value of the meters. For most utilities the volume of meters together with the commodity prices did not warrant the effort associated with attempts to increase the return for the scrap. Found within the Barrie Metals response (below), there is a chart which demonstrates the recent decreases in commodity prices which further supports this recommendation for pursuing No Cost options.

Request for Information: 2008

Recently Util-Assist, on behalf of their customers, released an RFI to scrap vendors in order to acquire any updates regarding pricing and/or procedural considerations since the 2006 OUSM research was concluded. It was hoped that by providing an RFI to meter disposal firms as a collective group, the buying power incentives described above would result in proposals to handle the scrap meters for the group in an efficient, cost effective manner.

While the proposals received did indicate some significant changes from the procedural requirements described in 2006, we were somewhat disappointed by the number of responses which were received. However, 2 of the 3 proponents which responded did express interest in providing the service to all utilities cited in the RFI. Additionally, 2 of the 3 firms did indicate a willingness to negotiate No Cost Options with the utilities. In this regard, the RFI exercise was considered successful.

What we asked . . .

A main objective in considering Proponent submissions will be to maximize the overall value to the interested utilities as well as to ensure the best process is utilized in order, with the end result being to minimize environmental impact.

To this end, Proponents were asked to describe their disposal process (clearly explaining the expectations of the utility partner), costing options, and a general description of company stability.

1. Anticipated Procedure

Based on our research in 2006, we described, within the RFI, several options which the utilities might be asked to utilize, then for ease of response asked the Proponent to indicate the preferred option:

All Inclusive Bin: Option A

This option would involve the disposal vendors, or recycling companies, provide bins to utilities whereby the utility simply places the meters in the bin for disposal. In this case, there is no labour associated with glass separation, or disassembly of the meter in any way. In most cases during the meter exchange process, the install personnel will place the redundant meter in the package in which the smart meter was received (i.e. cardboard box). This all inclusive option then would include instances where the install personnel dispose of boxes of meters.

Semi-Inclusive Bin: Option B

This option would be similar to Option A, in that no disassembly of the meters is required, however, cardboard separation is required. In this case it would be expected that the vendor would provide 2 bins. One bin for cardboard, one bin for meters.

Glass Exclusive Bin: Option C

As opposed to the first two options, in this option it is a requirement that the glass cover be separated from the meter. This will require labour on behalf of the utility to separate the components. If any further disassembly is required, this should be clearly explained.

Changes from then to now . . .

- In 2006 all vendors described the procedural requirement for glass separation. This was a result of a combination of safety concerns in shipping/handling process, as well as the fact that the glass covers have little (or no) value. Due to the composition of the glass (covers are not 100% glass) there were no companies capable of recycling the glass covers.
- Responses to this RFI indicated that the preference was for the meters, during the exchange process, to be put back into the meter boxes, and stacked either on skids or directly into the disposal bins (depending on the vendor). This provides some significant

procedural improvements over the requirement to separate glass. This will provide utilities with savings on their Installation Services contract, as there will be a decrease in the labour component of preparing the meters for disposal.

2008 RFI RESULT	
GEEP	• Option A (reskidded)
GPE	• Option A (boxes into bin)
RTI	• Option B

Placing the boxes directly into bins will likely result in fewer pickups due to the bins holding higher volumes of meters. This may be a consideration for larger utilities. Alternatively, the process of reskidding the meters may provide some flexibility for smaller utilities as transporting skids of meters may result in some lower cost shipping options (i.e. vans, etc). In 2006 Barrie Metals proposed the use of bins, so we would anticipate that they could also provide the option here, and may have provided this alternative to demonstrate flexibility for the smaller utilities.

2. Costing Options

Proponents were asked to describe how utilities would receive any residual value from the redundant meters. In 2006, there were several methods described by the various vendors. Some vendors wanted to resell the meters, some wanted to break them down for scrap, and some wanted to ship the meters to other markets (i.e. China) for disassembly and scrap processing. At the time, utilities (due to the relatively low value) felt most comfortable with the local scrapping option. Reasons for this included:

- Resale of meters would mean added labour to separate the sought after models, from the models that were not considered of value. While the sale price of certain models exceeded the scrap value, the proportion of this meter type was relatively low for most utilities, and therefore not worth the labour to sort.
- Utilities had some concerns with the potential re-use of scrapped meters in other markets given that the badge plate information would likely remain intact under the assumption that the meter had been scrapped. Recycling certificates from vendors demonstrating destruction and sale for commodity value alleviated this concern, making local scrapping the preferred process.

For local recycling vendors, the scrap value would be based on the spot market commodity price. Due to the volatility in the market, vendors would not commit to a price per pound for the scrap in 2006, and this was consistent with the RFI responses. Where vendors provided the spot market pricing as an option for reimbursement to utilities, example calculations were provided to clarify the process. Utilities need to be cognizant of the fact however, that due to the volatility in the market, there is no guarantee that the utility would receive reimbursement under this model. The situation may arise, where utilities would have to pay to have the meters recycled.

With this in mind Util-Assist provided the following description of a No-Cost option:

No Cost Option: Option D

Proponents are asked to indicate whether they would be agreeable to negotiating a contract which would have the disposal vendor acquire the redundant meters, cover the cost of shipping, with no cost to the utility. With the current commodity prices, preliminary research shows that in most cases there would be payment to the utilities for the assets. From this payment the cost of shipping would be paid by the utility, leaving some quantity of “profit” for the utility.

For risk mitigation purposes, the Interested utilities are agreeable to foregoing this “profit” should the Proponent wish to accept the risk associated with the commodity price fluctuation.

2008 RFI RESULT		
<i>Proponent</i>	<i>Utilities of Interest</i>	<i>Cost Option</i>
GEEP	• All	• Commodity price proposed, with expression of interest to negotiating Option D depending on number of utilities interested in committing to using GEEP
GPE	• All	• Mix: Option D proposed for utilities close to the GPE location, then depending on the utility location there were 2 other options proposed – commodity price, and a cost + 15% model.
RTI	• Limited to specific locations (however, they went on to say that if more utilities were interested, they would be willing to discuss options)	• Option B or D were indicated, as well as a note that if more utilities were interested, discussions may result in more utilities under Option D. As Option B was a procedure, if Util-Assist customers are interested in pursuing this vendor, clarity would be required for this response.

This variation supports the need to work as a group under the understanding that fuel and commodity prices are driving the value of the asset, not solely the value of the intrinsic components.

3. Company Stability

While company stability is generally an important consideration, the contracts which many utilities will enter into for this service, may be short lived. Therefore, company stability is not likely a consideration which will drive this decision.

2008 RFI RESULT

GEEP	Large company, considered stable.
GPE	Large company, considered stable.
RTI	Small company, but not considered a risk due to relatively short contract term.

Util-Assist Recommendation

Based on the volatility in the market, and the significant cost of shipping in today's environment, Util-Assist would encourage all utilities to work together to implement efficiencies where possible thereby reducing cost, but also environmental impact resulting from disposal of the redundant meters. Based on the low value of the meters, the negative press associated with less eco-friendly options may end up being more costly than the possible return on the scrap meters.

To this end, we would ask that utilities indicate their preference for scrap vendor, as well as indicate the priority they place on their selection. So, if a utility were to select Vendor A, they should also indicate whether acting as a group is in actuality more important than the vendor that is selected, or whether their intention is to utilize Vendor A regardless of the group's decision. Util-Assist realizes that utilities also have relationships with scrap vendors which may have chosen not to respond to this RFI. If you intend to pursue this relationship, we would ask that you indicate this intention.

It would also be Util-Assist's recommendation that utilities attempt to negotiate a No-Cost Option for removal of their scrap meters. Reviewing the responses shows that GEEP and GPE clearly indicate an interest in working with all utilities. RTI does not indicate this in their response. Were a utility to engage them, they may be interested, but based upon the response, this company does not seem to be an option for all utilities. Past experience shows that working as a group brings efficiencies and value to the process, so we would recommend selecting a vendor which indicates an interest in all utilities.

Util-Assist is agreeable to negotiating with the vendors on your behalf, should you indicate that this is your preference. However, we will not select the vendor for you, so please ensure you have completed the spreadsheet which demonstrates your preferences. If the results are less than clear, we will formulate a communication plan which will provide Util-Assist with clarity on the direction from the group.

Next Steps

Utilities are asked to complete the attached spreadsheet and return it to Util-Assist no later than XXX, 2009.

If all utilities indicate that the process is a higher priority than the vendor selected, and that Util-Assist should engage the vendor selected by the utilities (majority rule), we will begin this process. If the vendor is interested in negotiating a No-Cost contract for all utilities, Util-Assist will report back to the utilities looking for direction.

We thank you in advance for completing the spreadsheet so that we can work to acquire clarity on one of the final components of your deployment strategy.

If you have any final questions or concerns, please do not hesitate to call.

Vendor Responses

APPENDIX “A”

Vendor Response: Barrie Metals

The logo for util-assist features the text "util-assist" in a white, lowercase, sans-serif font. To the left of the text is a stylized white graphic consisting of several overlapping, curved lines that suggest a globe or a network.

utility strategic operational assistance

Request for Information

For

Util-Assist

**Original (1), Hard Copies (3) and Electronic Copy Couriered:
December 29, 2008 for December 30, 2008 deadline**



geep

Global Electric Electronic Processing



220 John St.
Barrie, Ont.
L4N 2L2
Phone 1-705-725-1919
Fax 1-705-728-9440

December 29, 2008

James Douglas
Util-Assist Inc.
17705 Leslie St.,
Suite 103
Newmarket, ON L3Y 3E3

Please find attached the RFI response for Util-Assist Inc. from Global Electric Electronic Processing (GEEP) Inc.

GEEP Inc. has proposed its own unique solution for the management of all member utilities' surplus meters resulting from the Smart Metering Initiative. Included are responses to Sections 1 through 4 as outlined within the RFI, including additional documentation highlighting our safety and environmental policies. We have also included in our submission a graphic representation of market declines over the last right months to further illustrate the changes in the economic landscape with focus on commodity values.

GEEP's vision highlights "our processes and operational excellence coupled with genuine concern for the environment and innovative spirit, make us the leaders and first choice in the field of electronics recycling and waste diversion". We look forward to working with Util-Assist and the member utilities as a comprehensive service provider. Please do not hesitate to contact me should you require any further information and we would welcome the opportunity to showcase our abilities with a site visit and tour for Util-Assist and other utility delegates.

Best regards,

Catherine King
GEEP Inc/Barrie Metals Group of Companies
cking@geepglobal.com



Section 1



Executive Summary for the Management of Surplus Meters Program For Util-Assist

Global Electric Electronic Processing (GEEP) Inc., a private Canadian majority owned company, is one of the largest, most technologically advanced, integrated, e-waste asset management companies in the world. GEEP is a global company that also provides full national and international asset return and management services. With proprietary software and equipment, complimented by a strict adherence to ISO standards, GEEP recycles electronic waste, wire and cable into commodities with a zero landfill objective. As part of the Barrie Metals Group of Companies, GEEP benefits from the structure and expertise over 25 years of business experience in Canada and abroad.

GEEP is committed to offering services that are tailored to our customers' specifications. These services range from short term and extended term warehousing, specified inventory and stock keeping, resale, refurbishing, redeployment, secure data destruction, sortation and recycling. All of our processes have detailed procedures and key performance indicators identified and tracked. We provide complete in-house processing within North America. We have strategic alliances within the Asia/Pacific region and the EMEA region (Europe, Middle East and Africa) and continue to expand.

The Barrie Metals Group of Companies is one of the most environmentally proactive recycling firms in North America. As one of the largest privately held recycling companies in Canada, Barrie Metals Inc. is an integrated metal management company which has developed a significant service portfolio in the commercial sector based on a reputation for honesty, integrity and excellent service. We also operate an industrial supply store and steel distribution center under the Automatic Steel branding. We provide a complete range of ferrous and non-ferrous recycling capabilities to a variety of suppliers. All of this has created

and promotes a strategy that has allowed the company to be a one-stop facility for electric and electronic equipment processing.

GEEP Inc / Barrie Metals Group of Companies have been recognized for their innovation and leadership in recycling.

- On February 6, 2006, out of approximately 2,500 companies, Barrie Metals Group of Companies (includes GEEP) was named one of Canada's 50 Best Managed Companies. Established in 1993, the 50 Best Managed award is a national program, recognizing Canadian companies that have implemented world-class business practices and created value in innovative ways. It is sponsored by Deloitte, CIBC Commercial Banking, National Post, and Queen's School of Business.
- GEEP was awarded a silver award for Waste Diversion Program Operator at 2007 Ontario Waste Minimization Awards; the annual awards are presented by the Recycling Council of Ontario.
- In November of 2006, GEEP was invited to speak at an international recycling conference in Shanghai, China. This honor demonstrates recognition of GEEP as an international authority on e-waste recycling.

Scope of Work: Util-Assist requires the services of a Materials Management company to provide a comprehensive solution for a vast array of municipalities requiring the management of surplus hydro meters. This request for information will summarize the capabilities of GEEP Inc. and the entire Barrie Metals Group of Companies family creation of a positive business relationship between Util-Assist and Barrie Metals Group of Companies, 220 John Street, Barrie, ON L4N 2L2.

The following is proposed by GEEP Inc. in response to the need for management of surplus hydro meters through the Smart Metering Initiative:

- Processing of surplus meters via:
 1. All locations of Util-Assist's member utilities would replace the meters within the cardboard boxes once removed through the initiative.
 2. Cardboard boxes containing meters would be re-skidded by originating location and loaded onto a van trailer or like vehicle for transport. These would then be delivered to GEEP Inc.'s Barrie, Ontario location.
 3. Management of surplus meters resulting in ferrous and non ferrous residuals
 4. Full account management, payment and accounting facilitation including dedicated Account Manager, and Trading/Administrative team including Accounts Payable and Account Administration.

Section 2 – Bidder Information

2.1 Experience

- i. The Barrie Metals Group of Companies has been operating for over 24 years. September 2009 marks our 25th anniversary as a vibrant and vital member of the business community within Barrie.
- ii. Global Electric Electronic Processing (GEEP) Inc. as part of the Group of Companies has been facilitating electronics recycling for over 11 years. With our large processing capacity and proprietary equipment, GEEP Inc. has swiftly become a noted and respected member of the recycling community.
- iii. The Barrie Metals Groups of Companies consists of ferrous and non ferrous scrap divisions (Barrie Metals Inc.), accompanied by GEEP Inc (electronics recycling division), Automatic Steel (retail steel outlet and fabrication warehouse), Nano Fuels and NAM Labs and Assayers. Our primary line of business is scrap and electronics recycling working in collaboration. The percentage of business derived from our recycling services and related divisions is approximately 95%.

2.2 Company Size and Location

The Barrie Metals Group of Companies currently employs 450 staff members. Our international headquarters is located at:

- 220 John Street,
Barrie, Ontario
L4N 2L2

Our employees are dispersed amongst our Barrie headquarters and GEEP Inc.'s joint venture locations across Canada and our international locations and affiliates. In the last three (3) years our employee turnover rate has been negligible.

2.3 Financial Statements

In light of the tumultuous events in the global economy over the last few months, we have progressed on the basis of sound financial management and investing in our people. Despite the outward pressures and continuing market volatility, GEEP Inc. has continued to receive and process vast volumes of material. GEEP Inc is a privately held company and as such, we do not release financial statements or such proprietary information. We can however indicate that we have added six Canadian and international joint venture partners in the last 12 months and continue to expand on a global scale. We acknowledge that in such uncertain times, Util-Assist and the member utilities it represents are seeking a professional, financially

sound, comprehensive service provider partner throughout the duration of the Smart Metering Initiative. GEEP Inc. as part of the Barrie Metals Group of Companies is that solution throughout the project and beyond.

2.4 References

Please note that we have provided two references below regarding our capabilities relating to surplus hydro meters. We would be happy to elaborate with additional references in future; however as this is the height of the holiday season, some individuals are unable to be reached.

We can offer the following two references who can speak to our services:

- Richard Rumney, Investment Recovery
416-904-6931
- Bill Laver, COLLUS Power
705-441-5735

2.5 Environmental Policy

GEEP Inc. is a leader in environmental excellence with regards to electronics recycling. We are ISO 9001 and 14000 certified and have a mandate to obtain a zero landfill objective. GEEP Inc. holds the safety of its employees and the environment as its most important priorities in daily operations. GEEP Inc. has both a written safety policy and environmental policy. Copies of both are appended in Section 4. These demonstrate our commitment to continually upholding standards of excellence in terms of safety and the environment. Our policy does include a commitment to continuous improvement and we also have documented performance objectives with regards to the environment, including:

- A documented zero landfill objective.
- Maintain a registered Environmental Management system conforming to ISO 14001 and comply with all applicable environmental laws and regulations in all aspects of our business.
- Determine strategies for business activity that promote sustainable development.

GEEP Inc. employees understand, accept and share the environmental values as dictated within our Environmental Policy. Every employee is trained upon hire and this is updated on an annual basis. Open dialogue is encouraged in terms of our environmental policy so that GEEP Inc. can ensure committed and informed adherence to our Environmental Policy by all. In addition, our corporate Compliance Department continually identify environmental aspects, objectives/targets and monitor the successful implementation and conformance to such measures.

Section 3: Requested Information

3.1.1 Meter Disposal Territory

Please find our selection in terms of the potential service territories below:

Proponent Name: GEEP Inc (Barrie Metals Group)

Interested Utilities	Approximate Meter Total for Recycling	Proponent Is Interested In this Territory?	Option Proposed
Atikokan Hydro Inc.	1556	Yes	GEEP Option (in response)
Barrie	53031	Yes	GEEP Option (in response)
Brant County Power Inc.	7500	Yes	GEEP Option (in response)
Brantford Power Inc.	30814	Yes	GEEP Option (in response)
Cambridge and North Dumfries	39846	Yes	GEEP Option (in response)
Canadian Niagara Power Inc.	21641	Yes	GEEP Option (in response)
Centre Wellington Hydro Ltd.	5070	Yes	GEEP Option (in response)
Chapleau Public Utilities Corporation	1233	Yes	GEEP Option (in response)
COLLUS Power Corp.	11628	Yes	GEEP Option (in response)
Espanola Regional Hydro Distribution	3018	Yes	GEEP Option (in response)
Fort Albany Power Corporation	0		GEEP Option (in response)
Fort Frances Power Corporation	3412	Yes	GEEP Option (in response)
Grand Valley Energy Inc.	610	Yes	GEEP Option (in response)
Great Lakes Power Limited	10235	Yes	GEEP Option (in response)
Grimsby Power Incorporated	7786	Yes	GEEP Option (in response)
Haldimand County Hydro Inc.	17940	Yes	GEEP Option (in response)
Hearst Power Distribution Ltd.	2476	Yes	GEEP Option (in response)
Innisfil Hydro Distribution Systems	11710	Yes	GEEP Option (in response)
Kenora H.E. Corp. Ltd.	5225	Yes	GEEP Option (in response)
Kitchener-Wilmot Hydro	65869	Yes	GEEP Option (in response)

Lakefront Utilities Inc.	7574	Yes	GEEP Option (in response)
Lakeland Power Distribution Ltd.	7900	Yes	GEEP Option (in response)
Midland Power Utility Corporation	5697	Yes	GEEP Option (in response)
Niagara Peninsula Energy Inc.	42043	Yes	GEEP Option (in response)
Niagara-on-the-Lake Hydro Inc.	6161	Yes	GEEP Option (in response)
Norfolk Power Distribution Inc.	15804	Yes	GEEP Option (in response)
North Bay Hydro Distribution Inc.	20941	Yes	GEEP Option (in response)
Northern Ontario Wires Inc	5733	Yes	GEEP Option (in response)
Orangeville Hydro Limited	8441	Yes	GEEP Option (in response)
Orillia Power Distribution Corporation	10898	Yes	GEEP Option (in response)
Parry Sound Power Corporation	2863	Yes	GEEP Option (in response)
PowerStream	90000	Yes	GEEP Option (in response)
PUC Distribution Inc.	29070	Yes	GEEP Option (in response)
Rideau St. Lawrence Distribution Ltd.	5124	Yes	GEEP Option (in response)
Sioux Lookout Hydro Inc.	2454	Yes	GEEP Option (in response)
Thunder Bay Hydro Electricity Distrib.	44213	Yes	GEEP Option (in response)
Wasaga Distribution Inc.	8434	Yes	GEEP Option (in response)
Waterloo North Hydro	39971	Yes	GEEP Option (in response)
Welland Hydro Electric System Corp.	19130	Yes	GEEP Option (in response)
Wellington North Power Inc.	2948	Yes	GEEP Option (in response)
Westario Power Inc.	18187	Yes	GEEP Option (in response)
Whitby	27000	Yes	GEEP Option (in response)

Potential Total of Redundant Meters: 721186

GEEP Inc. is interested in providing surplus meter management to all of the aforementioned member utilities. We respectfully offer and propose our own unique solution for this request. All freight costs would be incurred by the utilities; however, we can certainly provide LTL estimates, etc. for such materials in order to aid them in their arrangements. Each member utility would be responsible for delivering their respective surplus meters to our 220 John Street, Barrie, Ontario location; however, a potential exception may be available for some of the more northern locations; their materials may be delivered to our GEEP Edmonton location should this be a more practical option. This would of course be examined and the feasibility discussed should negotiation ensue. Our recommendation would be for a centralized and dedicated consolidation site within each group; however, as each utility would be responsible for their own freight costs, this would of course be the choice of each utility, based on their unique position and location.

3.1.2 Meter Disposal Process

GEEP Inc. would respectfully request that all member utilities place the redundant meters into the cardboard boxes left empty by Smart Meter placement. Once the old meters are placed within the cardboard boxes, the utilities would have these 're-skidded' or restacked on skids and

shrink-wrapped. GEEP Inc. is happy to provide a step by step instructional document to outline this process should this be the choice of the utilities. This re-skidded material would then be loaded via the utility onto van trailers for delivery to our 220 John Street, Barrie, Ontario locations unless otherwise agreed upon.

GEEP Inc's logistics and warehouse team would receive the materials at our location and commence the management of the surplus meters. GEEP Inc. has proprietary equipment that facilitates the processing of these materials resulting in ferrous and non ferrous metals for recycling. We would welcome the opportunity to entertain Util-Assist and designate from the member utilities to showcase this machinery and our capabilities through an on site visit and tour. All incoming materials would be weighed and customized reporting would be produced to accompany any rebates outlining received weights, net weights, breakdowns, etc. to assist in the payables process.

Please note that as per response A7 to the RFI questions, 100% of the scrap metal is recycled as is the cardboard and wood included in our proposal model.

3.1.2.4 No Cost Option: Option D

GEEP Inc. would entertain and explore the possibility of a no cost option should negotiations be entered into; however, this option would require greater discussion and review of market conditions at that time. We concur that utilities should not have to concern themselves with 'dealing in scrap'; as such we would offer ourselves a full service and integrated solution for surplus meters. We look forward to further discussing our position with Util-Assist or responding to an RFQ, in terms of the follow up for this submission.

3.1.2.5 Shipping

Costs for shipping would be incurred by the member utilities in terms of the model of service we have described and proposed herein.

3.1.3 Pricing Spreadsheet

GEEP Inc. would offer a rebate or payment to each member utility on a price per pound (per lb.) basis in Canadian funds. Due to market conditions currently, we can offer *spot pricing only*, \$0.075/lb CDN Funds as per below.

Proponent Name: GEEP Inc.(Barrie Metals Group)

Interested Utilities	Approximate Meter Total for Recycling	Proponent Is Interested In this Territory?	Option Proposed	<i>Spot Price</i>
Atikokan Hydro Inc.	1556	Yes	GEEP Option	\$0.075/lb CDN
Barrie	53031	Yes	GEEP Option	\$0.075/lb CDN
Brant County Power Inc.	7500	Yes	GEEP Option	\$0.075/lb CDN
Brantford Power Inc.	30814	Yes	GEEP Option	\$0.075/lb CDN
Cambridge and North Dumfries	39846	Yes	GEEP Option	\$0.075/lb CDN
Canadian Niagara Power Inc.	21641	Yes	GEEP Option	\$0.075/lb CDN
Centre Wellington Hydro Ltd.	5070	Yes	GEEP Option	\$0.075/lb CDN
Chapleau Public Utilities Corporation	1233	Yes	GEEP Option	\$0.075/lb CDN
COLLUS Power Corp.	11628	Yes	GEEP Option	\$0.075/lb CDN
Espanola Regional Hydro Distribution	3018	Yes	GEEP Option	\$0.075/lb CDN
Fort Albany Power Corporation	0			
Fort Frances Power Corporation	3412	Yes	GEEP Option	\$0.075/lb CDN
Grand Valley Energy Inc.	610	Yes	GEEP Option	\$0.075/lb CDN
Great Lakes Power Limited	10235	Yes	GEEP Option	\$0.075/lb CDN
Grimsby Power Incorporated	7786	Yes	GEEP Option	\$0.075/lb CDN
Haldimand County Hydro Inc.	17940	Yes	GEEP Option	\$0.075/lb CDN
Hearst Power Distribution Ltd.	2476	Yes	GEEP Option	\$0.075/lb CDN
Innisfil Hydro Distribution Systems Ltd.	11710	Yes	GEEP Option	\$0.075/lb CDN
Kenora H.E. Corp. Ltd.	5225	Yes	GEEP Option	\$0.075/lb CDN
Kitchener-Wilmot Hydro	65869	Yes	GEEP Option	\$0.075/lb CDN
Lakefront Utilities Inc.	7574	Yes	GEEP Option	\$0.075/lb CDN
Lakeland Power Distribution Ltd.	7900	Yes	GEEP Option	\$0.075/lb CDN
Midland Power Utility Corporation	5697	Yes	GEEP Option	\$0.075/lb CDN
Niagara Peninsula Energy Inc.	42043	Yes	GEEP Option	\$0.075/lb CDN
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Parry Sound Power Corporation	2863	Yes	GEEP Option	\$0.075/lb CDN
PowerStream	90000	Yes	GEEP Option	\$0.075/lb CDN
PUC Distribution Inc.	29070	Yes	GEEP Option	\$0.075/lb CDN
Rideau St. Lawrence Distribution Ltd.	5124	Yes	GEEP Option	\$0.075/lb CDN
Sioux Lookout Hydro Inc.	2454	Yes	GEEP Option	\$0.075/lb CDN
Thunder Bay Hydro Electricity Distrib. Inc	44213	Yes	GEEP Option	\$0.075/lb CDN
Wasaga Distribution Inc.	8434	Yes	GEEP Option	\$0.075/lb CDN

Waterloo North Hydro	39971	Yes	GEEP Option	\$0.075/lb CDN
Welland Hydro Electric System Corp.	19130	Yes	GEEP Option	\$0.075/lb CDN
Wellington North Power Inc.	2948	Yes	GEEP Option	\$0.075/lb CDN
Westario Power Inc.	18187	Yes	GEEP Option	\$0.075/lb CDN
Whitby	27000	Yes	GEEP Option	\$0.075/lb CDN

Potential Total of Redundant Meters: 721186

Section 4: Additional Information

Please find included in this section, a copy of GEEP Inc. Environmental and Safety policies in addition to an explanation of commodity markets decrease over the last 8 months.



E 4200 Enviro
Policy.pdf



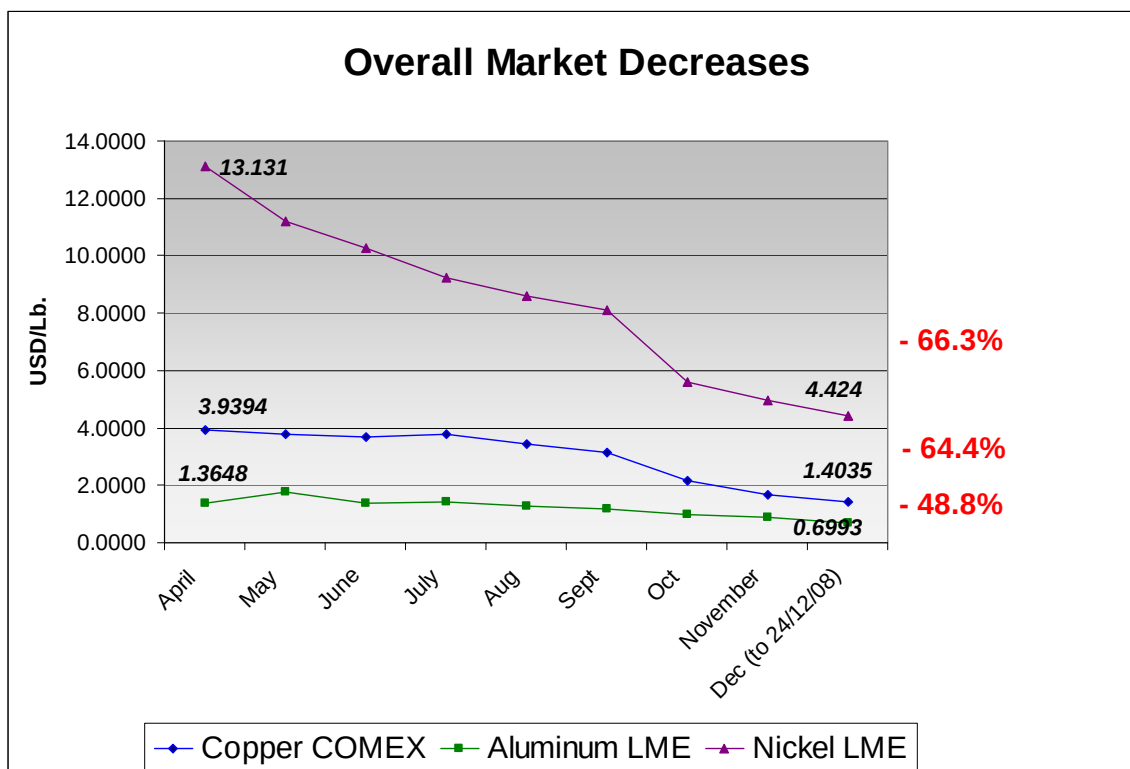
GEEP Safety
Policy2008.pdf



Smart Metering Initiative

*Summation of Market Decreases and
Rationalization for Pricing Structure*

Util-Assist RFI Response



At the commencement of April 2008, commodity values were marginally higher. The decreases that we have witnessed over the last few months have now approached the drastic losses in value as indicated above. Copper has experienced a 64.4% loss of total

value since April 2008; Aluminum has lost 48.8% of its overall value within the same timeframe. Nickel, a commodity also present in the hydro meters, has decreased 66.3%. As a result, the prospective rebate levels on a per pound basis for surplus hydro meters have been drastically altered.

Based on recovery, the typical copper content of a hydro meter (non electronic, glass bearing model) is 29%. The same model typically contains 33% aluminum and 2% Nickel; the remaining percentage is comprised of some steel (no value), glass, plastic and other inorganic material. Applying the overall downward trend of the markets to these recoveries yields a more realistic, adjusted price. As a result of the downward trend of these markets and the content of the material, a spot price of \$0.075/lb. CDN funds is the result. Barrie Metals Group of Companies reserves the right to re-evaluate rebate levels on a monthly basis in light of current market volatility.

BMGC Trading Department
Issued: December 29, 2008



geep

Global Electric Electronic Processing Inc.

E 4200 ENVIRONMENTAL POLICY

Global Electric Electronic Processing Inc (GEEP) produce and sell metals and non-metallic materials derived from a reclamation and recycling service and provide warehousing and distribution services for customer owned telephony and other electronic equipment. As part of our corporate responsibility, we wish to state our position regarding environmental aspects of our business. Our policy states the guiding principles governing our actions and the commitments that ensure we apply our policy.

Guiding Principles:

- We believe protecting the environment is a basic corporate responsibility with regard for health, safety and well-being of our employees and the quality of life for everyone in our community.
- We believe a pro-active approach is necessary for compliance with environmental laws and regulations, for continuous improvement of our environmental performance and for motivation of our employees toward heightened environmental awareness and sensitivity.

Major Commitments:

1. Comply with all applicable environmental laws and regulations in all aspects of our business.
2. Prevent pollution, reduce consumption of energy and materials and ensure safe disposal of residual waste.
3. Assess environmental impact as a prerequisite to starting a new activity.
4. Maintain our ability to identify potential environmental emergencies and be prepared to respond effectively if an emergency occurs.
5. Educate, train and encourage employees to protect the environment in all activities.
6. Promote the adoption of our guiding principles by our suppliers and customers.
7. Maintain a registered Environmental Management System conforming to ISO 14001.
8. Maintain procedures to set and review environmental objectives and targets.
9. Quantify and regularly review environmental performance indicators.
10. Achieve continual improvement by timely, innovative response to changes in aspects and impacts.
11. Determine strategies for business activity that promotes sustainable development.
12. Encourage open dialogue with employees, industrial associates, suppliers, customers, government agencies and the public on all matters of interest regarding our environmental performance
13. Display our environmental policy publicly.

Approvals:

Alfred Hambsch
President
Barrie Metals Group of Companies

Clyde Yorke
CEO
Barrie Metals Group of Companies



geep

Global Electric Electronic Processing Inc.

SAFETY POLICY

GEEP Inc believes that health and safety is the foundation upon which this company continues to build. It is our commitment to ensure that the workplace is a safe and healthy environment. Recognizing that with new technologies and interventions, our workplace is constantly changing, we are committed to ongoing health and safety education, maintaining awareness at all levels.

Managers and supervisors shall be held accountable for the health & safety of workers under their supervision. Managers and supervisors are responsible to ensure that the machinery and equipment are properly maintained and that work is carried out in compliance with the law, and established safe work practices and procedures.

Every worker shall protect his or her own health and safety by working in compliance with the law and with safe practices and procedures established by the company. Workers shall report any unsatisfactory health and safety conditions immediately to their employer.

GEEP Inc is committed to helping employees perform to high standards set by the company by ensuring they are competent with regard to their specific duties and confident in their ability to perform those duties. Thus, employees shall receive, as part of their training, instruction in safe work practices and procedures that apply to working in our industry, and their specific duties in particular. Throughout the course of work, each employee shall protect his/her own health and safety, and that of his/her co-workers, by working in compliance with the law, and the practices and procedures established by the employer.

Although GEEP Inc, as the employer, is ultimately responsible for worker health and safety, employees at all levels shall be committed to making health and safety an integral part of this organization.

I, Alfred Hambsch, President, give you my personal promise that every reasonable precaution shall be taken to ensure the health & safety of all workers.

Alfred Hambsch, President
Barrie Metals Group of Companies

APPENDIX “B”

Vendor Response: Greenport Recycling



By Courier Only:

Quotation: #08-1141

December 30, 2008

Mr. James Douglas
Util-Assist Inc.
17705 Leslie Street, Suite 103
Newmarket, Ontario
L3Y 3E3

Dear Mr. Douglas:

**Re: Request for Information – Due December 30, 2008 @ 3:00 p.m. EST
Meter Disposal Services – RFI 2008-0512**

In response to the attached RFI dated December 5, 2008 and Response to RFI Questions dated December 19, 2008, Green-Port Environmental Managers Ltd. (GPE) is pleased to submit its proposal as follows:

Format of Submission:

We have included one original and three copies c/w supporting data. The electronic version will be forwarded by email.

Section 1: Executive Summary

- **Business History:** GPE has been in business since 1995 providing turnkey PCB site services, decommissioning of substations and recycling the <50 ppm oil and transformers for over 37 hydro utilities.
- **ISO Certification:** GPE is ISO 9001:2000 Quality Management and ISO 14001:2004 Environmental Quality Management certified and copies of these certificates are included in its tender submission.
- **Insurance/WSIB Certificates:** GPE carries \$5M General Liability and \$1M Pollution Event Insurance as well as WSIB coverage for its workers on utility sites. Each utility will be named as additional insured before the project commences.
- **New Recycling Facility:** GPE is opening up a licensed facility for the recycling of <50 ppm PCB oil-filled transformers and associated electrical equipment including hydro meters, at 64 Todd Road in Halton Hills, Ontario at the end January, 2009. Accordingly we are well situated to handle all the quantities from all utilities on an annual basis according to the enclosed MOE Certificate of Approval 0233-757NH2.
- **New Green Initiatives:** Util-Assist is welcome to audit this facility as soon as we open for business. In keeping with corporate principles of reducing GPE's carbon footprint and in addition to being a recycling company, we have incorporated 26 large, medium and small-scale "Green Initiatives" into the above facility to comply with LEED equivalency.
- **Recycling Process:** GPE presently recycles 96% of the materials received at its facility and expects to improve on that statistic after installation of in-line process equipment. GPE has its sights set on additional research with the intent to recycling the glass from the hydro meters as well as the ceramic insulators from the transformers.

- **Cost Structure: GST Extra, PST Incl.**

We have included a detailed cost breakdown for each utility as per the attached pricing spreadsheet dated December 30, 2008.

- **Certificates of Recycling/Disposal:** GPE will provide these to the utilities for these hydro meters, since we do this routinely as a full service PCB contractor. We would customize these Certificates to Util-Assist's standards
- **Corporate Environmental Policy:** GPE has a corporate mission to provide the most safe, environmentally sound and cost effective waste management solutions and specialty services possible, to the residential, commercial and industrial sectors in Ontario. We endeavor to meet or exceed our clients' expectations with respect to worker health and safety and environmental compliance. We remain committed to meeting our clients' project and performance schedules.

Section 2: Bidder Information

Section 2.1 Experience

- GPE was established in 1995 as a PCB contractor and was one of the first groups to move PCBs to the US for recycling and incineration until the borders were closed to exports permanently in 1997.
- Since then GPE has become a full-service environmental, recycling and waste services contractor providing < 50 ppm PCB oil and transformer recycling, hazardous and non-hazardous waste transport and disposal (including PCB site services), substation and site decommissioning, waste container services, and scrap metal recycling.
- Over 90% of GPE's business is derived from recycling services and it recycles over 96% by weight of all of the electrical equipment. (See Recycling Process above)

Section 2.2 Company Size and Location

- GPE is a privately held Canadian owned corporation owned by two co-executive officers. The same two GPE co-executive officers also own 2124686 Ont. Inc. a related privately owned corporation that owns the property and building at 64 Todd Road (Halton Hills)
- GPE currently has 11 employees including the two principals. The turnover rate from the past three years has been nil. The current location of GPE is #4 Melanie Drive, Unit #23 and #21 in Brampton, Ontario. We will be moving to our permanent location at Todd Road next month. We also hire four employees over the summer (university or college coop students) and can bring in additional employees according to workload.

Section 2.3. Financials/Insurance

- The annual revenues are as follows:

2005	\$1,440,020
2006	\$2,078,420
2007	\$2,694,892
2008	\$2,988,500

D&B Duns number 25-467-1381
Banking references will be supplied upon request.
- GPE holds \$5M General Liability and \$1M Pollution Event insurance as well as current WSIB certificates. Util-Assist and each utility would be named as additional insured on each certificate. Samples are included in this submission.

Section 2.4. References

Doug Curtiss	Haldimand County Hydro	(905) 765-5211
Brian Laws	Barrie Hydro	(705) 722-7222
John Hall	Powerstream	(905) 832-8562

GPE has had recycling and PCB contracts with over 37 utilities in Ontario:

1. Barrie Hydro
2. Blue Water Power Inc.
3. Brantford Hydro
4. Centre Wellington Power
5. Cambridge & North Dumfries Power
6. Chatham-Kent Hydro
7. ELK Energy Ltd.
8. Enwin Utilities Inc.
9. Essex Power
10. Grimsby Power
11. Haldimand County Hydro
12. Horizon Utilities
13. Innisfil Hydro
14. Lakeland Power
15. London Hydro
16. Middlesex Power
17. Midland Power Utility Corporation
18. Niagara-on-the-Lake Hydro
19. Norfolk Power
20. Orangeville Hydro
21. Orillia Power
22. Oshawa PUC Networks Inc.
23. Ottawa River Power
24. Ottawa Hydro
25. Parry Sound Power Corporation
26. PenWest Utilities Inc.
27. Power Stream Corporation
28. PUC Sault Ste. Marie
29. North Bay Hydro
30. Renfrew Hydro
31. Rideau St. Lawrence Utility
32. St. Thomas Energy Inc.
33. Toronto Hydro
34. Wasaga Power Distribution Inc.
35. Wellington North Power Inc.
36. Welland Hydro
37. Westario Power

Section 2.5. Environmental Policy

- Since GPE has also carried out PCB transformer draining and retro-filling for companies other than just hydro utilities and since GPE also actively decommissions substations with a full recycling program of the transformers, steel towers, cables, batteries, and switchgear, including any asbestos work, we are very aware of the importance of environmental protection.

- We have an Employee Health and Safety Policy Booklet which we have included in this submission. All GPE's employees must first read and be familiar and sign that they have read the above booklet. They are trained in WHMIS, First Aid, Fall Arrest and TDGA.
- GPE also has an Environmental Management Policy and Quality Policy statements, both of which are included in this submission.

Section 3: Requested Information

3.1 Definitive Statement

- GPE confirms that it is interested acting as a service provider to all the hydro utilities identified.
- Since GPE is currently working with over 30 utilities, we will look for ways to optimize the scheduling by grouping locations in proximity in order to maximize loads and minimize collection costs.

3.2 Comprehensive Description of Meter Disposal Process

3.2.1 Collection Process and Observations

- We would propose dropping by tilt-n-load 40 foot used shipping containers for staging and storage of the boxes of obsolete hydro meters in boxes at the major collection points of 10,000 meters or more. These same containers will be used for milk-run at the minor collection points of <10,000 meters.
- We recommend that the same group that installs the smart meter, replaces the used single phase residential meter in the same cardboard box (15" x 15" x 6"). These boxes can be stacked with up to 10,000 meters into 2500 boxes into a 40 foot container at grade. Skids are not required.
- Once full, we would bring in an empty 40 foot container and exchange it for the full container to be transported by tilt-n-load to GPE's recycling facility in Halton Hills.
- We would require feedback from each utility as to the schedule of readiness for pickup and establish which ones have loading docks for loading.
- The actual time frames need to be established for each utility exchanging their hydro meters to accurately plan a milk-run that is efficient. In the meantime, those meters in boxes would have to be stored in some way either on the premises or in shipping containers. If there is no loading dock, the container could be dropped to grade with the container doors at the front of the truck and the cardboard boxes of hydro meters would be individually transferred (live load) from storage into the container. Where there is a loading dock, the utility would load under GPE supervision and assistance. All of this would require coordination in advance.
- Since 95% of all scrap meters are single phase regular style and of these an estimated 95% of all have the glass faces (3.648 lbs each) while the balance will have the plastic faces (2.36 lbs each). The remaining 5% are three phase poly meters with glass faces (8.479 lbs each) and plastic faces (7.612 lbs each). The larger meters would be negotiated separately and are not part of this proposal.
- In Option A, the tilt-n-load return trip from Todd Road in Halton Hills, Ontario to the utility's yard and back is \$120/hour including fuel surcharge and driver with standby hourly cost of \$75/hour. GPE's technician would accompany the driver to assist in the loading of the boxes if necessary at \$45/hour plus overnight allowance of \$200/night for northern locations. GPE 15% mark-up would apply on the above costs.
- These costs would be pro-rated according to distance from Todd Road. For instance, Kenora Utility has 5225 meters, however it is 1855 km from Georgetown. Assuming a transport truck can travel 90 km/hour avg., it will take 20 hours or two days travel one way. The return costs would

be split with the next nearest utilities such as Sioux Lookout, Fort Frances, and Atikokan. As a possible suggestion, these four should bring their aggregate total of 12,647 meters into Thunder Bay Hydro's yard, where they can be staged there in order to reduce costs. That way they could get in on the No Cost – Option D.

- For any hydro yards north of Halton Hills, where space does not accommodate a 40 foot container even though the utility may have >10,000 hydro meters, and the hydro meters have to be cleared every 3,000 at a time, this would fall into the milk-run category or Option "A". No credit would be given for the hydro meters and this would be a cost plus pickup.
- For Option D and E, each 40 foot shipping container rents for \$250/month is included, and the assumption is that once placed at yards (space permitting) where there are >10,000 hydro meters, it will fill up in <3 months. If it takes longer than three months to fill a shipping container, then additional monthly rental applies.
- Note that where boxes of hydro meters (Less Than Load) for LTL situations have to be transferred from the utility's storage area to the shipping container on milk-runs, we expect that the driver, GPE's technician and at least one person from the utility will assist in loading the boxes of hydro meters to reduce standby time for the truck.

3.2.2 Recycling Process:

- After the glass and plastic faces are removed at Todd Road, all obsolete hydro meter metal carcasses will be sent offshore for recycling or to the US and/or domestic scrap recycling.
- GPE also retains the right to ship the scrap hydro meters whole in boxes for reuse offshore.
- Every effort will be made to "zero" landfill the glass/plastic faces.
- At Todd Road, we have a 6" containment area with a footprint of 60'x 110' long. Any glass breakage would be fully contained.
- GPE has already investigated several locations such as Owens-Illinois to determine if they can convert these to beer bottles or other beneficial use.
- All cardboard from the meter boxes will be recycled for beneficial use.

3.3 Cost Structure (GST Extra, PST Incl.)

Option "A": Cost plus 15%

These locations are not in close proximity to GPE's recycling facility and/or do not have sufficient quantity of hydro meters to make up a full container and fall into the milk-run category.

- No credit for hydro meters with disposal/recycling by GPE.
- Tilt-n-load truck: \$120/hour driving & \$75/hour standby time
Includes driver, fuel, shipping container and fuel surcharge/mileage
- GPE technician \$45/hour
- Overnight allowance (if required) \$200/night for driver/operator/technician
- Travel time pro-rated with other utilities on milkrun.
- GPE Markup 15% on total
- Certificate of Recycling/Disposal Included

Option "D": No Cost Option

- Credit for hydro meters included
- Tilt-n-load truck: Included
Includes driver, fuel, shipping container and fuel surcharge/mileage

- Monthly shipping container rental Included for three month period
After three months if it is not filled with 10,000 meters, there will be a rental cost of \$250/month.
- GPE technician Included
- Certificate of Recycling/Disposal Included

Option “E”: Net Indexed Credit/Meter (at time of tender closing: Cu = \$1.3105/lb USD)

- Credit for hydro meters @ \$.10 each CAD, indexed to copper/lb USD based on the NYMEX at time of pickup (see example) with disposal/recycling by GPE.
- <http://www.nymex.com/index.aspx>
- For example: if Cu= \$1.2105/lb USD in 3 months time when we pick up 10,000 intact meters in a full container, the adjusted indexed credit/hydro meter is:
$$\$1.2105/\$1.3105 \times \$1.10/\text{meter CAD} = 92.3\% \times (\$.10/\text{meter}) = (\$.092/\text{meter CAD})$$
- Tilt-n-load truck: Included
Includes driver, fuel, shipping container and fuel surcharge/mileage
- Monthly shipping container rental Included for three month period
After three months if it is not filled with 10,000 meters, there will be a rental cost of \$250/month.
- GPE technician Included
- Overnight allowance Included
- GPE Markup Included
- Certificate of Recycling/Disposal Included

3.4 Payment Terms:

GPE will either invoice or send a credit cheque with reconciliation of meter count and indexed offer/meter within 30 days of pickup.

4.0 Additional Information: New Recycling Facility (64 Todd Road, Halton Hills)

In addition to being a recycling company, in keeping with corporate principles of environmental awareness and in order to reduce GPE’s carbon footprint, GPE has incorporated 26 large, medium and small-scale “Green Initiatives” into its new facility to comply with LEED equivalency.

Large-Scale “Green Initiatives”:

- Passive solar wall on west side of building by Conservall Engineering, which will generate auxillary heat for the office and shop area in the winter.
- Energy efficient heat recovery ventilators (HRVs) and exhaust for office and shop area.
- Hydronic in-floor heating in office and shop with 2” SM insulation under floor slabs zoned for areas in use only.
- Storm water management system that filters all surface runoff at grade into a StormCepter™ for filtration before it is put into the wetlands. This eliminates the need to connect to the storm water sewer.
- Preservation of natural wetlands and habitat on the north east corner of the site.
- Roughed in for future rainwater harvesting system for the back 4/5 of the roof area, which conserves rainwater into a 7000 I.G. tank c/w float levels and hose bib connections on all four sides of building to use “grey water” for our own use (watering lawns, shrubs and dust control) which will greatly reduce the potable water demand on the Town which is on artesian wells.
- Sunlight harvesting c/w triple glazed argon-filled windows at the front and double glazed argon filled high bay windows on both sides of the shop area.
- Epoxy coated containment floor with continuous 6” concrete curbing for secondary containment tanks of oil from transformers, thereby providing triple containment.

Medium-Scale “Green Initiatives”

- R16 insulation value in overhead doors and double glazed vision panels.
- R40 Energy Saver insulation system in ceiling.
- R30 Energy Saver insulation system in walls.
- Magnetic induction energy efficient down lights, wall packs, and floodlights.
- Recycled concrete aggregate surface on roadways and turnaround areas.

Small-Scale “Green Initiatives”

- Galvalume roof with high reflectivity index to prevent “heat sink” effect.
- High-efficiency (96%) gas boiler for hydronic in-floor heating and “just in time” water heating for shower and domestic hot water.
- High efficiency (96%) gas furnace for auxillary office heating.
- High efficiency (94%) air conditioner for the office cooling.
- High-efficiency down draft fans in every bay of shop area.
- CO detector/exhaust fan.
- EnerSave 45 kva step-down transformer.
- Sensors c/w timers to switch lunch room, washroom and office lights on/off when not in use and LED exit lamps.
- Low flush toilets for washrooms.
- EnerSave appliances for the lunch room.
- Drought resistant grasses and shrubs in the landscaping in the turn-around island at the front entrance.
- Rainwater channels on both sides of the façade which water the tree planters at the front every time it rains.

If you have any questions regarding this RFI, please contact the undersigned at (905) 338-3316.

Sincerely,

Peter Wallace

Peter Wallace, P.Eng.
VP Marketing & Development
File: Util-Assist - 1
cc. M. Mittleman, VP Operations (GPE)



**Ministry
of the
Environment** **Ministère
de
l'Environnement**

*PROVISIONAL CERTIFICATE OF APPROVAL
WASTE DISPOSAL SITE
NUMBER 0233-757NH2
Issue Date: October 29, 2007*

Ontario

Green-Port Environmental Managers Ltd.
4 Melanie Dr Unit 23
Brampton, Ontario
L6T 4L1

Site Location: 64 Todd Road
Halton Hills Town, Regional Municipality of Halton

You have applied in accordance with Section 27 of the Environmental Protection Act for approval of:

a 1.7-hectare waste disposal site serving the Province of Ontario

to be used for waste processing, limited to dismantling of non-hazardous waste equipment consisting of electrical transformers and related electrical equipment.

Note: Use of the site for any other type of waste is not approved under this Certificate, and requires obtaining a separate approval amending this Certificate.

For the purpose of this Provisional Certificate of Approval and the terms and conditions specified below, the following definitions apply:

- (a) **"Act"** means the *Environmental Protection Act*, R.S.O. 1990, c.E-19, as amended;
- (b) **"O. Reg. 347"** means Ontario Regulation 347, R.R.O. 1990, General - Waste Management, made under the *Act*, as amended from time to time;
- (c) **"Certificate"** means this entire provisional Certificate of Approval, issued in accordance with Section 39 of the *Act*, and includes any schedules to it, the application and the supporting documentation listed in schedule "A";
- (d) **"Owner"** means any person that is responsible for the establishment or operation of the Site being approved by this Certificate, and it includes Green-Port Environmental Managers Ltd., its successors and assigns;

- (e) **"Site"** means the approved waste disposal site located at 64 Todd Road in the Town of Halton Hills, Regional Municipality of Halton;
- (f) **"residual solid waste"** means solid waste, limited to porous, ceramic and rubber waste resulting from the waste processing activities at the Site and to waste resulting from the housecleaning activities at the Site. **Residual solid waste** is the waste that cannot be re-used or recycled and that is destined for final disposal;
- (g) **"waste oil"** means waste oil that is not a hazardous waste and that is not a PCBs waste as defined in O.Reg 347 and O.Reg. 362;
- (h) **"PCBs"** means any monochlorinated or polychlorinated biphenyl or any mixture of them or any mixture that contains one or more of them, as defined in O.Reg. 362;
- (i) **"District Manager"** means the District Manager of the Halton-Peel District Office of the Ministry;
- (j) **"Director"** means any Ministry employee appointed in writing by the Minister pursuant to section 5 of the *Act* as a Director for the purposes of Part V of the *Act*;
- (k) **"Ministry"** means the Ontario Ministry of the Environment;
- (l) **"OWRA"** means the *Ontario Water Resources Act*, R.S.O. 1990, c. O.40, as amended;
- (m) **"PA"** means the *Pesticides Act*, R.S.O. 1990, c. P-11, as amended from time to time;
- (n) **"NMA"** means *Nutrient Management Act*, 2002, S.O. 2002, c. 4, as amended from time to time;
- (o) **"SDWA"** means *Safe Drinking Water Act*, 2002, S.O. 2002, c. 32, as amended from time to time;
- (p) **"Provincial Officer"** means any person designated in writing by the Minister as a provincial officer pursuant to Section 5 of the *OWRA* or Section 5 of the *EPA* or Section 17 of *PA* or Section 4 of *NMA* or Section 8 of *SDWA*.
- (q) **"rejected waste"** means the incoming waste received at the Site that does not meet the incoming waste quality criteria set out in this Certificate;
- (r) **"trained personnel"** means knowledgeable in the following through instruction and/or practice:
 - (i) relevant waste management legislation, regulations and guidelines;
 - (ii) major environmental concerns pertaining to the waste to be handled;
 - (iii) occupational health and safety concerns pertaining to the processes and wastes to be handled;
 - (iv) management procedures including the use and operation of equipment for the processes and wastes to be handled;
 - (v) records keeping procedures;
 - (vi) emergency response procedures;
 - (vii) specific written procedures for the control of adverse effects from the Site;
 - (viii) specific written procedures for refusal of unacceptable waste loads; and
 - (ix) the requirements of this Certificate;
- (s) **"waste equipment"** means non-hazardous waste consisting of electrical transformers and related electrical equipment;
- (t) **"O. Reg. 362"** means Ontario Regulation 362, R.R.O. 1990, Waste Management - PCBs, made under the *Act*, as amended from time to time.

You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. GENERAL Compliance

- (1) The Owner shall ensure compliance with all the conditions of this Certificate and shall ensure that any person authorized to carry out work on or operate any aspect of the Site is notified of this Certificate and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
- (2) Any person authorized to carry out work on or operate any aspect of the Site shall comply with the conditions of this Certificate.

Build, etc. in Accordance

- (3) Except as otherwise provided by this Certificate, the Site shall be designed, developed, built, operated and maintained in accordance with the application for this Certificate dated November 30, 2006 and signed by Peter Wallace, VP Design & Development, Green-Port Environmental Managers Ltd. and the supporting documentation listed in the attached Schedule "A".

Interpretation

- (4) Where there is a conflict between a provision of any document, including the application referred to in this Certificate and the conditions of this Certificate, the conditions in this Certificate shall take precedence.
- (5) Where there is a conflict between the application and a provision in any documents listed in Schedule "A", the application shall take precedence, unless it is clear that the purpose of the document was to amend the application and that the Ministry approved the amendment.
- (6) Where there is a conflict between any two documents listed in Schedule "A", other than the application, the document bearing the most recent date shall take precedence.
- (7) The requirements of this Certificate are severable. If any requirement of this Certificate, or the application of any requirement of this Certificate to any circumstance, is held invalid or unenforceable, the application of such requirement to other circumstances and the remainder of this Certificate shall not be affected thereby.

Other Legal Obligations

- (8) The issuance of, and compliance with the conditions of this Certificate does not:
 - (a) relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement; or
 - (b) limit in any way the authority of the Ministry to require certain steps be taken or to require the Owner to furnish any further information related to compliance with this Certificate.

Adverse Effects

- (9) The Site shall be constructed, operated and maintained in a manner which ensures the health and safety of all persons and prevents adverse effects on the natural environment or on any persons.
- (10) The Owner shall take steps to minimize and ameliorate any adverse effect on the natural environment or impairment of water quality resulting from the Site, including such accelerated or additional monitoring as may be necessary to determine the nature and extent of the effect or impairment.
- (11) Despite an Owner or any other person fulfilling any obligations imposed by this Certificate, the person remains responsible for any contravention of any other condition of this Certificate or any applicable statute, regulation, or other legal requirement resulting from any act or emission that caused the adverse effect to the natural environment or impairment of water quality.
- (12) If at any time odours, pests, litter, dust, noise or other such negative effects are generated at this Site and cause an adverse effect, the Owner shall take immediate appropriate remedial action that may be necessary to alleviate the adverse effect, including suspension of all waste management activities if necessary.

Change of Owner

- (13) The Owner shall notify the Director in writing, and forward a copy of the notification to the District Manager, within thirty (30) days of the occurrence of any changes:
- (a) the ownership of the Site;
 - (b) the operator of the Site;
 - (c) the address of the Owner;
 - (d) the partners, where the Owner is or at any time becomes a partnership and a copy of the most recent declaration filed under the Business Names Act, R.S.O. 1990, c. B.17, as amended, shall be included in the notification;
 - (e) the name of the corporation where the Owner is or at any time becomes a corporation, other than a municipal corporation, and a copy of the most current information filed under the Corporations Information Act, R.S.O. 1990, c. C.39, as amended, shall be included in the notification.
- (14) No portion of this Site shall be transferred or encumbered prior to or after closing of the Site unless the Director is notified in advance and sufficient financial assurance is deposited with the Ministry to ensure that these conditions will be carried out. In the event of any change in ownership of the Site, other than change to a successor municipality, the Owner shall notify the successor of and provide the successor with a copy of this Certificate, and the Owner shall provide a copy of the notification to the District Manager and the Director.

Inspections by the Ministry

- (15) No person shall hinder or obstruct a Provincial Officer from carrying out any and all inspections authorized by the OWRA, the *Act*, the *PA*, the *SDWA* or the *NMA* of any place to which this Certificate relates, and without limiting the foregoing:
- (a) to enter upon the premises where the approved processing is undertaken, or the location where the records required by the conditions of this Certificate are kept;
 - (b) to have access to, inspect, and copy any records required to be kept by the conditions of this Certificate;
 - (c) to inspect the Site, related equipment and appurtenances;
 - (d) to inspect the practices, procedures, or operations required by the conditions of this Certificate; and
 - (e) to sample and monitor for the purposes of assessing compliance with the terms and conditions of this Certificate or the *Act*, the *OWRA*, the *PA*, the *SDWA* or the *NMA*.

Information and Record Retention

- (16) Any information requested by the Ministry, concerning the operation of the Site and its operation under this Certificate, including but not limited to any records required to be kept by this Certificate shall be provided to the Ministry, immediately upon request. Records shall be retained for two (2) years except as otherwise authorized in writing by the Director.
- (17) The receipt of any information by the Ministry or the failure of the Ministry to prosecute any person or to require any person to take any action, under this Certificate or under any statute, regulation or other legal requirement, in relation to the information, shall not be construed as:
- (a) an approval, waiver, or justification by the Ministry of any act or omission of any person that contravenes any term or condition of this Certificate or any statute, regulation or other legal requirement; or
 - (b) acceptance by the Ministry of the information's completeness or accuracy.
- (18) The Owner shall ensure that a copy of this Certificate, in its entirety and including all its Notices of Amendment, and documentation listed in Schedule "A", are retained at the Site at all times.

Financial Assurance

- (19) (a) Within ten (10) days of issuance of this Certificate the Owner shall submit to the Director, Financial Assurance, as defined in Section 131 of the *Act*, for the amount of \$15,000. This Financial

Assurance shall be in a form acceptable to the Director and shall provide sufficient funds for the transportation, Site clean-up and disposal of all quantities of waste on the Site at any one time.

- (b) Commencing on March 31, 2010 and at intervals of three (3) years thereafter, the Owner shall submit to the Director, a re-evaluation of the amount of Financial Assurance to implement the actions required under Condition (19)(a). The re-evaluation shall include an assessment based on any new information relating to the environmental conditions of the Site and shall include the costs of additional monitoring and/or implementation of contingency plans required by the Director upon review of the closure plan and annual reports. The Financial Assurance must be submitted to the Director within ten (10) days of written acceptance of the re-evaluation by the Director.
- (c) Commencing on March 31, 2008, the Owner shall prepare and maintain at the Site an updated re-evaluation of the amount of Financial Assurance required to implement the actions required under Condition (19)(a) for each of the intervening years in which a re-evaluation is not required to be submitted to the Director under Condition (19)(b). The re-evaluation shall be made available to the Ministry, upon request.
- (d) The amount of Financial Assurance is subject to review at any time by the Director and may be amended at his/her discretion. If any Financial Assurance is scheduled to expire or notice is received, indicating Financial Assurance will not be renewed, and satisfactory methods have not been made to replace the Financial assurance at least sixty (60) days before the Financial Assurance terminates, the Financial Assurance shall forthwith be replaced by cash.

2. SERVICE AREA, APPROVED WASTE TYPES, RATES & STORAGE

- (1) The service area for the Site is the Province of Ontario.
- (2) The operation of this Site is limited to receipt and processing of the following types of waste:
 - (a) electrical transformers and related electrical waste equipment having a total PCBs concentration of less than 50 parts per million by weight and complying with the criteria for non-hazardous waste as defined in O.Reg. 347.
- (3) **Waste Rates & Storage:**
 - (a) The total amount of waste approved to be accepted at the Site shall not exceed 100 tonnes per day.
 - (b) The total amount of waste approved to be stored at the Site at any one time shall not exceed 200 tonnes.
 - (c) The waste storage at the Site is subject to the following limitations:
 - (i) solid residual waste shall be stored within the processing building and the maximum amount that shall be stored at the Site at any one time shall not exceed 50 tonnes;
 - (ii) waste oil shall be stored in:
 - one (1) 22,730-litre tank; and/or
 - fifteen (15) totes, or equivalent, having a maximum total storage capacity of 13,638 litres; and/or
 - a maximum of two (2) drums,all located within the confines of the processing building;
 - (v) waste equipment awaiting processing in the outdoor storage area, as shown on the drawing listed as Item #8 of Schedule "A", shall be stored within 20-cubic yard roll-off bins with spill trays and tarp covers and/or in 40-foot shipping containers with spill trays and/or in 20-foot shipping containers with spill trays;
 - (vi) oversized waste equipment awaiting processing shall be stored in the outdoor storage area, as shown on the drawing listed as Item #8 of Schedule "A", in a manner that does not cause an adverse effect or a hazard to the environment or any person;

- (vii) no outside waste storage other than that described in Condition (3)(c)(v) and (vi) above, is approved under this Certificate.
- (d) Scrap metal generated by the processing activities at the Site shall be stored within the processing building or inside the shipping containers described in Condition (3)(c)(iii), above and/or inside roll-off bins with tarp covers located within the outdoor storage area.
- (4) In the event that waste cannot be transferred from the Site and the Site is at its approved waste storage capacity, the Owner shall cease accepting additional waste. Receipt of additional waste may be resumed once the waste stored at the Site is transferred off Site.

3. **SIGNS**

- (1) The Owner shall ensure that a sign is posted at the entrance to the Site. The sign shall be visible from the main road leading to the Site. The following information shall be included on the sign:
 - (a) name of the Owner;
 - (b) this Certificate number;
 - (c) hours during which the Site is open;
 - (d) waste types that are approved to be accepted at the Site;
 - (e) Owner's telephone number (a hotline) to which complaints may be directed;
 - (f) Owner's twenty-four hour emergency telephone number (if different from above);
 - (g) a warning against unauthorized access;
 - (h) a warning against dumping at the Site.
- (2) The Owner shall ensure that appropriate signs are posted at the Site clearly identifying the waste and stating warnings about the nature of the waste and any possible hazards.
- (3) The Owner shall ensure that appropriate signs are posted at the Site to prohibit smoking, open flames or sources of ignition from being allowed near any flammable waste containers or storage areas.

4. **SITE SECURITY**

- (1) All waste unloading and loading of rejected or residual waste into vehicles or containers and all waste processing activities at the Site shall at all times be undertaken by trained personnel.
- (2) The Owner shall ensure that access to the Site is regulated and that all entrances are secured by lockable gates to restrict access only to authorized personnel when the Site is not open.
- (3) The Owner shall ensure the Site is operated in a safe and secure manner, and that the wastes are properly handled, packaged or contained and stored so as not to pose any threat to the general public and Site personnel.

5. **SITE OPERATIONS**

- (1) Operating hours:
 - (a) The Site shall only be open to public between the hours of 07:00 and 19:00, Monday to Saturday.
- (2) Incoming waste receipt:
 - (a) Prior to being accepted at the Site, all incoming waste equipment and documentation containing information on the required waste characterization, shall be inspected by trained personnel. If the Site is not approved to accept the waste type, the waste shall not be accepted and shall be immediately directed offsite.
 - (b) Waste that has not been characterized in accordance with this Certificate or that is not accompanied by records proving the required characterization shall not be accepted at the Site.

- (3) Rejected waste handling:
- (a) In the event that waste that is not approved under this Certificate is inadvertently accepted at the Site, the Owner shall ensure that all rejected waste:
 - (i) is stored in a way that ensures that no adverse effects result from such storage;
 - (ii) is segregated from all other waste;
 - (iii) is handled and removed from the Site in accordance with *O.Reg. 347* and the *Act*;
 - (iv) is removed from the Site within (4) days of its receipt or as acceptable to the District Manager.
 - (b)
 - (i) In the event that rejected waste is inadvertently accepted at the Site, a record shall be made in the daily log book or in an electronic file of the reason why the waste was rejected and of the origin of the waste, if known.
 - (ii) District Manager shall be notified in writing of the receipt of unacceptable waste within four (4) business days of its receipt.
 - (iii) The following information shall be included in the notification to the District Manager:
 - quantity and type of rejected waste;
 - source of the waste, if known;
 - final destination of the rejected waste; and
 - date of receipt and time and date of removal from the Site.
- (4) No burning of any wastes is permitted at the Site.
- (5) Waste oil handling:
- (a) All waste oil shall be handled and stored in areas within secondary containment systems having adequate volume to contain any spills or leaks or run-off.
 - (b) Waste oil level in the 22,730-litre waste oil storage tank shall be monitored on a continuous basis.
 - (c) The Owner shall ensure that sufficient storage volume is available in the waste oil storage facility prior to any waste oil being pumped into the tank or the totes.
- (6) All wastes generated at the Site shall be managed, stored and disposed of in accordance with the *Act* and *O.Reg. 347*.

6. EQUIPMENT AND SITE INSPECTIONS

- (1) Prior to receipt of any waste at the Site, the Owner shall prepare a comprehensive written inspection program which includes inspections of all aspects of the Site's operations including the following:
 - (a) equipment, buildings, facilities and security fencing and barriers;
 - (b) outdoor storage facility;
 - (c) liquid levels in all tanks and storage containers and spill collection sumps; and
 - (d) off-site impacts such as odour, dust, litter, etc.
- (2) The inspections are to be undertaken daily by trained personnel in accordance with the inspection program to ensure that all equipment and facilities at the Site are maintained in good working order at all times and that no off Site impact are occurring. Any deficiencies detected during these regular inspections must be promptly corrected.
- (3) The Owner shall develop and implement a preventative maintenance program for all on-Site equipment associated with the processing and managing of waste. The preventative maintenance program shall be maintained up-to-date and shall be available for inspection by a Provincial Officer upon request.

7. QUALITY CONTROL MONITORING

- (1)
 - (a) The Owner shall establish a sampling/testing procedure to undertake waste characterization required by this Certificate.

- (b) This procedure shall ensure that representative samples of waste are collected in sufficient numbers and that the samples are properly preserved and tested so that reliable data on the waste characteristics is collected. The procedure shall comply with the Ministry's regulatory requirements for sampling and testing of waste and it shall include the rationale for the proposed methods.
 - (c) The procedure and the required justification for the proposed methods shall be documented in writing, kept at the Site at all times and be made available for inspection by the Ministry staff upon request.
- (2) **Quality Control Monitoring of Incoming Waste:**
- (a) The Owner shall ensure that the incoming waste is characterized in accordance with the procedure from Condition 7.(1).
 - (b) The Owner shall ensure that any waste characterization required by this Certificate is undertaken prior to receipt of the waste at the Site.
- (3) **Quality Control Monitoring of Residual Waste:**
- (a)
 - (i) The Owner shall conduct quality control monitoring of the porous residual waste in accordance with the Ministry's regulatory requirements and the procedure from Condition 7.(1) prior to its transfer off Site.
 - (ii) Porous residual waste that contains contaminants at concentrations less than the values in Table 4 of *O.Reg. 347* is classified as non-hazardous waste and shall be handled and disposed of in accordance with *O. Reg. 347* and the *Act*.
 - (iii) Porous residual waste that contains concentrations at concentrations exceeding the values in Table 4 of *O.Reg. 347*. is classified as hazardous waste and shall be handled and disposed of in accordance with *O. Reg. 347* and the *Act*.
 - (b) The Owner shall conduct quality control monitoring of waste oil prior to its transfer off Site.

8. **NUISANCE IMPACT CONTROL**

- (1) The Owner shall ensure that the exterior of all vehicles leaving the Site is clean and free of leaking or dripping any waste on the streets.
- (2) The Owner shall ensure that the exterior of all trucks delivering or removing waste from the Site is clean prior to leaving the Site.
- (3) The Owner shall:
 - (a) take all practical steps to prevent the escape of litter from the Site;
 - (b) pick up litter around the Site on a daily basis, or more frequently if necessary; and
 - (c) if necessary, erect litter fences around the areas causing a litter problem.
- (4) The Owner shall ensure that there is no queuing or parking of vehicles that are waiting to enter the Site on any roadway that is not a distinct part of the Site.

9. **COMPLAINT RESPONSE PROCEDURE**

- (1) If at any time, the Owner receives complaints regarding the operation of the Site, the Owner shall respond to these complaints according to the following procedure:
 - (a) The Owner shall record each complaint in a written or digital record. The information recorded shall include the following:

- (i) name, address and the telephone number of the complainant;
 - (ii) time and date of the complaint;
 - (iii) waste management activities undertaken at the time of the complaint;
 - (iv) general meteorological conditions including, but not limited to the ambient temperature, approximate wind speed and direction and sunny versus cloudy, inversion versus clear and windy, etc. at the time of the complaint;
 - (v) details of the complaint;
 - (vi) actions taken to remediate the cause of the complaint; and
 - (vii) proposed actions to be taken to prevent reoccurrence in the future.
- (b) The Owner upon receipt of the complaint shall initiate appropriate steps to determine all possible causes of the complaint and proceed to take the necessary actions to eliminate the cause of the complaint and forward a formal reply to the complainant.
 - (c) The Owner upon receipt of the complaint will immediately notify the Ministry's Spills Action Centre at 1-800-268-6060 of the receipt of the complaint.
 - (d) The Owner shall submit, within seven (7) days of the occurrence, a written report to the District Manager identifying the source(s) of the complaint and details of what action was taken to rectify the problem and prevent a recurrence.

10. **OPERATIONS MANUAL**

- (1) The Owner shall prepare an Operations Manual for use by the Site personnel. The Operations Manual shall contain the following:
 - (a) outline the responsibilities of the Site personnel;
 - (b) personnel training protocols;
 - (c) waste receiving and screening procedures;
 - (d) unloading, handling and storage procedures;
 - (e) waste processing procedures;
 - (f) sampling and testing procedures;
 - (g) Site inspections, spill, fire, upset and leakage recording procedures;
 - (h) procedure for handling complaints as described in this Certificate.
- (2) A copy of this Operations Manual shall be kept at the Site, must be accessible to personnel at all times and must be updated, as required.

11. **STAFF TRAINING**

- (1) (a) All operators of the Site shall be trained with respect to the following:
 - (i) terms, conditions and operating requirements of this Certificate;
 - (ii) operation and management of the Site, or area(s) within the Site, as per the specific job requirements of each individual operator, and which may include procedures for receiving, screening and identifying waste, refusal, handling, processing and temporarily storing wastes;
 - (iii) an outline of the responsibilities of Site personnel including roles and responsibilities during emergencies and spills;
 - (iv) the Spill Emergency and Contingency Plan including exit locations and evacuation routing, and location of relevant equipment available for emergencies and spills;
 - (v) environmental, and occupational health and safety concerns pertaining to the wastes to be handled;
 - (vi) emergency first-aid information;
 - (vii) relevant waste management legislation and regulations, including the *Act* and Ontario Regulation 347;
 - (viii) recording procedures as required by this Certificate;
 - (ix) equipment and site inspection procedures, as required by this Certificate;
 - (x) nuisance impact control procedures, as required by this Certificate; and
 - (xi) procedures for recording and responding to public complaints.

12. **SPILL CONTINGENCY AND EMERGENCY RESPONSE PLAN**

- (1) (a) A minimum of thirty (30) days prior to the receipt of waste at the Site, the Owner shall prepare a Spill Contingency and Emergency Response Plan in consultation with the District Manager, the local Municipality and the Fire Department and shall keep the finalized Plan at the Site at all times in a prominent location available to all staff.
- (b) The Owner shall ensure that copies of any updates to the Spill Contingency and Emergency Response Plan are forwarded immediately upon completion to the District Manager, the local Municipality, and the Fire Department.
- (2) The Owner shall ensure that the contingency equipment and materials outlined in the Spill Contingency and Emergency Response Plan are immediately available on the Site at all times, in a good state of repair, and fully operational.
- (3) The Owner shall ensure that all operating personnel are fully trained in the use, of the contingency equipment and related materials, and in the procedures to be employed in the event of an emergency.
- (4) The Spill Contingency and Emergency Response Plan shall include, but is not limited to the following:
 - (a) as-built drawings which accurately reflect the final Site plan layout and clearly indicates all storage areas;
 - (b) emergency response procedures to be undertaken in the event of a spill or process upset, including specific clean up methods for each individual waste;
 - (c) a list of contingency equipment and spill clean up materials, including names and telephone numbers of waste management companies available for emergency response;
 - (d) a notification protocol, with names and telephone numbers of persons to be contacted, including Owner personnel, the Ministry of the Environment Spills Action Centre and District Office, the local Fire and Police Departments, the local Municipality, the local Medical Officer of Health, and the Ministry of Labour; and
- (5) The Owner shall ensure that the names and telephone numbers of the persons to be contacted in the event of an emergency situation are up-to-date, and that these numbers are prominently displayed and immediately available to all staff and emergency response personnel.

13. **EMERGENCY SITUATIONS RESPONSE AND REPORTING**

- (1) All spills, upsets and fires shall be immediately reported to the **Ministry's Spills Action Centre at 1-800-268-6060** and shall be recorded in the log book as to the nature of the spill or upset, and the action taken for clean-up, correction and prevention of future occurrences.
- (2) The Owner shall immediately take all measures necessary to contain and clean up any spill or leak which may result from the operation at this Site.

14. **RECORDS KEEPING**

Daily Activities

- (1) The Owner shall maintain an on-Site written or digital record of activities undertaken at the Site. All measurements shall be recorded in consistent metric units of measurement. The record shall include, as a minimum, the following:
 - (a) date of record;
 - (b) quantity and type of waste received at the Site, including incoming waste characterization results;
 - (c) quantity and type of waste shipped off Site, including outgoing waste characterization results;
 - (d) quantity and type of waste processed at the Site;
 - (e) quantity and type of waste stored, at the Site, including waste oil levels;
 - (f) receiving site(s) for the waste shipped from the Site;
 - (g) quantity and type of any rejected wastes;
 - (h) housecleaning activities, including litter collection, cleaning activities, etc.

- (2) The Owner shall retain all records retaining to waste characterization required by this Certificate for a minimum of two (2) years.

Emergency Situations

- (3) The Owner shall maintain an on-Site written or digital record of the emergency situations. The record shall include, as a minimum, the following:
- (a) the type of an emergency situation;
 - (b) description of how the emergency situation was handled;
 - (b) the type and amount of material spilled, if applicable;
 - (b) a description of how the material was cleaned up and stored, if generated; and
 - (c) the location and time of final disposal, if applicable.

Inspections

- (4) The Owner shall maintain an on-Site written or digital record of inspections as required by this Certificate. The record shall include, as a minimum, the following:
- (a) the name and signature of person that conducted the inspection;
 - (b) the date and time of the inspection;
 - (c) the list of any deficiencies discovered;
 - (d) the recommendations for remedial action; and
 - (e) the date, time and description of actions taken.

Training

- (5) The Owner shall maintain an on-Site written or digital record of training as required by this Certificate. The record shall include, as a minimum, the following;which includes as a minimum:
- (a) date of training;
 - (b) name and signature of person who has been trained; and
 - (c) description of the training provided.

Annual Report

- (6) By January 31st following the end of each operating year, the Owner shall prepare and retain at the Site, an Annual Report summarizing the operation of the Site covering the previous calendar year. This Annual Report shall include, as a minimum, the following information:
- (a) a summary of the quality and the quantity of all incoming and outgoing wastes, including analytical data required to characterize the waste;
 - (b) material balance for each month documenting the amount of waste stored at the Site;
 - (c) any environmental and operational problems, that could negatively impact the environment, encountered during the operation of the Site and during Site inspections and any mitigative actions taken;
 - (d) a statement as to compliance with all Conditions of this Certificate and with the inspection and reporting requirements of the Conditions herein; and,
 - (e) any recommendations to minimize environmental impacts from the operation of the Site and to improve Site operations and monitoring programs in this regard.
- (7) The Annual Report shall be made available to the Ministry staff for inspection, upon request.

15. CLOSURE PLAN

- (1) (a) The Owner shall submit, for approval by the Director, a written Closure Plan for the Site four (4) months prior to closure of the Site. This plan shall include, as a minimum, a description of the work that will be done to facilitate closure of the Site and a schedule for completion of that work.
- (b) Within ten (10) days after closure of the Site, the Owner shall notify the Director, in writing, that the Site is closed and that the Site Closure Plan has been implemented.

Schedule "A"

This Schedule "A" forms part of this Provisional Certificate of Approval for a Waste Disposal Site

1. Application for a Certificate of Approval for a Waste Disposal Site with supporting information, dated November 30, 2006, signed by Peter Wallace and submitted by Green-Port Environmental Managers Ltd., including the Recycling Flowchart, Process Schematic/Waste Movement, a sketch by Peter Wallace showing the waste oil storage tank, the drawing entitled "Site Plan" proof of public consultation undertaken and the letter dated November 30, 2006 from Peter Wallace to the Director, EAAB, Ontario Ministry of the Environment, including the following sections:
 - the Design & Operational Report,
 - Additional Requirements for Liquid Industrial Waste,
 - Drainage Study and
 - Financial Assurance
2. Letter dated July 27, 2007 from Peter Wallace, Green-Port Environmental Managers Ltd. to Margaret Wojcik, EAAB, Ontario Ministry of the Environment, including additional information on the proposed waste storage, the design of the proposed spill containment, the drawing No. A4 entitled "Floor Plan & Process Layout" and Drawing No. A5, entitled Building Section & Details.
3. Letter dated August 23, 2007 from Peter Wallace, Green-Port Environmental Managers Ltd. to Margaret Wojcik, EAAB, Ontario Ministry of the Environment, including information required to support the financial assurance estimate.
4. Email dated September 21, 2007 (3:44 p.m.) from Peter Wallace, Green-Port Environmental Managers Ltd. to Margaret Wojcik, EAAB, Ontario Ministry of the Environment, providing further additional information to support the financial assurance estimate.

5. Email dated September 25, 2007 (4:31 p.m.) from Peter Wallace, Green-Port Environmental Managers Ltd. to Margaret Wojcik, EAAB, Ontario Ministry of the Environment, providing further additional information on the proposed outdoor waste storage, processing and waste testing.
6. Email dated September 26, 2007 (10:15 a.m.) from Peter Wallace, Green-Port Environmental Managers Ltd. to Margaret Wojcik, EAAB, Ontario Ministry of the Environment, providing further additional information on the proposal and the financial assurance estimate.
7. Email dated October 1, 2007 (4:14 p.m.) from Peter Wallace, Green-Port Environmental Managers Ltd. to Margaret Wojcik, EAAB, Ontario Ministry of the Environment, providing further additional information on the proposed waste facility and the financial assurance estimate.
8. Drawing No. SP-04 entitled "Servicing Plan Proposed Transfer Station" .
9. Email dated October 9, 2007 (11:20 a.m.) from Peter Wallace, Green-Port Environmental Managers Ltd. to Margaret Wojcik, EAAB, Ontario Ministry of the Environment, providing further clarification on the proposed waste storage facility.
10. Email dated October 9, 2007 (12:00 p.m.) from Peter Wallace, Green-Port Environmental Managers Ltd. to Margaret Wojcik, EAAB, Ontario Ministry of the Environment, changing the operating hours of the facility.
11. Email dated October 16, 2007 (9:23 a.m.) from Peter Wallace, Green-Port Environmental Managers Ltd. to Margaret Wojcik, EAAB, Ontario Ministry of the Environment, providing further additional information on the financial assurance estimate.

The reasons for the imposition of these terms and conditions are as follows:

GENERAL

1. Conditions 1(1), (2), (4), (5), (6), (7), (8), (9), (10), (11), (12), (16), (17) and (18) are included to clarify the legal rights and responsibilities of the applicant.
2. Condition 1(3) is included to ensure that the Site is operated in accordance with the application and supporting documentation submitted by the Owner, and not in a manner which the Director has not been asked to consider.
3. Condition 1(13) is included to ensure that the Site is operated under the corporate name which appears on the application form submitted for this approval and to ensure that the Director is informed of any changes.
4. Condition 1(14) is included to restrict potential transfer or encumbrance of the Site without the approval of the Director and to ensure that any transfer of encumbrance can be made only on the basis that it will not endanger compliance with this Certificate.
5. Condition 1(15) is included to ensure that the appropriate Ministry staff has ready access to the operations of the Site which are approved under this Certificate. The Condition is supplementary to the powers of entry afforded a Provincial Officer pursuant to the *Act*, the *OWRA*, the *PA*, the *NMA* and the *SDWA*.
6. Condition 1(19) is included to ensure that sufficient funds are available to the Ministry to clean up the Site in the event that the Owner is unable or unwilling to do so.

SERVICE AREA, APPROVED WASTE TYPES, RATES & STORAGE

7. Condition 2 is included to specify the approved waste receipt rate and the approved waste types and the service area from which waste may be accepted at the Site based on the Owner's application and supporting documentation. Condition 2(3) is also included to specify the maximum amount of waste that is approved to be stored at the Site that is covered by the required Financial Assurance.

SIGNS

8. Condition 3 is included to ensure that the Site's users, operators and the public are fully aware of important information and restrictions related to the operation of the Site.

SITE SECURITY

9. Condition 4 is included to ensure that the Site is sufficiently secured, supervised and operated by properly trained personnel and to ensure controlled access and integrity of the Site by preventing unauthorized access when the Site is closed and no site personnel is on duty.

SITE OPERATIONS

10. Condition 5(1) is included to specify the hours of operation for the Site to ensure that the hours of Site's operation do not result in an adverse effect or a hazard to the natural environment or any person.
11. Condition 5(2) is included to ensure that only the approved waste types are accepted and processed at the Site.
12. Condition 5(3) is included to specify the requirements for handling of the rejected waste that was inadvertently received at the Site.
13. Condition 5(4) is included to prohibit burning of waste at the Site as that has not been considered by the Director in the issuance of this Certificate.
14. Conditions 5(5) and (6) are included to ensure that waste storage is done in a manner duration which does not result in an adverse effect or a hazard to the environment or any person.

SITE INSPECTION AND MAINTENANCE

15. Condition 6 is included to require the Site to be maintained and inspected thoroughly and on a regular basis to ensure that the operations at the Site are undertaken in a manner which does not result in an adverse effect or a hazard to the health and safety of the environment or any person.

QUALITY CONTROL

16. Condition 7 is included to require the Owner to characterize all waste received at the Site and shipped off the Site to ensure that only waste approved by this Certificate is handled at the Site and that all waste transferred off Site is handled in accordance with the Ministry's requirements.

NUISANCE IMPACT CONTROL

17. Condition 8 is included to ensure that the Site is operated and maintained in an environmentally acceptable manner which does not result in a negative impact on the natural environment or any person.

COMPLAINT RESPONSE PROCEDURE

18. Condition 9 is included to ensure that the District Manager is informed of any complaints with respect to the operation of the Site, which would indicate problems with the operation of the Site and non-compliance with the Act. Condition 9 is also included to ensure that any complaints regarding Site operations at the Site are responded to in a timely manner.

OPERATIONS MANUAL and TRAINING

19. Conditions 10 and 11 are included to ensure that personnel employed at the Site are fully aware and properly trained on the requirements and restrictions related to Site operations under this Certificate.

SPILL CONTINGENCY AND EMERGENCY RESPONSE PLAN & EMERGENCY SITUATIONS RESPONSE AND REPORTING

20. Condition 12 is included to ensure that the Owner is prepared and properly equipped to take action in the event of a spill or another emergency situation.
21. Condition 13 is included to require further spill notification to the Ministry, in addition to the requirements already listed in Part X of the *Act*.

RECORDS KEEPING

22. Condition 14 is included to ensure that detailed records of Site activities, inspections, monitoring and upsets are recorded and maintained for inspection and information purposes.

CLOSURE

23. Condition 15 is included to ensure that final closure of the Site is completed in accordance with Ministry's standards.

In accordance with Section 139 of the Environmental Protection Act, R.S.O. 1990, Chapter E-19, as amended, you may by written Notice served upon me, the Environmental Review Tribunal and in accordance with Section 47 of the Environmental Bill of Rights, S.O. 1993, Chapter 28, the Environmental Commissioner, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Environmental Commissioner will place notice of your appeal on the Environmental Registry. Section 142 of the Environmental Protection Act, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the works are located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
2300 Yonge St., Suite 1700
P.O. Box 2382
Toronto, Ontario
M4P 1E4

AND

The Environmental Commissioner
1075 Bay Street, 6th Floor
Suite 605
Toronto, Ontario
M5S 2B1

AND

The Director
Section 39, *Environmental Protection Act*
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca**

This instrument is subject to Section 38 of the Environmental Bill of Rights, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at www.ene.gov.on.ca, you can determine when the leave to appeal period ends.

The above noted waste disposal site is approved under Section 39 of the Environmental Protection Act.

DATED AT TORONTO this 29th day of October, 2007

A handwritten signature in dark ink, appearing to read "Tes Gebrezghi".

Tesfaye Gebrezghi, P.Eng.
Director
Section 39, *Environmental Protection Act*

MW/

c: District Manager, MOE Halton-Peel
Peter Wallace, P. Eng., Green-Port Environmental Managers Ltd.



Health & Safety Policy Booklet

March 2008 Edition

Welcome to Green-Port Environmental Managers (GPE.) The information presented in this booklet, is to the best of our knowledge, current at time of printing and is intended for general application. This publication is not a definitive guide to government regulations or to practices and procedures wholly applicable under every circumstance. The appropriate regulations and statutes should be consulted. Although Green-Port Environmental Managers cannot guarantee the accuracy of, nor assume liability for, the information presented here, we would be pleased to answer individual requests for counselling and advice at any time.

There is no job task on any of our projects anywhere, at any time, which will ever be more important than your safety and the safety of your co-workers.

During the course of their employment with GPE, all workers must accept safety as a personal responsibility, and must agree to abide by the Occupational Health & Safety Act, GPE's Health & Safety Policy and Program, and the rules in this booklet, as a condition of employment.

It is our goal to prevent all incidents/accidents to workers, public, equipment, property and the environment. We believe that all incidents/accidents are preventable.

All of GPE's Supervisory staff are trained in accident prevention. They are concerned about their incident/accident record. Any unsafe acts or conditions must be immediately reported to them.

With your co-operation, our goal of an accident-free workplace is realistic and attainable.

Marc Mittleman
V.P Operations

Peter Wallace
V.P. Marketing
& Development

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WORKER'S RESPONSIBILITIES

All workers are responsible for safeguarding their own health and safety and the safety of fellow workers. Responsibilities include but are not limited to the following:

- Complying with the OHSA and related Regulations plus Green-Port's Health and Safety Program
- Work in a way that will not endanger anyone or the environment
- Use or wear appropriate equipment, protective device(s) and clothing as required, and as instructed by their supervisor
- If a worker is not familiar with or they do not know how to use or wear a specific piece of Personal Protective Equipment (PPE), then they are to ask the supervisor for a demonstration/directions on its proper use
- Report to the supervisor any missing or defective equipment or protective device(s)
- Report to the supervisor any injury, incident (near misses) or accidents as soon as feasible
- Report any unsafe act(s) and condition(s) to their supervisor
- If no reasonable action is taken and they feel that an unsafe condition persists, then they should report their concerns to a supervisor and/or management
- Maintain good housekeeping in their work area
- Refuse to work if personal safety is compromised, and
- Show their commitment to health and safety by setting a good example

Right to Refuse

A worker may refuse work when they believe that:

- Any equipment, machine, or tool they use or operate is likely to endanger themselves or another worker
- The physical condition of the workplace may endanger themselves, or
- Any of: equipment, machines, tools or condition of the workplace is in violation of the OHSA and regulation and such contravention is likely to endanger themselves or another worker

Once a worker feels that a job task or assignment may be unsafe, they must report the situation to their supervisor. The supervisor must correct the unsafe condition if they can or assign the worker to another task, until the unsafe condition is made safe.

If the supervisor disagrees that the job task or condition is unsafe and tells the worker to go back to work, then the worker can formally refuse to work by stating that they are exercising their right under the OHSA.

Investigation of Refusal to Work

Once the supervisor has been notified of the work refusal, they must conduct an investigation in the presence of the worker, who refused to work. If the problem is resolved, then the worker goes back to work. If the problem is not resolved, the supervisor is to contact management for further consultation.

The worker should be assigned another task or remain in a safe location until the arrival of the safety supervisor or manager. They will then investigate the situation with the worker, supervisor and/or management. If the problem is resolved then the worker goes back to work; if it is not resolved then the MOL must be contacted.

Pending the MOL's arrival and/or decision, the worker can be assigned reasonable alternative work or where reasonable alternative work is not practical, be given other directions, subject to section 50 of the OHSA.

The MOL inspector will investigate the refusal, in the presence of the worker and supervisor. The decision is made in writing, either in favour of the worker or against the worker. If the decision is in favour of the worker, then corrective action will be taken. If the decision is not in favour of the worker, then they will return to work.

RIGHT TO KNOW

Structure of WHMIS

“Workplace Hazardous Material Information System”

WHMIS gives everyone in the workplace the right to know about the hazards of materials used in the workplace and the means to find out that information. It does this through a three-pronged approach.

- WHMIS warning labels on containers of hazardous materials
- Material Safety Data Sheets (MSDS) which provides more detailed information than a Warning Label
- Worker training on how to use the information contained on labels and MSDS

All three of these requirements are of equal importance to the success of WHMIS. This is because labelling of containers and provision of MSDS would accomplish little if workers were not trained about the significance of the information contained on labels and MSDSs. Similarly, training would be of little use if containers were not labelled to identify their contents and MSDSs were not available to provide detailed information about the product.

Hazardous Material

Hazardous Materials are defined in the Hazardous Products Act and the Controlled Products Regulation. There are six classes of hazardous substances. Five of the six classes have one hazard symbol assigned to it and one class has three symbols. The six classes are A, B, C, D1-D1-D2, E, and F.

Hazard Symbols and Their Classes

	Class A: Compressed Gas <i>Gas under pressure</i>		Class D: Poisonous/Infectious <i>Division 2...Long-term health effect</i>
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 Class B: Flammable/Combustible <i>Fire/explosion hazard</i>	 Class D: Poisonous/Infectious <i>Division 3...Organism/toxin causing diseases</i>
 Class C: Oxidizing <i>Contributes to fire/explosion of other substances</i>	 Class E: Corrosive <i>Burns/destroys skin/eyes</i>
 Class D: Poisonous/Infectious <i>Division 1...Fast action poison</i>	 Class F: Dangerously Reactive <i>May react violently by itself or when mixed</i>

Labels

Supplier Labels

The Supplier label is the first and most basic form of WHMIS hazard warning to employers and workers. It is easily recognized by its broken dash border, appears on the container of a controlled product, and provides basic information about the risks associated with the use of the material inside the container. It also shows the hazard symbol(s) and provides information on precautionary and first aid measures. The label also directs the reader to the MSDS for more detailed information.

Distinctive Border	→	
Product Name	→	
Risk Phrases	→	
Hazard symbol(s)	→	
First Aid Measures	→	
Precautionary Measures	→	
Reference to MSDS	→	
Supplier Name and Address	→	

Workplace Labels

A workplace Label is used when a hazardous product is decanted from an original container into a temporary container. The Workplace Label must have at least three pieces of information, Product Identifier, Safe Handling Instructions, and a statement indicating that MSDS is available.

The Workplace Label does not have any formal look, but it must be noticeable and legible and is usually hand written.

WHMIS - Material Safety Data Sheets (MSDS)

The MSDS is the second level of the WHMIS information delivery system. Much of the information provided on the MSDS is of a technical nature. It is addressed primarily to engineers, occupational hygienists, fire fighters, emergency coordinators and others directly involved in planning controls and procedures for the use, storage or disposal of the material or for emergencies involving the material. In particular, the MSDS is an important starting point for developing a control program for a hazardous material. MSDS must be made available, in a reasonable amount of time, to any worker who requests to see one.

The MSDS contains nine different kinds of information, as follows:

1. Hazardous Ingredients contained in the material
2. Preparation Information (person responsible for preparation of this MSDS and date of preparation)
3. Product Information
4. Physical Data of the material (is it a gas, liquid, solid, etc)
5. Fire and Explosion Data (under what conditions, if any, will it explode or burn)
6. Reactivity Data (what happens when it is exposed to fire, water, air, etc.)
7. Toxicological Properties (is it poisonous when breathed, touched, etc.)
8. Preventive Measures (what to do to avoid problems with the material), and
9. First Aid Measures

INCIDENTS/ACCIDENTS NOTICES AND REPORTS

All workers must report to their immediate supervisor every time they see a doctor for a work related injury, plus any minor injuries, accidents, or incidents that they are involved in or know of. Supervisors will report all injuries, accidents and/or incidents to their supervisors and/or management.

Some types of injuries and accidents must be reported to the Minister of Labour (MOL) and/or Workplace Safety and Insurance Board (WSIB). Those injuries and accidents that required MOL and/or WSIB notification will be completed by the Safety Department, foremen or management.

Note: Any accident scene is to be roped off and/or secured until an investigation is completed or workers are notified otherwise.

A Critical Injury means an injury of a serious nature that:

- places life in jeopardy
- produces unconsciousness
- results in substantial loss of blood
- involves the fracture of a leg or arm but not a finger or toe
- involves the amputation of a leg, arm, hand or foot but not a finger or toe
- consists of burns to a major portion of the body, or
- causes the loss of sight in an eye

Employee Injury Reporting Guidelines

When an accident or injury occurs, the employee has certain obligations to meet in order to allow for a prompt, complete recovery; and to allow for processing and recording of relevant accident information.

If correct rehabilitation and reporting procedures are not followed, Workplace Safety and Insurance Board benefits may be denied or delayed/suspended pending investigation.

To ensure proper benefits entitlement, their cooperation is mandatory and the following criteria must be followed:

- All Incidents (near misses) and Accidents must be immediately reported to their supervisor no matter how small or insignificant they may seem to be
- If they need medical attention, we will transport them to a local walk-in clinic or a hospital
- If they decide to see a doctor for a work related injury, they must notify their supervisor as soon as possible
- If asked to do so, worker(s) must participate in an accident report
- If they are required to remain off work for any period of time, they are required to immediately contact their supervisor and give them the details
- They must notify their supervisor in advance of their anticipated return to work

- A Recovery Plan will be developed between them and their supervisor in accordance with the restrictions, prognosis, and medical guidance of the Treating Physician; and
- They are expected to co-operate fully in both their medical and vocational rehabilitation

Environmental Incident Reporting

There are essentially two types of environmental incident categories:

- Incidents which are not in compliance with legislation and must be reported to the Ministry of Environment (MOE), e.g. spills of PCB, Mercury, Gas, Diesel, etc.: and
- Other incidents which are not serious in nature but which may cause a health risk, if the proper controls are not put into place

Report of environmental incidents will be done by the supervisor or management.

Enforcement of Health & Safety Rules

All employees of Green-Port Environmental must comply with company and legislative safety rules. Non-compliance of these rules could lead to disciplinary action including dismissal.

The following is a guideline of disciplinary action for safety infractions:

- On the first offence, the worker will be given a verbal warning and documented by his supervisor.
- On the second offence, the worker will be given a verbal and written warning in the presence of management.
- On the third offence, the worker will be given a verbal and written warning, in the presence of management, plus three days suspension without pay.
- On the fourth offence, the worker will be terminated.

Violations of company policies or safety rules of a serious nature can result in the worker being sent home without pay for three days or terminated without prior warning. Such violations include but are not limited to the following:

- Failure to notify their supervisor of hazardous situation
- Failure to replace handrails, barriers, floor coverings or protective devices including safety signs, if they had previously been instructed to do so
- If they have been instructed and refuse to comply with company and recognized industrial practices
- Engaging in dangerous horseplay
- Possession of or being under the influence of illegal drugs or alcohol on company job sites
- Possession of firearms and/or other illegal weapons
- Failure to use Personal Protective Equipment(PPE)
- Fighting
- Theft or damage to property
- Vandalism; or
- Tampering with fire equipment

EMERGENCY RESPONSE PROCEDURES

All Workers

Any worker, who sees an injured worker in need of assistance, shall immediately call for help, and tell someone to get the First Aider (all GPE foremen are First Aiders). Response time is critical. Before assisting an injured worker, always assess the hazards at the scene, and don't expose yourself to the same hazard that caused the injury.

If a First Aider, then apply skills as trained. If not a First Aider, do what is thought best, but do not move the injured worker unless there is a life threatening hazard, make the injured worker comfortable and wait for the First Aider.

First Aider/Emergency Response Team (ERT)

When the first aider first arrives at the scene, they should follow the following steps:

- Take charge of the situation
- Call to attract the attention of bystanders to assist them, if they need assistance
- Assess the hazards at the scene
- Make the area safe for themselves and others
- Quickly assess the casualties for life-threatening conditions; and
- Send someone to call (if required) for help - ambulance, police, etc.

Foreman

In most cases the site foreman will be the First Aider. In addition to the duties of a First Aider, the foreman is responsible for arranging the transportation of an injured worker to a hospital or doctor. They are also responsible for providing all necessary paper work and reporting the accident to their supervisor and/or management.

Fire Reporting Guidelines

- Any worker, who sees or notices a fire, must immediately warn others
- Stop work and leave the area
- They must notify their supervisor
- If the fire is small, they should try and put it out, by using a fire hose or fire extinguishers
- If there is no fire-fighting equipment nearby or if the fire is out of control, they must leave the affected area and assist the ERT if requested
- If no one is around then they must phone the Fire Department (911)
- If they are not involved with putting the fire out then they should go to a safe area and wait for further instructions

Fire Extinguishers

Portable extinguishers are classified according to their ability to handle specific types of fires.

Class "A: Extinguishers

For fires in ordinary combustible materials such as wood, paper, and textiles where a quenching cooling effect is required.

Class "B" Extinguishers

For flammable liquid and gas fires such as oil, paint and grease where oxygen exclusion or flame-interruption is essential.

Class "C" Extinguishers

For fires involving electrical wiring and equipment where the non-conductivity of the extinguishing agent is crucial. This type of extinguisher should be present wherever functional testing and system energizing take place.

All fire extinguishers must be readily accessible, properly maintained, regularly inspected, and promptly refilled after use.

Evacuation

Note: This procedure is generic in nature, for more detail refer to the site evacuation procedure.

- In the event an emergency evacuation is required, personnel will be informed by word of mouth, and the following procedure shall be followed:
- All work is to be stopped
- All loads are to be lowered to the ground if possible
- Equipment and energy sources are to be shut down
- All employees are to leave the construction site area immediately by the most direct escape route and assemble at the pre-arranged assembly area
- Employees are to report to a supervisor for a name check off
- The foreman assumes leadership of the Emergency Response Team (ERT)
- Locations of hazardous materials or areas are to be identified to all ERTs
- Site security measures are to be established in the area as necessary to keep non-essential people well back
- Search and rescue operation will be coordinated by the foreman and local authorities (Fire Department, Police, etc.)
- Work is to be resumed only under the direction of the foreman

SAFE WORK PRACTICES & PROCEDURES

Personal Protective Equipment (PPE) and Life Saving Equipment

On all of GPE work sites it is mandatory that all employees and visitors wear a CSA approved hard hat and a pair of CSA approved grade 1 safety boots (green patch) with box toe, over the ankle design, and slip resistant soles. All personnel, at a minimum will wear safety glasses with side shields. Those who must wear corrective eyeglasses must also have safety lenses or wear approved goggles. Other types of PPE will be required and worn by workers when

stated in the OHSA and Regulations and/or a foreman so directs. Some examples are protective clothing, respirator, hearing protection, gloves and fall arrest equipment.

No matter what type of PPE is used, the worker must be instructed and trained in the proper care and use before wearing or using it. Refer to the Construction Regulation, section 21.

Alcohol and Other Drugs

If a worker is on prescribed medication and the side effects could jeopardize their safety, then the worker should inform the supervisor.

GPE recognizes that the use of illicit drugs and the misuse of alcohol and medications can limit a worker's ability to properly do their job and can have a serious negative impact on the health and safety of themselves and others.

In order to minimize the risk of impaired performance the following are strictly prohibited for all GPE's employees and Sub-contractors;

- The use, possession, manufacture, distribution, dispensation or sale of illegal drugs
- The use of illegal drugs or alcohol during working hours, whether on or off GPE premises
- The consumption of illegal drugs or alcohol prior to working hours, if it effects or impairs the employee's performance while at work
- The use of prescription or over-the-counter medications which impairs the worker's performance
- The abuse of legalized drugs or alcohol in the workplace

Guard Rails

Guard rails will be constructed in accordance with the Construction Regulations, section 26.1 and 26.3. When guard rails are necessary, they must be installed immediately.

All damaged or defective guard rails are to be fixed or replaced immediately.

If a guard rail must be removed for the purpose of a construction activity, then the worker and their Supervisor are responsible for that area, to ensure that no other worker or piece of equipment is exposed to a falling hazard. This can be achieved by wearing a fall arrest or travel restraint system and directing the movement of equipment. Once the job task has been completed then the guard rail must be re-installed.

Floor and Roof Openings

All openings must be guarded in order to prevent injury to workers, refer to the Construction Regulation, section 26.3 (2) & (3).

Openings must be guarded by means of guard rails consisting of a top rail, mid rail and toe board, secured to prevent accidental dislodgement.

When an opening is less than 600 mm x 600 mm (2 ft. x 2 ft.), it may be covered with 19 mm (3/4") plywood securely fastened and marked in such a way that anyone would realize that there is a hole under the covering.

Ladders

All ladders shall be constructed and maintained in accordance with the Construction Regulations, sections 78 to 84. Some highlights from the regulation are as follows;

- All portable ladders must be equipped with non-slip bases;
- Straight ladders will be tied off or otherwise secured to prevent movement. If this is not possible, one worker will hold the base of the ladder while it is being used
- When climbing up or down, workers must always face the ladder and maintain a three point contact (two feet and one hand or one foot and two hands)
- Ladders must not be erected on boxes, carts, tables, scaffold platforms, elevating work platforms or on vehicles
- Straight ladders must be set up at an angle such that the horizontal distance between the top support and the base is not less than one-quarter than one third the vertical distance between these points
- Metal ladders or ladders with wire reinforcing must not be used in the proximity of energized electrical conductors
- Wooden ladders must be unpainted
- All ladders erected between levels must be securely fastened, extend 900 mm (3 ft.) above the top landing and afford clear access at top and bottom
- Defective ladders must not be used and must be repaired or destroyed
- Ladders must not be used horizontally or as substitutes for scaffold planks, runways or any other service for which they have not been designed
- Workers on a ladder must not straddle the space between the ladder and another object, and

- Workers must not stand on the top or the pail shelf of a step ladder

Scaffolding

All scaffolding shall be designed, constructed and maintained in accordance with the Construction Regulations, sections 125 to 136. Some highlights from the regulation are as follows:

- The erection and dismantling of scaffolds must be carried out under the supervision of a competent worker knowledgeable and experienced in such operations
- Scaffolds must be erected with all braces, pins, screw jacks, base plates, and other fittings installed, as required by the manufacturer
- Scaffolds must be adequately braced horizontally and vertically
- Most tubular scaffolds should have braces both sides on every section in the vertical plane
- Horizontal bracing is provided to some extent by the scaffold platform and the base plates on scaffold legs. However, where scaffolds are several sections high or where they are on casters, most manufactures recommend that horizontal bracing be used
- Scaffolds must be equipped with guard rails consisting of a top rail, mid rail and toe board
- Scaffold platforms must be at least 46 centimetres (18 inches) wide and if they are over 2.4 metres (8 feet) high they must be planked across their full width
- Scaffolds must be tied into a building at vertical intervals not exceeding three times the least lateral dimension, including the dimension of any outrigger stabilizing devices
- Scaffold planks must be securely fastened to prevent them from sliding
- Scaffold planks must be of good quality, free of defects such as loose knots, splits or rot, rough sawn, measuring 68 mm x 248 mm (1 7/8" x 9 3/4") in cross section, and No. 1 spruce or better when new
- Scaffolds must be erected, used and maintained in a reasonably plumb condition
- Scaffold planks must be installed so that they overhang by a least 15 centimetres (6 inches) but no more than 30 centimetres (12 inches)
- Scaffolds must be equipped with a proper ladder for access. Vertical ladders must be equipped with 15 centimetre (6 inch) stand-off brackets and a ladder climbing fall protection device or safety cage when they are more than 3 metres (10 feet) high
- Frame scaffolds over 15 metres (50 feet) high and tube and clamp scaffolds over 10 metres (33 feet) high must be designed by a professional engineer and constructed in accordance with the design
- Remove ice, snow, oil, grease and other slippery material from the platform and sand the surface
- Wheels or casters on rolling scaffolds must be equipped with braking devices and securely pinned to the scaffold frame
- Wheels and casters must be locked when personnel are working on the scaffold; and
- If the scaffold is more than 2.5 metres (8 feet) high, it must not be moved with personnel on it unless:
 - a) they wear safety harnesses with the shock absorbing lanyards tied off to a fixed support
 - b) the floor is firm and level

Working From Elevating Work Platforms (EWP)

- operating the machine
- the daily inspections and maintenance required by the manufacturer
- the types of working surface on which the machine is designed to be used
- the maximum rated working load
- special conditions or limitations of the machine
- the significance of alarms
- the location of emergency controls

Fall Protection

Falling fatalities in the construction industry are ranked number one each year. The Construction Regulations, section 26.2 (1), refers to fall protection training. An employer shall ensure that a worker who may use a fall protection system is adequately trained in its use and given adequate oral and written instructions by a competent person.

Note: A fall arrest system does not protect a worker from falling, it arrests the fall of the worker.

There are many ways for protecting workers from falling hazards. For example, use of guard rails around all openings, using power elevating work platforms, properly built scaffolds, or using travel restraint system. The foreman will have to determine what type of protection is the most suitable and appropriate one to use or install.

Working Beside Unprotected Openings & Edges

A worker must wear a safety harness with the shock absorbing lanyard tied off to a fixed support whenever the worker is exposed to the hazard of falling more than 3 metres (10 feet), into operating machinery, into water or other liquids or into or onto hazardous substances or objects (refer to the Construction Regulation, section 26).

A travel restraint system can be used if it is so designed that it prevents a worker from reaching the edge of an opening. If a worker can walk off the edge, then a fall arrest system must be used.

Travel Restraint System

A travel restraint system means an assembly of components intended to prevent a worker from reaching the edge of an opening and consists of the following:

- Full body harness
- Lanyard, life line or cable
- Rope grab or triple sliding hitch
- Anchor point

Fall Arrest System

A fall arrest system means an assembly of components intended to arrest the fall of a worker and consists of the following:

- Full body harness
- Lanyard
- Shock absorber
- Rope grab or triple sliding hitch
- Lifeline
- Lifeline/lanyard's anchor points

Note: A safety belt cannot be used in a fall arrest system.

Full Body Harness and Lanyards

All safety harnesses and shock absorbing lanyards must be CSA certified and carry CSA labels. Safety harnesses must be snug fitting and worn with all hardware and straps intact and properly fastened.

Shock absorbing lanyards must be 16 millimetre (5/8") diameter nylon or equivalent.

Lifelines

Vertical lifelines must be:

- 16 Millimetre (5/8") diameter polypropylene or equivalent
- Used by only one worker at a time
- Free from any danger or chafing
- Free of cuts, abrasions and other defects
- Long enough to reach the ground or knotted at the end to prevent the shock absorbing lanyard from running off the lifeline; and
- Secured to a solid object

Horizontal lifelines must be:

- Designed by an Engineer
- At least 1/2" diameter steel cable, if used by one worker
- At least 5/8" diameter steel cable, if used by two workers
- The eyes at the end must have a thimble or softeners
- Use a minimum of three cable clips, for each eye splice
- Be attached to an adequate support

Rope Grabbing Devices

To attach the shock absorbing lanyard to a lifeline, use a mechanical rope grab that meets CSA Standard. Some mechanical rope grab devices may not be CSA certified. Superintendents are to ensure that a CSA certification stamp is on all rope grab devices.

Confined Space Entry

A Confined Space is defined as a space in which or from which access or egress is restricted and in which, because of its construction, location or contents or the work activity therein, a hazardous gas, vapour, dust or fume or an oxygen-deficient atmosphere may occur.

All GPE's foremen who require any of their workers to enter a confined space shall read and comply with appropriate sections in the Construction Regulations and GPE's procedure on Confined Space Entry or consider subcontracted services.

Lock Out

This procedure is established for the protection of personnel from hazards associated with machinery, equipment, or process systems during demolition, start up, repair maintenance, and associated activities as a result of unexpected energy or inadvertent start up.

Protection is accomplished by affixing appropriate lockout and tag out devices to breaker boxes, machinery, valves, and/or other process isolation and control devices according to specific procedures. For more detailed information refer to the appropriate section in the Construction Regulations and GPE's procedure on Lock Out.

Backing up Vehicles

Backing up of vehicles or equipment is a major safety concern for workers working in the same area. All personnel working with or near moving equipment are required to wear a colourful vest. All equipment or vehicles that move must have a sounding device when in reverse or honk their horn twice before moving in reverse.

All drivers of trucks must check what is behind their trucks before moving in reverse or have a traffic control person guide them.

Dust Control

On many worksites dust can be a problem unless preventive measures are taken. If possible, water must be used to wet down areas where dust can be created. If water is not available or impractical to use, then dust masks must be worn by all affected personnel.

Housekeeping

Housekeeping is a major concern on most construction sites. The construction regulations deal with housekeeping issues. The following are some examples of those rules:

- Waste material and debris shall be removed to a disposal area and reusable material shall be removed to a storage area as often as necessary to prevent a hazardous condition arising and, in any event, at least once daily.
- Rubbish, debris and other materials from demolition on a project may be dropped into an enclosed designated area to which people do not have access. Otherwise it shall not be permitted to fall freely from one level to another but shall be lowered by a chute, in a container or by a crane or hoist.
- No material shall be stored, stacked or piled within 1.8 metres of an opening in a floor or roof, the open edge of a floor, roof or balcony, or an excavation.
- A combustible, corrosive or toxic substance shall be stored in a suitable container.
- A storage cylinder for compressed gas shall be secured in an upright position.
- A spent storage cylinder shall not be stored inside a building.
- No storage cylinder for propane shall be placed closer than three metres to a source of ignition or fire.
- All access and egress ways are to be kept clear of debris, garbage or any other material that may cause a hazard.

Torchmen/Torch Cutting

Torchmen are exposed to many hazards, with burns, fire and explosions being the most severe. The following are some precaution and guidelines that should be followed:

- A Job Safety Analysis (JSA) should be reviewed by all torchmen before flame cutting a container, tank or vessel.
- Wear proper personal protective equipment, such as, hard hat, safety boots, gloves, cutting goggles and respirator.
- **DO NOT WEAR SYNTHETIC CLOTHING**, while cutting.
- Inspect cutting and welding equipment for damage or defects.
- Keep fire extinguisher nearby for immediate use.
- Have a fire watch if sparks or slags drop to other elevations.
- Always check to see what is below the cutting operation.

- Inspect the area around and below the cutting area at the end of the shift or when leaving the area.
- Use barriers, screens, barricades and warning signs whenever necessary.
- Never flame cut a tank or vessel, unless the tank has been declared free of an explosive atmosphere. This is usually done by a competent person using an explosive monitor.
- Gas piping systems and similar systems must be isolated, purged, tested for explosive conditions, and declared safe, before flame cutting the pipe.

Asbestos-Designated Substances

Asbestos is a naturally occurring mineral once used widely in the construction industry, these minerals are generally harmless when they are inert or still, but when disturbed they have the potential to become airborne and pose a serious health hazard. The use of Asbestos was prohibited in the mid-1970's, once proven to be a carcinogen, until this time most buildings were fireproofed and insulated with products containing a percentage of Asbestos. The products are referred to as "friable", when easily crumbled or loose in composition and "non-friable" when they are held together by a binder such as cement, vinyl or asphalt.

The owner of a building, machinery or equipment is responsible to inspect and establish if any products containing Asbestos are present. This information is to be recorded and made available to any contractor or worker who has to perform any activities at close proximity or is likely to disturb any materials containing Asbestos.

Materials containing Asbestos must be handled only by trained workers following the Ontario Regulation 838 made under the OHSA, respecting Asbestos in Construction Projects and in Buildings and Repair Operations.

If any materials are accidentally uncovered or are suspected to contain Asbestos during demolition activities, the workers must immediately report it to their supervisor. Until the products are inspected or tested, stop work in that particular area, isolate and identify the hazard by posting signs, barrier tape or polyethylene sheets as per site condition and do not disturb materials. Inhalation is the most hazardous route of entry therefore precautions such as using respirators equipped with HEPA cartridges, tyvek coveralls, wetting down surfaces or materials, should be followed during the isolation of the affected area.

JOB SAFETY ANALYSIS

A Job Safety Analysis (JSA) is a form of planning that analyzes the various job steps, to identify the potential hazards and provide controls to eliminate or control those hazards.

The importance of planning all job tasks cannot be overemphasized. The complicated jobs require an in-depth planning process and usually do not give us a problem.

It is the routine jobs that tend to get overlooked. Inadequate job planning is almost always a key contributing factor in incidents/accidents.

A Job Safety Analysis (JSA) is a tool used for good job planning. Properly used, it has a positive impact on safety, scheduling, quality and cost.

To help prevent injury to workers, damage to equipment, or disruption to the normal work schedule, a JOB SAFETY ANALYSIS must be developed for all jobs/tasks that have the potential for serious or recurring health, injury or safety problems.

Work will not commence until all involved Supervisors have initialled the JSA. If additions/revisions to the JSA are required, they must be initialled by all involved Supervisors and reviewed with all involved workers prior to work beginning.

A sample JSA follows.

GREEN-PORT ENVIRONMENTAL MANAGERS LTD			
Job Safety Analysis			
J.S.A.#			Page of
Job Task	Job #	Site Location	To Begin:
Department		Supervisor in Charge:	
Prepared By:	Reviewed By	Approved By	
Date	Date	Date	
Job Step	Hazard	Control	



ACKNOWLEDGEMENT

I have received a copy of this Health & Safety Booklet and I have been instructed in the company's Health & Safety Policy and Program. I also understand that any violations of the rules may lead to disciplinary actions. Also, if injured on the job I must report immediately to my supervisor for care and instruction.

Name: _____
Please Print

Signature: _____

Date: _____

Supervisor: _____

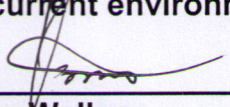


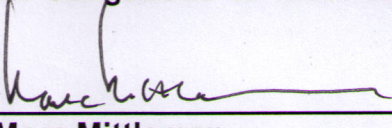
ENVIRONMENTAL MANAGEMENT POLICY

Green- Port Environmental Managers Ltd. (GPE) offers a full range of environmental and recycling services. We recognize that sound environmental management is an integral part of our operation's function, and protection of the environment is a key element of good business practice.

We are committed to conducting our business activities and operations in an environmentally responsible manner according to the following principles:

- Understanding and complying with all known applicable federal, provincial and municipal acts, regulations and by-laws, and identifying any new environmental issues that we must address during our operations
- Continually improving our environmental management objectives and activities in compliance with applicable industry standards for abatement, recycling, source separation and waste disposal
- Communicating environmental objectives and performance against these objectives internally within the company, and externally with companies and subcontractors with whom we work
- Minimizing the consumption of resources and reducing the usage and emission to atmosphere of any hazardous materials and reducing, re-using and recycling waste wherever possible and finding reliable end-use markets in order to maximize diversion activities from landfill
- Ensuring the workplace is safe for employees, subcontractors, and others who come into our facility or who work on our sites
- Working closely with our clients and suppliers to establish the highest possible environmental standards in an ongoing manner
- Adopting a forward-looking view on future business decisions, which may have environmental effects
- Training our staff in their environmental management responsibilities and ensuring that they are informed about our obligations to meet or exceed all current environmental legislation


Peter Wallace
V.P. Marketing & Development


Marc Mittleman
V.P. Operations

Date: Jan 4, 2008

QUALITY POLICY

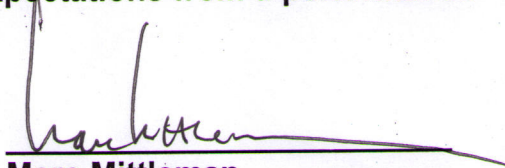
Our commitment to the pursuit of client satisfaction and continual improvement is the foundation of our success. Client satisfaction and continual improvement objectives are supported by:

- Understanding the current and future needs of our clients through on-going client engagement and dialogue
- Ensuring that employees interfacing with clients are knowledgeable and effective in quickly providing environmental management service solutions to meet established timetables
- Providing relevant employee training and skill(s) development
- Incorporating technological advances & innovations into our service provision processes
- Developing and maintaining strategic outsourcing with subcontractors that share our values, service and performance quality objectives
- Ensuring compliance with all applicable legislative and regulatory requirements, and continually reviewing and improving the effectiveness of our quality management system
- Developing the most cost effective methods for our clients' disposal and recycling needs

Our success is measured by the satisfaction of our clients in providing them with service that consistently meets or exceeds their expectations from a performance and cost perspective.



Peter Wallace
V.P. Marketing & Development



Marc Mittleman
V.P. Operations

Date: Jan 4, 2008



200 Front Street West
Toronto ON M5V 3J1

Telephone:
(416) 344-1012

Certificate of Clearance
Certificat de décharge

CONTRACTOR
L'ENTREPRENEUR

GREEN-PORT ENVIRONMENTAL
MANAGERS LTD
#23-4 MELANIE DR
BRAMPTON ON
L6T 4L1

The Workplace Safety and Insurance Board (WSIB) hereby waives its rights under Section 141 of the Workplace Safety and Insurance Act to hold the Principal, that is in a contractual agreement with the Contractor named, liable for any Section 141 liability of the Contractor for premiums and levies of the WSIB owing now or within 60 days from the date of this Certificate.

Par la présente, la Commission de la sécurité professionnelle et de l'assurance contre les accidents du travail (CSPAAT) renonce aux droits qui lui sont conférés en vertu de l'article 141 de la Loi sur la sécurité professionnelle et l'assurance contre les accidents du travail et qui l'autorisent à tenir l'entrepreneur principal, qui a signé une entente contractuelle avec l'entrepreneur dont le nom figure sur le présent certificat, responsable du paiement de toute prime ou de toute somme que l'entrepreneur est tenu de verser à la CSPAAT immédiatement ou dans les 60 jours suivant la date indiquée sur ce certificat.

THIS CERTIFICATE IS VALID FOR ALL CONTRACTS OF
THE NAMED CONTRACTOR DURING THE EFFECTIVE PERIOD

LE PRESENT CERTIFICAT EST VALIDE POUR TOUS LES CONTRATS PASSES PAR
LEDIT ENTREPRENEUR PENDANT LA PERIODE D'APPLICATION DU CERTIFICAT

Account No. / N° de compte	Firm No. / N° d'entreprise	Effective Date / Date d'entrée en vigueur
7865651	571989	22DEC2008

Valid only when signed by an authorized Officer at the WSIB.
Non valide sans la signature d'un agent autorisé de la CSPAAT.

Rate/Taux	Description	Rate/Taux	Description
5919001	OTHER WASTE, RECYC		

Contract Description / Description du contrat

Certificate No. / N° de certificat
203456565

Contact the WSIB if you question the validity of this document.
Veuillez communiquer avec la CSPAAT si vous doutez de la validité du présent document.

9054581702

Attached you will find your new Retail Sales Tax Vendor Permit.
Vous trouverez ci-joint votre nouveau permis de vendeur aux fins de la taxe de vente au détail.

Business Name or Trade Name and Mailing Address
Nom de l'entreprise ou raison sociale et adresse postale

**GREEN-PORT ENVIRONMENTAL
MANAGERS LTD.
23-4 MELANIE DR
BRAMPTON ON**

L6T 4L1

RST

Ontario Tax Office
Bureau fiscal de l'Ontario

Telephone No.
N° de téléphone

PEEL

**(905) 273-9490
1-800-265-9969**

▲ If you have any questions concerning your tax return or your account, please contact the Ontario Tax Office shown above.
Si vous avez des questions concernant votre déclaration de taxe de vente ou votre dossier, veuillez communiquer avec le bureau fiscal de l'Ontario ci-dessus.

Permit No. / N° de permis

9001-7528

Date of Issue / Délivré le

14 DEC 2004

▲ Always refer to the Permit No. when communicating with the Ontario Tax Office.
Veuillez toujours mentionner le numéro de permis lorsque vous communiquez avec le bureau fiscal de l'Ontario.



Ministry of Finance

Retail Sales Tax

PO Box 623

33 King Street West

Oshawa ON L1H 8H7

Ministère des Finances

Taxe de vente au détail

CP 623

33 rue King ouest

Oshawa ON L1H 8H7

**GREEN-PORT ENVIRONMENTAL
MANAGERS LTD.**

*Operating as: Business Name or Trade Name and Business Address
Nom de l'entreprise ou raison sociale et adresse de l'entreprise*

**GREEN-PORT ENVIRONMENTAL
MANAGERS LTD.
23-4 MELANIE DR
BRAMPTON ON**

Vendor Permit Permis de vendeur

Issued pursuant to Section 5 of the Retail Sales Tax Act
Délivré aux termes de l'article 5 de la Loi sur la taxe de vente au détail

NOT TRANSFERABLE / INCESSIBLE

A copy of this Permit must be kept at each place of business of the Vendor.
Une copie du présent permis doit être conservée dans chaque établissement du vendeur.

Permit No. / N° de permis

9001-7528

Date of Issue / Délivré le

14 DEC 2004

▲ Always refer to the Permit No. when communicating with the Ontario Tax Office.
Veuillez toujours mentionner le numéro de permis lorsque vous communiquez avec le bureau fiscal de l'Ontario.

**Minister of Finance
Ministre des Finances**

TR 102

0430K (99-08)

CERTIFICATE OF INSURANCE

GREEN07

DATE: September 24, 2008

BROKER:

Walter Roberts Insurance Brokers Inc.
110 West Beaver Creek Rd. #22
Richmond Hill, ON L4B 1J9

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

NAME AND ADDRESS OF INSURED:
GREEN-PORT ENVIRONMENTAL
4 MELANIE DRIVE, UNIT 23
BRAMPTON, ON L6T 4L1

COMPANY LETTER A: Elliott Special Risks

COVERAGES

This is to certify that the policies of insurance listed below have been issued to the insured named above for the policy period indicated, notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies.

LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS

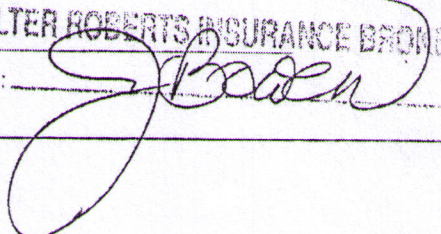
CO. LTR	TYPE OF INSURANCE	POLICY #	POLICY EFF DATE	POLICY EXP DATE	LIMITS OF LIABILITY	
A	GENERAL LIABILITY [X] COMM. GEN. LIABILITY [] CLAIMS MADE	892570	08/31/08	08/31/09	EACH OCCURRENCE	\$1,000,000
A	[X] OCCURRENCE	892570	08/31/08	08/31/09	GENERAL AGGREGATE	\$1,000,000
A	[X] TENANT'S LEGAL LIAB [] NON-OWNED [] HIRED	892570	08/31/08	08/31/09	PRODUCTS - COMP/OP AGG	\$1,000,000
					PERSONAL INJURY	\$1,000,000
					TENANTS LEGAL LIABILITY	\$500,000
					MED. EXP. (ONE PERSON)	\$25,000
					NON-OWNED	\$5,000,000
	AUTOMOBILE LIABILITY [] DESCRIBED AUTOS [] ALL OWNED AUTOS [] LEASED AUTOMOBILES	-	-	-	BODILY INJURY/ PROPERTY DAMAGE COMBINED	N/A
					BODILY INJURY (PER PERSON)	N/A
					BODILY INJURY (PER ACCIDENT)	N/A
					PROPERTY DAMAGE	N/A
A	EXCESS LIABILITY [X] UMBRELLA FORM [] OTHER THAN UMBRELLA	892570	08/31/08	08/31/09	EACH OCCURRENCE	\$4,000,000
					AGGREGATE	\$4,000,000
A	(X) POLLUTION EVENT INS.	603825	08/31/08	08/31/09	SUDDEN & ACCIDENTIAL ABOVE GROUND 24HR TIME ELEMENT	\$1,000,000
ADDITIONAL INSURED ADDED, BUT ONLY WITH RESPECT TO THE LIABILITY ARISING OUT OF THE OPERATIONS OF THE ABOVE NAMED INSURED					DESCRIPTION OF OPERATIONS, LOCATIONS, AUTOMOBILES & SPECIAL ITEMS	
					ENVIRONMENTAL MANAGERS	

CERTIFICATE HOLDER

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL -30- DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OF LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED SIGNATURE
JAN BOWEN R.I.B. (ONT.)

WALTER ROBERTS INSURANCE BROKERS INC.
PER: 

Certificate of Registration

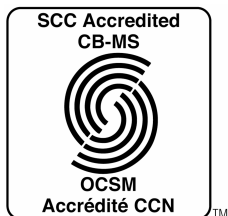


Certificate Number
QMS-0013

Initial Certification Date
June 25, 2008

Certificate Issue Date
June 25, 2008

Certificate Expiry Date
June 25, 2011



The following organization's quality management system has been assessed and registered by Intertek Testing Services NA Ltd. as conforming to the requirements of:

ISO 9001:2000

Organization:

Green-Port Environmental Managers Ltd.

4 Melanie Drive, Unit 23, Brampton, Ontario, L6T 4L1, Canada

The Quality Management System is applicable to:

Environmental site services contractor providing hazardous and non-hazardous waste disposal, recycling and site decommissioning.

In the issuance of this certificate, Intertek assumes no liability to any party other than to the Client, and then only in accordance with the agreed upon Certification Agreement.

A handwritten signature in black ink, appearing to read "K. Minard", is written over a horizontal line.

Intertek Testing Services NA Ltd. – Lachine, QC, Canada

Certificate of Registration

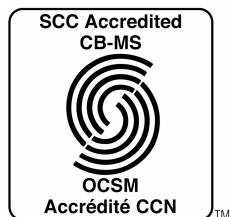


Certificate Number
EMS-0003

Initial Certification Date
June 25, 2008

Certificate Issue Date
June 25, 2008

Certificate Expiry Date
June 25, 2011



The following organization's environmental management system has been assessed and registered by Intertek Testing Services NA Ltd. as conforming to the requirements of:

ISO 14001:2004

Organization:

Green-Port Environmental Managers Ltd.

4 Melanie Drive, Unit 23, Brampton, Ontario, L6T 4L1, Canada

The Environmental Management System is applicable to the management of the environmental aspects related to:

Environmental site services contractor providing hazardous and non-hazardous waste disposal, recycling site decommissioning.

In the issuance of this certificate, Intertek assumes no liability to any party other than to the Client, and then only in accordance with the agreed upon Certification Agreement.

A handwritten signature in black ink, appearing to read "K. Minard", is written over a horizontal line.

Intertek Testing Services NA Ltd. – Lachine, QC, Canada



Ministry
of the
Environment

Ministère
de
l'Environnement

AMENDED PROVISIONAL CERTIFICATE OF APPROVAL
WASTE MANAGEMENT SYSTEM
NUMBER A841480
Issue Date: January 25, 2008

Green-Port Environmental Managers Ltd.
4 Melanie Dr, No. Unit 23
Brampton, Ontario
L6T 4L1

You have applied in accordance with Section 27 of the Environmental Protection Act for approval of:

a waste management system serving:

the Province of Ontario and including only the Mobile Unit(s) listed in the attached Schedule "A", attached to this Certificate to:

- a) drain contaminated oil from transformers, to decontaminate PCB contaminated transformers and have decontaminated metal parts recycled;
- b) decontaminate PCB contaminated electrical cables and potheads using solvent, and have decontaminated metals recycled;
- c) prepare inventory, repack and make ready for shipment, for final disposal, PCB waste that includes: PCB contaminated oils, transformer carcasses that have been drained from PCB contaminated oil, PCB capacitors, PCB contaminated soils, PCB contaminated concrete, empty PCB contaminated drums, and PCB contaminated paints, solvents, and sludges; and
- d) disassemble non-PCB contaminated transformers and have disassembled parts recycled,

All for specifically the following waste class: 243, as described in the "Ministry of the Environment Waste Classes" as amended January 1986, and

All in accordance with the plans and specifications listed Schedule "B" which is attached to, and forms part of this Certificate **A841480**.

Note: Use of the system for additional categories of wastes requires a new application and amendments to the Provisional Certificate of Approval.

For the purpose of this Provisional Certificate of Approval and the terms and conditions specified below, the following definitions apply:

"Act" or "EPA" means the *Environmental Protection Act*, R.S.O. 1990, c. E.19, as amended;

"Certificate" means this Provisional Certificate of Approval for a Waste Management System, including Schedules "A" and "B", issued in accordance with Part V of the *EPA* ;

"Company" means Green-Port Environmental Managers Ltd., including its officers, employees, agents or contractors;

"Director" means any Ministry employee appointed by the Minister pursuant to Section 5 of the *EPA* ;

"Ministry" means the Ontario Ministry of the Environment; and

"Mobile Unit" means mobile waste disposal site that is listed in Schedule "A" attached to this Certificate and in Schedule "A" attached to the Provisional Certificate of Approval for a Waste Disposal Site A290022.

You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

General Provisions

1. This Certificate supersedes and replaces all previously issued Certificates of Approval or any other Provisional Certificate of Approval issued under Part V of the *EPA* with respect to this specific operation.
2. The Company shall operate the Mobile Unit in accordance with the following:
 - (a) plans and specifications outlined in Schedule "B" attached to this Certificate, except when specified otherwise by the conditions of this Certificate;
 - (b) terms and conditions listed in this Certificate; and
 - (c) Provisional Certificate of Approval for a Waste Disposal Site **A290022**.
3. (1) The Company shall notify the Director, in writing, of any of the following changes within thirty (30) calendar days of the occurrence of the change:
 - (a) change of owner or operator or both;
 - (b) change of address or address of new owner;
 - (c) change of partners where the Company is or at any time becomes a partnership, and a copy of the most recent registration registered under the Business Names Act shall be included in the notification to the Director;
 - (d) change of name of the corporation where the Company is or at any time becomes a corporation, and a copy of the most current "Initial Notice or Notice of Change" (Form 1, 2 of O. Reg. 189, R.R.O. 1980, as amended from time to time), filed under the Corporation Information Act shall be included in the notification to the Director; and
 - (e) change in director(s) or officer(s) of the corporation where the Company is or at

any time becomes a corporation, and a copy of the most current "Initial Notice or Notice of Change" as referred to in (d).

- (2) In the event of any change in ownership of the Mobile Unit, the Company shall notify the succeeding (new owner) company of the existence of this Certificate, and a copy of such notice shall be forwarded to the Director.
- (3) The Company shall ensure that all communications made pursuant to this Condition refers to this Certificate number A841480.

System Operations

4.
 - (1) Only the Mobile Unit described in Schedule "A" attached to this Certificate and in Schedule "A" attached to the Provisional Certificate of Approval for a Waste Disposal Site **A290022**, shall be operated pursuant to this Certificate.
 - (2) In the event that the Company proposes to operate additional equipment, which is not a part of the Mobile Unit approved by this Certificate, a separate application shall be submitted to the Director, who may amend this Certificate or issue a separate Provisional Certificate of Approval for a Waste Management System.
5. The operation of this Mobile Unit(s) is limited to the following:
 - (a) draining contaminated oil from transformers, decontamination of PCB contaminated transformers, and recycling decontaminated metal parts;
 - (b) decontaminating PCB contaminated electrical cables and potheads using solvent, and recycling decontaminated metals parts;
 - (c) preparing for inventory, repacking and making ready for shipment, for final disposal, PCB waste that includes: PCB contaminated oils, transformer carcasses from which PCB contaminated oil has been drained, PCB capacitors, PCB contaminated soils, PCB contaminated concrete, PCB contaminated tar from ballasts, empty PCB contaminated drums, and PCB contaminated paints, solvents, and sludges; and
 - (d) disassembling non-PCB contaminated transformers and recycling disassembled parts,all for specifically the following waste class: 243, as described in the "Ministry of the Environment waste Classes" as amended January 1986.
6. No waste shall be contained in the Mobile Unit while it is transported from one operating site to another operating site or to the storage location as listed in the attached Schedule "A".
7. The Company shall operate no more than two shifts per day.

Insurance

8. The owner shall, at all times while the Mobile Unit is operating in Ontario, maintain a liability

insurance policy in the amount of \$1,000,000.00.

Vehicle Identification

9. The Mobile Unit shall be clearly marked, on both sides, with the following information displayed:
 - (a) Company name;
 - (b) this Certificate number A841480; and
 - (c) Provisional Certificate of Approval for a Waste Disposal Site A290022.
10. A copy of this Certificate, in its entirety and including all Notices of Amendment, shall be with the Mobile Unit at all times that the Mobile Unit is operated or is located at sites where operation is to occur.

Mobile Unit Storage Location

11. The Mobile Unit shall be stored at 4 Melanie Drive, Brampton, Ontario until such a time that the Green-Port Environmental Managers Ltd. Facility at 64 Todd Road, Halton Hills, Ontario is operational.
 - (a) The Company shall inform the Regional Director in writing that the mobile unit ceases to be stored at 4 Melanie Drive, Unit #23, Brampton, Ontario within 30 days of the relocation.

SCHEDULE "A"

This Schedule "A" forms part of this Provisional Certificate of Approval A841480.

UNIT #	MOBILE UNIT COMPONENTS	STORAGE
1	- one (1) fork lift, used to handle drums with PCB waste; - two (2) positive displacement gear pumps, driven by electric motors; - one (1) epoxy-coated spill tray, 1.5m X 3.0m X 0.15m; - one (1) epoxy-coated spill tray, 1.5m X 2.1m X 0.15m; - one (1) epoxy-coated spill tray, 3.0m X 3.0m X 0.15m; - one (1) epoxy-coated spill tray, 0.9m X 0.9m X 0.15m; - one (1) power wash sprayer	1

Green-Port Environmental Managers Ltd.

Interested Utilities	Approx. Meter Total	Interest ed?	Option	NW Group	Distr. # 9	CND K-W W-N	NEPA	Barrie & Power- stream
Atikokan Hydro Inc.	1556	Yes	Cost - Option A*	1556				
Barrie	53031	Yes	Credit - Option E*					53031
Brant County Power Inc.	7500	Yes	No Cost - Option D*				7500	
Brantford Power Inc.	30814	Yes	Credit - Option E*				30814	
Cambridge and North Dumfries	39846	Yes	Credit - Option E*			39846		
Canadian Niagara Power Inc.	21641	Yes	Credit - Option E*				21641	
Centre Wellington Hydro Ltd.	5070	Yes	Cost - Option A*					
Chapleau Public Utilities Corporation	1233	Yes	Cost - Option A*		1233			
COLLUS Power Corp.	11628	Yes	No Cost - Option D*					
Espanola Regional Hydro Distribution Corp.	3018	Yes	Cost - Option A*		3018			
Fort Albany Power Corporation	0	Yes	Cost - Option A*		0			
Fort Frances Power Corporation	3412	Yes	Cost - Option A*	3412				
Grand Valley Energy Inc.	610	Yes	Cost - Option A*					
Great Lakes Power Limited	10235	Yes	Cost - Option A*		10235			
Grimsby Power Incorporated	7786	Yes	No Cost - Option D*				7786	
Haldimand County Hydro Inc.	17940	Yes	Credit - Option E*				17940	
Hearst Power Distribution Ltd.	2476	Yes	Cost - Option A*		2476			
Innisfil Hydro Distribution Systems Ltd.	11710	Yes	Credit - Option E*					
Kenora H.E. Corp. Ltd.	5225	Yes	Cost - Option A*	5225				
Kitchener-Wilmot Hydro	65869	Yes	Credit - Option E*			65869		
Lakefront Utilities Inc.	7574	Yes	No Cost - Option D*					
Lakeland Power Distribution Ltd.	7900	Yes	No Cost - Option D*					
Midland Power Utility Corporation	5697	Yes	Cost - Option A*					
Niagara Peninsula Energy Inc.	42043	Yes	Credit - Option E*				42043	
Niagara-on-the-Lake Hydro Inc.	6161	Yes	Cost - Option A*				6161	
Norfolk Power Distribution Inc.	15804	Yes	Credit - Option E*				15804	
North Bay Hydro Distribution Inc.	20941	Yes	Cost - Option A*		20941			
Northern Ontario Wires Inc	5733	Yes	Cost - Option A*		5733			
Orangeville Hydro Limited	8441	Yes	No Cost - Option D*					
Orillia Power Distribution Corporation	10898	Yes	No Cost - Option D*					
Parry Sound Power Corporation	2863	Yes	Cost - Option A*					
PowerStream	90000	Yes	Credit - Option E*					90000
PUC Distribution Inc.	29070	Yes	Cost - Option A*		29070			
Rideau St. Lawrence Distribution Ltd.	5124	Yes	Cost - Option A*					
Sioux Lookout Hydro Inc.	2454	Yes	Cost - Option A*	2454				
Thunder Bay Hydro Electricity Distrib. Inc	44213	Yes	Cost - Option A*	44213				
Wasaga Distribution Inc.	8434	Yes	No Cost - Option D*					
Waterloo North Hydro	39971	Yes	Credit - Option E*			39971		
Welland Hydro Electric System Corp.	19130	Yes	Credit - Option E*				19130	
Wellington North Power Inc.	2948	Yes	Cost - Option A*					
Westario Power Inc.	18187	Yes	Cost - Option A*					
Whitby	27000	Yes	Credit - Option E*					
Potential Total of Redundant Meters	721186			56860	72706	145686	168819	143031

Cost - Option A*

*transportation, pickup, out of town allowance, labour extra plus 15%, no credit for hydro meters.

Cost - Option A*

*transportation, pickup, out of town allowance, labour extra plus 15%, no credit for hydro meters.

Cost - Option A*

*transportation, pickup, out of town allowance, labour extra plus 15%, no credit for hydro meters.

No Cost - Option D*

* includes GPE supervision of live loading of 40 foot shipping container by utility & transport by GPE & hydro meter credit

Credit - Option E* = \$.10/meter (glass and/or plastic faces)

*includes provision of 40 foot containers, removal when full and exchange by tilt-n-load

Credit - Option E* = \$.10/meter (glass and/or plastic faces)

*includes provision of 40 foot containers, removal when full and exchange by tilt-n-load

Credit - Option E* = \$.10/meter (glass and/or plastic faces)

*includes provision of 40 foot containers, removal when full and exchange by tilt-n-load

Credit - Option E* = \$.10/meter (glass and/or plastic faces)

*includes provision of 40 foot containers, removal when full and exchange by tilt-n-load

SCHEDULE "A"

This Schedule "A" forms part of this Certificate for a Waste Management System A841480.

Information relied upon in the issuance of this Certificate:

1. Application for a Certificate of Approval for a Waste Management System submitted by Green-Port Environmental Managers Ltd., signed by Mr. Peter Wallace, P. Eng., and dated April 17, 1995.
2. Design and Operations Manual including the following information:
 - (a) procedures.
 - (b) system processing and storage capacity.
 - (c) air emission and air monitoring controls.
 - (d) worker exposure.
 - (e) days and hours of operations anticipated.
 - (f) record keeping for waste classification rates/volumes of waste processed for storage and recycling and availability of records.
 - (g) contingency plan for fire or spills.
 - (h) project specific Health and Safety Plan "Safety First" policy:
 - i. procedures for entering Mobile Unit.
 - ii. emergency response in case of fire, hazardous spill or safety accident.
 - iii. safety talks and emergency first aid, eye wash station.
 - iv. list of process parameters to be monitored including sample data.
 - v. procedures after completed operation.
 - vi. notification Site preparation and planning details.
 - vii. Drawings and Flowchart (GP-1,2 and 3 of 3, dated April 7, 1995).
 - viii. plan view and elevation view.
 - ix. detailed QA/QC sampling and analysis for monitoring waste and recycled products including frequency (Appendix "A").
 - x. area to be served by Mobile Unit and number of Mobile Units.
 - xi. physical location for storage of Mobile Unit when not in use.
3. Articles of Incorporation.
4. Letter dated May 31, 1995 from Mr. Peter Wallace, P. Eng., Green-Port Environmental Managers Ltd. to Mr. V. Petranovic, P. Eng., Ministry of Environment and Energy providing additional technical and operating information.
5. Letter dated June 29, 1995 from Mr. Peter Wallace, P. Eng., Green-Port Environmental Managers Ltd. to Mr. V. Petranovic, P. Eng., Ministry of Environment and Energy requesting approval to pack PCB waste into drums in accordance with the Transportation of Dangerous Goods Act.

6. Letter dated July 7, 1995 from Mr. Peter Wallace, P. Eng., Green-Port Environmental Managers Ltd. to Mr. V. Petranovic, P. Eng., Ministry of Environment and Energy detailing PCB waste to be packed and naming Swan Hills, Alberta, as the final destination for the packed PCB waste.
7. Letter dated October 5, 1995 addressed to Mr. A. Dominski, P. Eng., Ministry of Environment and Energy from Mr. Peter Wallace, P. Eng., Green-Port Environmental Managers Ltd. requesting addition of second mobile unit and inclusion of PCB contaminated paints, solvents and sludges into PCB waste that the mobile units will process.
8. Letter dated February 7, 1996 addressed to Mr. A. Dominski, P. Eng., Ministry of the Environment and Energy, from Mr. Peter Wallace, P. Eng., Green-Port Environmental Managers Ltd. requesting that the reference to "Swan Hills, Alberta" as the only disposal location be replaced with a general reference to a "final disposal location".
9. Application for Provisional Certificate of Approval for a Waste Management System submitted by Green-Port Environmental Managers Ltd. signed by Mr. Peter Wallace and dated August 22, 1996.
10. Letter dated August 22, 1996 from Mr. Peter Wallace, P.Eng., Vice President, Marketing, Green-Port Environmental Managers Ltd., to Mr. A. Dominski, P.Eng., Supervisor, Waste Sites and Systems Approvals, Ministry of Environment and Energy, Approvals Branch, providing Protocol for Draining PCB Transformers.
11. Letter dated October 9, 1996 from Mr. Peter Wallace, P.Eng., Green-Port Environmental Managers Ltd., to Mr. A. Dominski, P.Eng., Supervisor, Waste Sites and Systems Approvals, Ministry of Environment and Energy, Approvals Branch, providing estimate of PCB contaminated oil quantity that may spill during the operation.
12. Letter dated June 28, 1997 from Mr Peter Wallace, P. Eng., Green-Port Environmental Managers to Mr. A. Dominski, P. Eng., Supervisor Waste Sites and Systems Approvals, Ministry of the Environment and Energy, Approvals Branch, requesting approval to decontaminate PCB contaminated electrical cables and potheads, and have decontaminated metals recycled.
13. Letter dated October 1, 1997 from Mr Peter Wallace, P. Eng., Green-Port Environmental Managers to Mr. A. Dominski, P. Eng., Supervisor Waste Sites and Systems Approvals, Ministry of the Environment and Energy, Approvals Branch, requesting approval to process and recycle non-PCB contaminated transformers.
14. Letter dated October 2, 1997 from Mr Peter Wallace, P. Eng., Green-Port Environmental Managers to Mr. A. Dominski, P. Eng., Supervisor Waste Sites and Systems Approvals, Ministry of the Environment and Energy, Approvals Branch, providing additional information on the unit operation.
15. Letter dated October 29, 1997 from Mr Peter Wallace, P. Eng., Green-Port Environmental Managers to Mr. A. Dominski, P. Eng., Supervisor Waste Sites and Systems Approvals, Ministry

of the Environment and Energy, Approvals Branch, requesting approval to operated the unit on a two-shift per day basis.

16. Letter dated November 11, 1997 from M. Peter Wallace, P.Eng., Vice President Marketing, Green-Port Environmental Managers Ltd. to Mr. A. Dominski, P.Eng., Supervisor, Waste Sites and Systems Approvals, Ministry of the Environment, applying for amendment of the Certificate to allow for decontamination of PCB contaminated transformers, with PCB in oil content of less than 15,000 ppm.
17. Letter dated February 18, 1998 from Mr Peter Wallace, P. Eng., Green-Port Environmental Managers to Mr. A. Dominski, P. Eng., Supervisor Waste Sites and Systems Approvals, Ministry of the Environment and Energy, Approvals Branch, providing information on solubility of PCB in diesel oil.
18. Letter dated February 19, 1998 from M. Peter Wallace, P.Eng., Vice President Marketing, Green-Port Environmental Managers Ltd. to Mr. A. Dominski, P.Eng., Supervisor, Waste Sites and Systems Approvals, Ministry of the Environment, providing additional operating information for decontamination of the transformer.
19. Letter dated August 29, 1998, from Mr. Peter Wallace, P.Eng., Green-Port Environmental Managers Ltd., to Mr. A. Dominski, P.Eng., Manager, Waste Section, Environmental Assessment and Approvals Branch, Ministry of the Environment, submitting a proposed processing, sampling, testing and disposal method for PCB contaminated wastewater and PCB contaminated carbon filters.
20. Fax, dated November 30, 1998, from Mr. Peter Wallace, V.P. Marketing, Green-Port Environmental Managers Ltd., to Mr. V. Petranovic, P.Eng., Senior Engineer, Waste Section, Environmental Assessment and Approvals Branch, Ministry of the Environment, reporting on results of tests on PCB cables at London Hydro. The tests were carried out by Agra Earth & Environmental and Fine Analysis Laboratories Ltd.
21. Letter dated February 1, 1999, from Mr. Peter Wallace, P.Eng., Green-Port Environmental Managers Ltd., to Mr. A. Dominski, P.Eng., Manager, Waste Section, Environmental Assessment and Approvals Branch, Ministry of the Environment requesting reduction of number of leachate tests for PCB solids.
22. Letter, dated December 2000, from Peter Wallace, Green-Port Environmental Managers Ltd., to A.Dominski, MOE, querying procedures regarding retiring a Mobile Facility and return of Financial Assurance because Ballast Disassembly/Recycling operations are no longer economically viable.
23. Facsimile, transmitted February 14, 2001, from Peter Wallace, Green-Port Environmental Managers Ltd., to A.Dominski, MOE, requesting suspension of Mobile Unit A290036(Site)/A841552(System), and inclusion of PCB Transformer draining operation for Mobile Facility A290022(Site)/841480(System).

24. Letter, dated October 24, 2001, from S.Holloway, MOE, to Peter Wallace confirming teleconference October 2, 2001 between Mr. Wallace and D.Guimond, MOE, and S.Holloway, MOE, during which Mr. Wallace clarified that PCB Transformer Draining/Disassembly/Recycling operations and equipment of Mobile Facility A290036/A841552 were to be transferred to Mobile Facility A290022(Site)/A841480(System).
25. Facsimile, transmitted November 1, 2001, from Peter Wallace, Green-Port Environmental Managers Ltd. to S.Holloway, MOE, confirming that S.Holloway's understanding Company's intentions, as described in Item 25 of this Schedule "B" is correct, and also includes deletion of all Ballast Disassembly/Recycling operations.
26. Facsimile, transmitted November 28, 2001, from Peter Wallace, Green-Port Environmental Managers Ltd. to S. Holloway, MOE, requesting re-inclusion of Ballast Disassembly/Recycling operations for Mobile Facility A290022(Site)/A841480(System).

The reasons for the imposition of these terms and conditions are as follows:

1. The reason for Conditions 1, 2, 3, 8 and 9 is to clarify the legal rights and responsibilities of the Company.
2. The reason for Condition 4 is to ensure that the Site is operated in accordance with the application and supporting documentation submitted by the Company, and not in a manner which the Director has not been asked to consider.
3. The reason for Conditions 5 and 6 is to ensure that the site is operated in a manner which does not result in a nuisance or a hazard to the health and safety of the environment or people.
4. The reason for Condition 7 is to ensure that every vehicle operated under this Certificate is adequately insured under a vehicle liability policy.

This Certificate of Approval revokes and replaces Certificate(s) of Approval No. A841480 issued on January 9, 2002 and all subsequent amendments.

In accordance with Section 139 of the Environmental Protection Act, R.S.O. 1990, Chapter E-19, as amended, you may by written Notice served upon me, the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;

5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the waste management system is located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

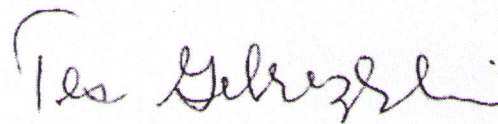
The Secretary*
Environmental Review Tribunal
2300 Yonge St., Suite 1700
P.O. Box 2382
Toronto, Ontario
M4P 1E4

AND

The Director
Section 39, *Environmental Protection Act*
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca

DATED AT TORONTO this 25th day of January, 2008



Tesfaye Gebrezghi, P.Eng.
Director
Section 39, *Environmental Protection Act*

YI/

c: District Manager, MOE Halton-Peel
Peter Wallace, P.Eng., Green-Port Environmental Managers Ltd.

APPENDIX “C”

Vendor Response: Recycle Trade

December 19, 2008

**Util-Assist Inc.
17705 Leslie Street
Suite 103
Newmarket, ON. L3Y 3E3**

Attention: Mr. James Douglas

Subject: Util-Assist Inc. RFI 2008-0512 – Meter Disposal Services

SECTION 1 – BIDDER'S EXECUTIVE SUMMARY

Introduction:

Recycle Trade Inc.
6 Browning Court
Bolton, Ontario L7E 1G8
Tel: (905) 951-0000 Fax: (905) 951-1468
Toll Free: 1-800-743-9734
www.recycletradeinc.com

Recycle Trade Inc. is a Dealer, Processor and Full Service Provider for Industrial Accounts of ferrous and non-ferrous scrap metals, servicing businesses throughout the Greater Toronto Area and Southern Ontario. The Company has been located in Bolton, Ontario for the past 16 years, and we have over 29 years experience in the industry. We are a private Company family owned and operated with a courteous staff of qualified and committed people. We take great pride in providing outstanding customer service, and attribute our success to this, our employees, and through maintaining low cost at the most competitive pricing.

Approximately 90 % of our monthly volume consists of carbon steel, which amounts to over 5,000 tons on average. The remaining 10 % is comprised of stainless steel and non-ferrous alloys. Open capacity is available as required.

Products and Services:

Processing of all material in a safe and environmentally responsible manner.

On site certified weigh scales equipped with radiation detection monitors.

Accurate weigh scale tickets and documentation for all materials received.

Provision of roll-off bin services for manufacturing / industrial plants, temporary use, etc.

Provision of scrap metal handling services for manufacturing / industrial use - warehouse tote boxes, dumping hoppers, and customized bins.

Our own Fleet of trucks.

Easy access to highly specialized truck and equipment services.

Evaluation of metal waste to maximize return value.

Separation and processing of non-ferrous metals.

Guaranteed product destruction with proper documentation supplied.

Service contracts.

MOE registered.

Exposure to and participation in domestic and international markets enabling us to provide our clients with the most competitive pricing.

General Contact Information:

Joseph Leo
Claudio Leo

President
Operations Manager

Bill Wright

Tel: 905-951-0000
Fax: 905-951-1468
Cell: 416-771-1105
E-Mail: bwright@recycletradeinc.com

SECTION 2 – BIDDER INFORMATION

As per your template form:

Experience:

- 1) 29 years in business.
- 2) 29 years providing recycling services.
- 3) Primary line is Metals Recycling. 100% Metals Recycling.

Company Size and Location:

14 employees. 0 turnover last 3 years.

Located at 6 Browning Court, Bolton, ON. L7E-1G8.

Financial Statement:

Privately held Company. Financially stable and sound.

References:

The City of Brampton
425 Chrysler Drive
Brampton, ON.

Att: Mr. Chris Chiaravallotti – Director of Fleet Services. Tel: 905-458-4888 Ext 333

North York, ON.

Att: Mr. Fred Dametto – President. Tel: 416-745-0417

Fabcrest Metal Products

Toronto, ON.

Att: Mr. Steve DeDomenico – President. Tel: 905-660-3461

Environmental Policy:

Recycle Trade Inc. is a small Company. Our business is driven by 100% Recycling of Metal Scrap. No metal is purchased or shipped to our facility for the purpose of landfill or otherwise.

Environmental Initiatives Include:

- 1) Wood, Cardboard and Tires are segregated for recycling.
- 2) Scrap machinery purchased as scrap metal must have fluids removed prior to shipping to our facility.
- 3) All incoming material is thoroughly checked for radiation contamination.
- 4) Any residual waste oils are collected and segregated for recycling.
- 5) Glass in collectable quantities can be segregated for recycling.
- 6) Employees are trained to be alert for non-conforming or contaminated materials.
- 7) General waste is segregated and serviced by a MOE Registered Waste Disposal Company.

SECTION 3 – REQUESTED INFORMATION

As per your tables and charts:

- 1) RTI has a definitive interest in servicing the utilities listed within your spreadsheet that we have indicated with a “Yes” response. Should there be an interest on your part in discussing other listed utilities that we have indicated with a “No”, we would be pleased to pursue these discussions.
- 2) Meter Disposal Process would be as per your Proposed Options “B” or “D”, and finalized based upon a general discussion meeting with you.
- 3) Pricing for redundant meters – we would be pleased to submit a pricing quotation as per the indicated options on your spreadsheet. We look forward to the opportunity of being issued and RFP.

Spreadsheet attached.

SECTION 4 – ADDITIONAL INFORMATION

Thank you for the opportunity to participate in the Request For Information process. I trust the enclosed Format of Submission as per your information package meets your approval. Kindly contact me at any of the listed numbers or through e-mail should you require further information or clarifications. Our normal office business hours are Monday – Friday 8:00 am to 5:00 pm, however I can be contacted via cellular after hours anytime. Please note that we will be in shutdown for the Christmas and Holiday period from December 20th 2008 – January 4th 2009 inclusive.

Proponent Name: RECYCLE TRADE INC.

Interested Utilities	Approximate Meter Total for Recycling	Proponent Is Interested In this Territory?	Option Proposed
Atikokan Hydro Inc.	1556	NO	
Barrie	53031	YES	B or D
Brant County Power Inc.	7500	YES	B or D
Brantford Power Inc.	30814	YES	B or D
Cambridge and North Dumfries	39846	YES	B or D
Canadian Niagara Power Inc.	21641	YES	B or D
Centre Wellington Hydro Ltd.	5070	NO	
Chapleau Public Utilities Corporation	1233	NO	
COLLUS Power Corp.	11628	YES	B or D
Espanola Regional Hydro Distribution Corp.	3018	NO	
Fort Albany Power Corporation	0	NO	
Fort Frances Power Corporation	3412	NO	
Grand Valley Energy Inc.	610	NO	
Great Lakes Power Limited	10235	NO	
Grimsby Power Incorporated	7786	YES	B or D
Haldimand County Hydro Inc.	17940	YES	B or D
Hearst Power Distribution Ltd.	2476	NO	
Innisfil Hydro Distribution Systems Ltd.	11710	YES	B or D
Kenora H.E. Corp. Ltd.	5225	NO	
Kitchener-Wilmot Hydro	65869	YES	B or D
Lakefront Utilities Inc.	7574	NO	
Lakeland Power Distribution Ltd.	7900	NO	
Midland Power Utility Corporation	5697	NO	
Niagara Peninsula Energy Inc.	42043	YES	B or D
Niagara-on-the-Lake Hydro Inc.	6161	YES	B or D
Norfolk Power Distribution Inc.	15804	NO	
North Bay Hydro Distribution Inc.	20941	NO	
Northern Ontario Wires Inc	5733	NO	
Orangeville Hydro Limited	8441	YES	B or D
Orillia Power Distribution Corporation	10898	YES	B or D
Parry Sound Power Corporation	2863	NO	
PowerStream	90000	YES	B or D
PUC Distribution Inc.	29070	NO	
Rideau St. Lawrence Distribution Ltd.	5124	NO	
Sioux Lookout Hydro Inc.	2454	NO	
Thunder Bay Hydro Electricity Distrib. Inc	44213	NO	
Wasaga Distribution Inc.	8434	YES	B or D
Waterloo North Hydro	39971	YES	B or D
Welland Hydro Electric System Corp.	19130	YES	B or D
Wellington North Power Inc.	2948	NO	
Westario Power Inc.	18187	NO	
Whitby	27000	YES	B or D

Potential Total of Redundant Meters: 721186

Addendum 5

NEPA – AMI Contract Negotiation



Niagara Erie Power Association AMI Contract Negotiation Package

Prepared By: James Douglas

**17705 Leslie St., Suite 103
Newmarket, Ontario
L3Y 3E3**

**(t) 416.471.2331
(e) jdouglas@Util-Assist.com**

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***Phase 2 - Niagara Erie Power Association
Smart Meter Deployment: Contract Negotiation Package***

Review of Contract Negotiation Process

Proposed / Anticipated Process

Following is the proposed strategy for the forthcoming Contract Negotiation process, during which the Niagara Erie Power Association (NEPA) will engage Sensus Metering Systems Inc. (SMS). The Ministry of Energy approved London Hydro process has provided SMS as the “best-fit” AMI solution for the NEPA member utilities and the following items are suggested as due diligence requirements so that NEPA can enter into the deployment phase of the SMI with a proper understanding of the SMS AMI solution and associated costs.

1. Util-Assist will request from SMS their final pricing numbers, utilizing NEPA specific information. This will be done using the following document, and the Microsoft Excel spreadsheet which accompanies this document. Within this spreadsheet are several tabs, one of which will contain NEPA’s meter volumes by meter type allowing SMS to provide firm pricing.
2. The spreadsheet will also be utilized to demonstrate compliancy with the Ministry of Energy’s minimum functional specification. This document explains the requirement to complete this spreadsheet tab.
3. The following is a revised version of the Final Vendor Negotiation Package. This has been modified so that it can be provided to SMS to confirm the current functionality of the product. Upon completion of this document, the information package (which will contain this document, SMS’s responses and documentation, and the accompanying spreadsheet) would be attached to the SMS contract as an Appendix, demonstrating functionality and accurate pricing at the time of contract signing.
4. Initially, we would also ask SMS to provide their standard (or suggested) contract terms and conditions so that while the above information is being processed by SMS, we (Util-Assist) can make any suggested modifications to the contract (based on experience with AMI contracts acquired through the Phase 1 process). This will minimize the amount of work that will eventually be required by the legal review, once the contract is such that it can be submitted for approval.
5. In addition to requesting standard terms and conditions from SMS, we have provided pre-approved NEPA terms and conditions as an alternative starting point. In the event that SMS is accepting of these terms and conditions as a starting point, this will allow an alternative method (to that cited in point 4 above) of minimizing the work to be performed through an official legal review.

Response Instructions for SMS

This contract negotiation package establishes the system functionality for which NEPA wishes to acquire a comprehensive understanding. This document will also provide the opportunity for SMS to submit firm pricing for the NEPA member service territories, based on specific meter data.

Where information has been requested through this contract negotiation package, the submission should clearly indicate the section for which the information applies (by citing the section heading).

SMS should ensure that all components of the contract negotiations package are completed. Components include the sections within this document, as well as the tabs within the accompanying spreadsheet. Itemized pricing information for all goods or services is to be contained within the spreadsheet which is to be included with the contract negotiation package. All pricing shall be expressed in Canadian currency, exclusive of taxes. If your originating currency is not Canadian, the currency exchange that was used to calculate the price in Canadian currency is to be provided.

It is NEPA's request that SMS's response be complete and unambiguous without the need for additional explanation or information.

Review of Current Functionality

AMI Meets MOE Minimum Specification

The Ontario Ministry of Energy has published their requirements for an Advanced Metering Infrastructure within Ontario Regulation 425/06, *Criteria and Requirements for Meters and Metering Equipment, Systems and Technology*, which in turn references a document entitled: *Functional Specification For An Advanced Metering Infrastructure Version 2* (dated July 5, 2007); a copy has been included within Appendix “A” for convenience of reference.

Within the spreadsheet that accompanies this document, NEPA requires that SMS complete the tab Compliance_MoE_FunctionalSpec in the Pricing and Compliancy Spreadsheet as a statement of compliance to the described requirements and submit it to NEPA as an integral component of the Contract Negotiation Process.

Understanding the components which comprise the base system that is provided (or if the stated components are considered enhancements / upgrades) is critical to NEPA. The spreadsheet will allow SMS to indicate whether functions are included with the system, or if not, what the estimated cost for the upgrade is.

It is essential that any RF technology be fully compliant with the applicable Industry Canada criteria for frequency, bandwidth, power, modulation and radiation pattern, regardless if the proposed RF spectrum is classified as licensed or unlicensed. Official publications of Industry Canada’s Spectrum Management and Telecommunications division are available electronically at URL: http://strategis.ic.gc.ca/epic/internet/insmt-gst.nsf/en/h_sf01841e.html

AMI Compliance with Health Canada Implementation of an RF Device

It is essential that all proposed systems meet or exceed regulations pertaining to the implementation of RF devices as directed by Health Canada within their publication entitled:

Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz – Safety Code 6; 1999.

Note: This document is posted electronically on Health Canada’s website at URL: http://www.hc-sc.gc.ca/ewh-semt/alt_formats/hecs-sesc/pdf/pubs/radiation/99ehd-dhm237/99ehd-dhm237_e.pdf

NEPA requires that SMS provide a statement of recognition of these requirements, and that their product is in compliance.

AMI System Warranty

NEPA requires that SMS provide information detailing the warranties that are provided with the AMI system proposed. Should the warranty statement be greater than one page in length, please include a summary highlighting the following items:

1. Term (term of warranty by product (AMCD, AMRC, AMCC, (hardware and software), and possible pro-rated scenarios),
2. Fault (cost coverage and obligations depending on whether deficiency is attributed to manufacturer/workmanship, or some fault of NEPA’s)
3. Labour (are labour costs covered by the AMI Provider if a fault is found in the product after the endpoints have been deployed).

Phase 2 - Niagara Erie Power Association Smart Meter Deployment: Contract Negotiation Package

The warranty information should include the procedure which would be required by NEPA when defects in materials and/or workmanship are found.

NEPA's assumption (with regards to warranty) is that the proposed AMI hardware, software, and communication infrastructure will function as an integrated system. If this assumption (with regards to warranties) is incorrect, SMS's documentation should include information regarding potential communication problems and their impact to the system warranty.

AMI System Support

NEPA requires that SMS describe the process by which the originally furnished software is maintained and upgraded. Included in this description should be information pertaining to any 3rd party software licences, and the associated costs, and any recurring costs associated with maintenance (software or otherwise) or upgrades. SMS shall describe any one-time or recurring licenses, keys, restrictions of use, or limitations (and all associated costs) that may in any way restrict NEPA's full and open use of the Smart Meter system. **If restrictions are not described, SMS represents that there are no such restrictions, or requirements.**

If a "Users Group" exists, its structure, purposes and governance shall be described. If the Users Group has an informal or formal role in submitting or disseminating software upgrades, that process shall be described.

AMI System Training

NEPA requires that SMS provide detailed training at utility-provided facilities for various levels of personnel of NEPA and NEPA contractors who will be involved with:

- Installation of meter/Smart Meter customer premises equipment.
- Installation of communications infrastructure not at customer premises.
- Routine operation and required maintenance of the installed system.
- Troubleshooting, diagnosis and repair of the installed system.
- Training on test equipment needed to maintain the system.

SMS will designate a Project Manager whose role will be to coordinate operational and technical activities within SMS and will have the authority to handle and resolve disputes or contractual issues with NEPA. The PM is expected to spend sufficient time on the project and project site to identify and resolve areas of concern.

It is a requirement of NEPA that the members of the SMS project team are identified at the onset of the project and that the respective curriculum vitas are provided for the key management team assigned to the project. Once this information is provided to NEPA, any change to the SMS core project team must be agreed to with NEPA.

Service Level Agreements

NEPA requires that SMS state their acceptance with the following Service Level Agreement requirements:

- Percent of hourly (interval) readings captured: 98% in 24 hours
- Percent of daily (register) readings captured: 98% in 24 hours
- In addition to the above requirements, 99% of all readings (99% of register, and 99% of interval) are required in 72 hours (rolling statistic), and 99.5% of all readings (99.5% of register, and 99.5% of interval) are required in 30 days (calendar statistic). These requirements will demonstrate SMS's ability to acquire the readings that were missed in 24 hours, over the subsequent time periods (i.e. continued commitment to acquire as many readings as possible).

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Smart Meter Deployment: Contract Negotiation Package***

- Percent of meters communicated within 24 hours: 99.9% (while it is conceded that some meters may be difficult to communicate with, and therefore acquire 100% of the readings 100% of the time, the aim of this statistic is to show that 99.9% of meters can be reached on a daily basis).

NOTE: SMS's network design and pricing must be provided with these SLA statistics in mind. The system that is proposed must be designed to accommodate these requirements.

Performance Remedies for failures to achieve the above Performance Requirements is as follows:

- 1st Failure results in non-payment of 25% of monthly fee
- 2nd Failure results in non-payment of 50% of monthly fee
- 3rd Failure results in non-payment of 75% of monthly fee
- 4th Failure results in non-payment of 100 % of monthly fee

After 4 consecutive months with 4 or more failures NEPA has the option to terminate the Services Agreement for cause.

AMCD Functionality

As part of the project kick off, it is a requirement of NEPA that representation from the SMS development team present an overview of the AMCD functionality to ensure the core NEPA team has a thorough understanding of the feature set available to them. This demonstration should also include a development roadmap highlighting the SMS's commitment to provide enhancements and upgrades with the timelines and expected frequency associated with future releases.

AMCD Compatibility with Multiple Meter Manufacturers and Ability to Supply all NEPA Meter Forms

NEPA requires comprehensive understanding of the AMI system functionality when the communications module is utilized with different meter manufacturers. In the event that Measurement Canada approval has not yet been granted for multiple meters, SMS is requested to provide their anticipated timeline for approval (or any development timelines). (AS2 Client)

When providing the information on integration with other meter manufacturers, any functionality differences resulting from use of the communication board in conjunction with another metering product shall be noted (i.e. last gasp, voltage, etc.).

SMS is requested to provide information regarding meter functionality by completing the Meter Functionality tab within the spreadsheet that is provided with this document. One column should be completed for each meter manufacturer that their product is compatible with, by specifying S (Standard), O (Optional), or NA (Not Available). If the optional functionality is available only at an incremental cost, this pricing must be specified.

NEPA requires certain meter forms for their deployment (including: Form 2S, 12S & 15/16S) are Measurement Canada approved. SMS should state the meter forms that are available for all the meters they have included within the Meter Functionality tab of the spreadsheet provided.

AMCD Firmware Upgradeability

NEPA requires that the proposed AMI system is capable of over-the-air firmware upgrades to the meter in the event that there are programming upgrades required post installation. The SMS's explanation should address upgrade procedures including backward compatibility of software for all components, reporting on firmware version (i.e. version control process), acknowledgement of upgrade, and how long it is expected for 100% of the meter population to be upgraded. Additionally, any expected performance implications to the networks daily processes should be described. Any performance statistics in this regard, which would demonstrate experience and proficiency in this ability, would be appreciated.

AMCD Super Capacitor (Last Gasp Messages)

NEPA requires that the proposed AMI be capable of certain outage management functions (i.e. outage notification or restoration confirmation), and prefers that any form of "last-gasp" messaging include register readings and voltage information. SMS is requested to provide details as to how the AMCD transmits information during outages, how many outage messages (and associated latency) in a system wide outage are expected to be received by the AMCC (response should include percentages of messages received grouped by latency periods of 1 minute, 2 minutes, 5 minutes and 10 minutes). The explanation should include the duration of the super capacitor used to power the outage management functions and the fields that are included in the last gasp message (i.e. register reads, voltage, etc.).

AMCD Automatic Registration

NEPA requires that the proposed AMI allows for automatic registration of the AMCD upon installation in the field, and that there is the capability for visual confirmation of successful (or not) communication while installers are at the residence. SMS is requested to provide explanation as to how this occurs, and how long the process normally requires.

The Acceptance Test shall demonstrate how new meters are recognized, initialized and made part of the smart meter system. SMS is requested to suggest a suitable test to demonstrate this.

AMCD Redundancy (Meter Memory Minimum 20 days)

NEPA requires that SMS provide detailed information on the current status of the endpoint memory capabilities, as well as the process by which data can be accessed and/or extracted from the endpoint (i.e. data which may have been missed during normal data collection process) and whether or not this process is manual or automatically initiated. It is important to provide the details as to the number of days stored in memory at the AMCD, how this memory can be accessed (i.e. over the air), and what logic is built into the system to determine data that has not yet been received at the AMCC and retrieve that data. If the functionality to extract this data does not exist in the current Measurement Canada Approved product, the SMS is requested to provide the development path and timeline for this feature to become available in the production environment.

The Smart Meter system must be designed so that there is no loss of metering data in the field in the event that the Master Station becomes inoperable for up to 72 hours. The Acceptance Test will include an interval of Master Station outage, deliberately induced, to verify the response of the overall system to Master Station Inoperability. To the extent that SMS has represented or recommended redundancies, and such recommendations have been adopted by NEPA, the Acceptance Test will demonstrate these automatic fail over or other redundancies.

AMRC Functionality

As part of the project kick off, it is a requirement of NEPA that representation from the SMS development team present an overview of the AMRC functionality to ensure the core NEPA team has a thorough understanding of the feature set available to them. This demonstration should also include a development roadmap highlighting the SMS's commitment to provide enhancements and upgrades with the timelines and expected frequency associated with future releases.

AMRC WAN Management

SMS should describe the expected daily procedural tasks that are required in order to properly manage the AMI infrastructure. Information should include the number of expected AMRC's with WAN connections required to allow the AMI network to reliably upload their data in order to meet the *Service Level Agreements* detailed above. Standard operating procedures during instances of WAN failure as well as standard operating procedures (including regular maintenance routines) during normal operation should be clearly explained.

AMRC Reliability / Adaptability / Fail Over Design

It is expected that the proposed AMI will occasionally experience difficulty in transmitting 100% of the daily data to the AMCC. This may be attributed to WAN difficulties, or otherwise. RECALL: it is expected that the proposed AMI will meet the SLA requirements as outlined in *Service Level Agreements*, and that the SLA's will be met by having the AMCD provide data to the AMRC in a reliable manner. Assuming that the AMCD's have provided their data, this section is concerned with the reliability / adaptability / fail over design that has been incorporated into the infrastructure beginning with the AMRC.

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At a minimum, SMS should include information regarding the maximum number of meters that can be managed by their AMRC device, as well as the number of meters per AMRC device that have been proposed (it is NEPA's intent with this section to definitively determine that a measure of redundancy has been planned for).

In the event that an AMRC (relay, WAN portal, etc) experiences "difficulty" in communicating along its primary path, the Vendor should explain how "redundancy" has been planned for within the system architecture. The number of alternative paths should be specified, and ratios of AMRC's to other relevant AMI components (ratios which show adequate levels of redundancy) that have been planned for (and priced accordingly) should be provided.

AMRC Battery Backup

SMS is requested to provide detailed information on the standard backup battery that is provided for the AMRC and the expected battery life. Explanation should indicate whether the backup battery that is provided with the product performs only clock management functions, or whether the battery powers the AMRC for the purpose of allowing communications to continue.

AMRC WAN Options

SMS is requested to provide detailed information on the currently available WAN options to connect the AMRC to the AMCC. All compatible WAN options supported by the AMI System should be provided as well as current options in development. NEPA will need to ensure the WAN selection satisfies SMS's criteria to optimize the network.

AMCC Functionality

As part of the project kick off, it is a requirement of NEPA that representation from the SMS development team present an overview of the AMCC user interface functionality to ensure the core NEPA team has a thorough understanding of the feature set available to them. This demonstration should also include a development roadmap highlighting the SMS's commitment to provide enhancements and upgrades with the timelines and expected frequency associated with future releases.

AMCC User Interface Design for Exception Management

SMS is requested to provide information (including screen prints of the user interface) that demonstrates the ability to query the system for exceptions to find new meter installations, hardware, or communications problems. The information provided should specify if access to the head end software is web based and if an interactive Graphical User Interface (GUI) is available (and associated programming language) to list exceptions and quickly isolate problems.

A "DASHBOARD" tool is considered a type of summary reporting which allows the management team to quickly identify and act on critical issues. A DASHBOARD might report on such items as meters not communicating, alarms, system read interval statistics, etc).

If a "DASHBOARD" tool is available, NEPA will require a demonstration of the available functionality at the onset of the project to ensure the core NEPA team has a thorough understanding of the feature set available to them. This demonstration should also include a development roadmap highlighting the SMS's commitment to provide enhancements and upgrades to the "DASHBOARD" feature set. If a DASHBOARD is not currently available, a development timeline should be provided which includes goals and/or milestones which demonstrate a commitment to developing this toolset.

AMCC Fault Tolerant Redundancy Design

NEPA requires an understanding of the AMCC configuration; SMS is required to provide comprehensive documentation to satisfy this requirement. NEPA's preference is for a redundant, fully synchronized configuration. SMS's documentation should describe how (in the event of a fail-over) peripheral and communication equipment operate, and the provided information should detail whether these operations are automatic, or require manual intervention (including, but not limited to, crash tolerances, restart/recovery procedures, integrity check, and file protection).

AMCC Reporting

SMS is requested to provide examples of daily, weekly and monthly reports which will demonstrate the capabilities of the AMI system. Specifically of interest are reports that:

- Ensure the requirements of the regulator are being met,
- Report on exceptions for system management,
- Report on statistics to ensure Service Level Agreement is being met,
- Ensure that the full functionality of the system can be realized.

In addition, SMS shall provide detailed information as to the capability to export report data to a file that can be utilized by a third (3rd) party system.

To demonstrate compliance with the MoE minimum required functionality, SMS is requested to complete the "Compliance_MoE_FunctionalSpec" tab within the spreadsheet that accompanies this document. This is accomplished by stating FC (Fully Compliant), PC (Partially Compliant), and NC (Not Compliant) under the Compliancy column (heading C). Where SMS is non compliant or partially compliant, documentation should be provided to explain plans to bring the product into compliancy. And finally, a sample of each report which satisfies each requirement is to be provided with the Submission.

AMCC Network Health Maintenance Tools

NEPA requires that the proposed AMI network contain tools for identifying programming problems, proper installation (initialization) of endpoints, overall performance, communication path, time synch verification, communication issues (congestion, signal deterioration, signal loss, changing environment), etc. SMS shall provide information regarding the available network health management tools to assist in ensuring that a successful state of the network is maintained over time.

The Acceptance Test shall demonstrate online monitoring of Smart Meter system performance, including monitoring of data packets transferred, real-time configuration status reporting, and measurement of performance statistics. Smart Meter system self diagnostics shall be demonstrated and verified.

AMCC Integration - IESO MDM/R

The AMI Master Control Computer must include an interface for the transfer and synchronization of all relevant data to and from the centralized MDM/R in accordance with the format and protocol established by the Independent Electricity System Operator (IESO) within their publication entitled: Meter Data Management and Repository, MDM/R V1.0 Technical Interface Specifications, Version 2.3, 30 November 2007. (AS2 Client)

Note: This document is posted electronically on the Smart Metering System Implementation Program website at URL: http://www.smi-ieso.ca/Technical_Interfaces/MDMR_Technical_Interface_Spec_v2.3_20071130_CLEAN.pdf

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SMS shall confirm that their AMI System is currently capable of exporting a California Meter Exchange Protocol (CMEP) file to an external MDM/R system, which revision levels of CMEP have been implemented, and any variations of this protocol that may have been previously implemented for other clients.

NEPA's AMI Acceptance Testing will include testing to demonstrate compliance of the AMI's export format and protocol with IESO Specification 9027. AMI data export to IESO shall be part of the SMS service offering should NEPA choose to have SMS operate the AMI System.

AMCC Integration – CIS

NEPA members have the following Billing systems in use which the proposed AMI system will be required to interface with for synchronization processes, and mass rollout (of AMI) coordination. SMS should provide documentation of how the AMI integrates with CIS (direct access to data store, API access, data import/export, etc). For all system interface methods provided, SMS should state the type of data accessible via the interface and indicate whether the interface is guaranteed to remain compatible with future system enhancements or upgrades. SMS should provide detailed documentation of the supported system interfaces.

APPX (4.2.9 and Client 42 COS)
Daffron (5.1.1, 5.4 and Fora)

Harris Northstar
SAP Customer Care & Service Version 4.6.4
and Version R3

Multi Commodity

SMS shall specify if their product is multi-commodity compliant such that water metering products can utilize the AMI network. SMS is requested to list all water meter modules supported, and whether two or three wire installations (of outside remote) are required for integration into the electric network.

If this is not a current feature, provide a detailed development path as to when this will be in the production environment. Description should include information pertaining to transmitting power and architecture, battery life, method of interfacing the communication unit to the water meter. It is expected that the meters will have a

battery life of no less than 15 years, and preference is for systems that provide information regarding back flow, tamper, leak detection, etc.

AMI Security

NEPA requires that the AMI system have, as a minimum, end-to-end protection against cyber attack and unauthorized intrusions. SMS should describe how its AMI ensures against loss or tampering of data, including:

- 1) Data integrity (so that the reading on the meter, ID numbers, and other data are always correct),
- 2) Data security (e.g., in the transmissions of Meter Reads and customer data such that it cannot be intercepted or accessed by unauthorized parties),
- 3) Immunity from outside (electromagnetic) interference as well as from fading and other forms of signal degeneration or attenuation,
- 4) Data encryption
- 5) MAC address filtering
- 6) DHCP (dynamic host configuration protocol)
- 7) NAT (network address translation)
- 8) Built-in firewall

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- 9) User authentication (CHAP)
- 10) Password access (PAP)
- 11) Centralized password repository (global, regional, cluster or unit remote updates)
- 12) Bandwidth restrictions (limited data rate per unit)
- 13) Traffic analysis restrictions (watch for irregular traffic flows)
- 14) Automatic “call home” modems
- 15) ACL (access control lists)
- 16) Traffic logging

SMS should also describe how proximity to AMCDs, topography, foliage, terrain, collector location, weather conditions, and other (neighboring utility’s) AMI, etc. are expected to impact the transmission and integrity of meter reads, and how data integrity over the fifteen (15) year operating life of the AMI will be maintained.

In a multi-utility environment SMS should describe how their system ensures segregation and security of the meter data.

The Acceptance Testing will deal with AMI Security. The following framework has been developed which will encompass (but is not limited to) the items listed above, and will provide a comprehensive overview of the implemented security. SMS’s documentation should address the proposed system’s approach to satisfying each of the following security concerns.

<i>Framework Category</i>	<i>Description</i>
Device/component Identification & Authentication	Addresses the approach to communications end to end in the AMI system
AMCC Data Storage Authenticity, Integrity and Confidentiality	Addresses the approach to secure data in the AMCC
AMCD and AMRC Data Storage Authenticity, Integrity and Confidentiality	Addresses the approach to secure data in the AMCD and AMRC
User Authentication, Authorization and Auditing	Addresses the approach to control access to the AMI system
Physical Security	Addresses the approach to physical security (including tampering) of the components of the AMI system
System Availability	Addresses the approach to availability of the components of the AMI system
Authenticity, Integrity & Confidentiality of Data in Transit	Addresses the approach to ensure confidentiality of data end to end in the AMI system
IDS, IPS and Reporting	Addresses the approach to report and mitigate potential malicious attempts on the system
Auditability	Addresses the approach to audit reporting within the AMI system
Appropriate Use of Cryptography	Addresses the approach to encryption and cryptography within the AMI system

Review of Current Pricing

Pricing and Compliancy Submission

The Pricing and Compliancy Spreadsheet that accompanies this document will allow SMS to provide three options for the proposed AMI network:

1. Within the tab labelled “Pricing_Option1” SMS is required to submit pricing (Capital and 15 year Operating costs) for the proposed AMI network, whereby all infrastructure (hardware and software) is owned and operated by NEPA.
2. Within the tab labelled “Pricing_Option2” SMS is required to submit pricing (Capital and 15 year Operating costs) for the proposed AMI network, whereby all infrastructure (hardware and software) is owned by NEPA, and operated by the AMI provider.
3. Within the tab labelled “Pricing_Option3” SMS is required to submit pricing (Capital and 15 year Operating costs) for the proposed AMI network, whereby all meters are owned by NEPA, AMRC/AMCC owned by and operated by the AMI provider
4. Within the tabs labelled “LDCNAME_Option1” SMS is required to submit “stand alone” pricing (Capital and 15 year Operating costs) for the proposed AMI network, whereby NEPA members do not procure the AMI system as a group, but on an individual utility basis and all infrastructure (hardware and software) is owned and operated by individual NEPA members. SMS is required to complete one sheet per NEPA member utility.
5. Within the tabs labelled “LDCNAME_Option2” SMS is required to submit “stand alone” pricing (Capital and 15 year Operating costs) for the proposed AMI network, whereby NEPA members do not procure the AMI system as a group, but on an individual utility basis and all infrastructure (hardware and software) is owned by individual NEPA members and operated by the AMI provider. SMS is required to complete one sheet per NEPA member utility.
6. Within the tabs labelled “LDCNAME_Option3” SMS is required to submit “stand alone” pricing (Capital and 15 year Operating costs) for the proposed AMI network, whereby NEPA members do not procure the AMI system as a group, but on an individual utility basis and all meters are owned by individual NEPA members, and the AMRC and AMCC are owned and operated by the AMI provider. SMS is required to complete one sheet per NEPA member utility.

Note: For all Pricing options, the spreadsheets contain two sections. The upper portion of the page (rows 1 through 71) allow SMS to provide pricing specific to NEPA’s requirements as outlined in this document. The lower section of the tab (rows 74 through 83 of the distributed copy) will allow SMS the opportunity to provide pricing with volume discounts (for optional items) in the event that NEPA is able to work with other utilities and/or buying pools to increase the requirements beyond the volumes stated in this document.

Incremental Costs

In addition to the three Pricing Options described above, SMS is required to submit the incremental cost for any functionality that is discussed in their Submission which does not come standard with their product. If an incremental cost is not provided, it is NEPA’s understanding that the functionality comes standard with the product being proposed.

Project Overview

Deployment Territories

Deployment service territory maps for each NEPA member utility have been provided in Appendix “C”.

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Smart Meter Deployment: Contract Negotiation Package

Current Distribution of Meter Styles

The tabulation below indicates the varieties and distribution of the meter styles within the NEPA Member Service Territories targeted for deployment as part of the Smart Meter Initiative.

Figure 1 Tabulation of Meter Styles

Abbreviations in Table:	
Self-contained revenue meter	SC
Transformer-type revenue meter	Tx
Socket-type or plug-in meter case	S-base
Bottom-connected meter case	P/A-base

Nepa Group	Total	% P/A- base	Total P/A- base	Indoor		Outdoor	
Style of Revenue Meter				S-base	P/A-base	S-base	P/A-base
Single-Phase; 1EL, 2W, SC, 200A, 120V, 1S	242		40	83	28	119	12
Single-Phase; 1EL, 2W, Tx, 10A, 240V, 3S	3,603		244	423	183	2,936	61
Single-Phase; 1.5EL, 3W, SC, 200A, 240V 2S	183,205		2,240	8,954	687	172,011	1,553
Single-Phase Com; 2EL, 2W Tx, 10A, 240V, 3S	280		25	24	25	231	0
Network; 2EL, 3W, SC, 200A, 120V, 12S	5,206		26	4,258	26	922	0
Network; 2EL, 3W, SC, 200A, 340V, 12S	0		0	0	0	0	0
Polyphase; 2EL, 3W, SC, 200A, 240V, 13S	84		7	73	6	4	1
Polyphase; 3EL, 3W, SC, 200A, 600V, 13S	664		288	273	185	103	103
Polyphase; 2EL, 3W, Tx, 10A, 120V, 35S	694		497	152	264	45	233
Polyphase; 2EL, 3W, Tx, 10A, 345V, 35S	0		0	0	0	0	0
Polyphase; 2.5EL, 4W, Tx, 10A, 120V, 36S	239		8	204	6	27	2
Polyphase; 2.5EL, 4W, Tx, 10A, 345V, 36S	1,360		48	6	38	1,306	10
Polyphase; 3EL, 4W, SC, 200A, 120V, 16S	2,527		13	1,542	9	971	5
Polyphase; 3EL, 4W, SC, 200A, 345V, 16S	1,350		56	949	85	288	28
Polyphase; 3EL, 4W, Tx, 10A, 120V, 9S	802		490	129	236	183	254
Polyphase; 3EL, 4W, Tx, 10A, 120V, 9S	22		18	1	14	3	4
Polyphase Com; 2EL, 3W, SC, 200A, 600V, 13S	28		4	14	4	10	0
Polyphase Com; 2EL, 3W, Tx, 10A, 120V, 35S	399		307	21	167	71	140
Polyphase Com; 2EL, 3W, Tx, 10A, 345V, 35S	20		14	2	14	4	0
Polyphase Com; 2.5EL, 4W, Tx, 10A, 120V, 36S	576		349	24	132	203	217
Polyphase Com; 2.5EL, 4W, Tx, 10A, 345V, 36S	36		30	2	30	4	0
Polyphase Com; 3EL, 4W, SC, 200A, 120V, 16S	709		28	381	28	300	0
Polyphase Com; 3EL, 4W, SC, 200A, 345V, 16S	250		105	111	73	34	32
Polyphase Com; 3EL, 4W, Tx, 10A, 120V, 9S	433		228	22	80	183	148
Polyphase Com; 3EL, 4W, Tx, 10A, 345V, 9S	26		16	4	16	6	0

202,755

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BRANT COUNTY POWER	Total	%	Total	Indoor		Outdoor	
Style of Revenue Meter		P/A-base	P/A-base	S-base	P/A-base	S-base	P/A-base
Single-Phase; 1EL, 2W, SC, 200A, 120V, 1S	39	46%	18	21	18		
Single-Phase; 1EL, 2W, Tx, 10A, 240V, 3S	282	40%	112	38	112	132	
Single-Phase; 1.5EL, 3W, SC, 200A, 240V 2S	8,037	1%	49	114	49	7,874	
Single-Phase Com; 2EL, 2W Tx, 10A, 240V, 3S	85	29%	25	13	25	47	
Network; 2EL, 3W, SC, 200A, 120V, 12S	78	33%	26	40	26	12	
Network; 2EL, 3W, SC, 200A, 340V, 12S	0	0%	0				
Polyphase; 2EL, 3W, SC, 200A, 240V, 13S	0	0%	0				
Polyphase; 3EL, 3W, SC, 200A, 600V, 13S	77	34%	26	29	26	22	
Polyphase; 2EL, 3W, Tx, 10A, 120V, 35S	141	70%	98	37	87	6	11
Polyphase; 2EL, 3W, Tx, 10A, 345V, 35S	0	0%	0				
Polyphase; 2.5EL, 4W, Tx, 10A, 120V, 36S	14	57%	8	1	6	5	2
Polyphase; 2.5EL, 4W, Tx, 10A, 345V, 36S	84	57%	48	6	38	30	10
Polyphase; 3EL, 4W, SC, 200A, 120V, 16S	52	4%	2	16	2	34	
Polyphase; 3EL, 4W, SC, 200A, 345V, 16S	111	15%	19	36	19	56	
Polyphase; 3EL, 4W, Tx, 10A, 120V, 9S	206	45%	93	18	74	95	19
Polyphase; 3EL, 4W, Tx, 10A, 120V, 9S	22	82%	18	1	14	3	4
Polyphase Com; 2EL, 3W, SC, 200A, 600V, 13S	16	25%	4	9	4	3	
Polyphase Com; 2EL, 3W, Tx, 10A, 120V, 35S	106	83%	88	15	78	3	10
Polyphase Com; 2EL, 3W, Tx, 10A, 345V, 35S	20	70%	14	2	14	4	
Polyphase Com; 2.5EL, 4W, Tx, 10A, 120V, 36S	106	83%	88	3	70	15	18
Polyphase Com; 2.5EL, 4W, Tx, 10A, 345V, 36S	36	83%	30	2	30	4	
Polyphase Com; 3EL, 4W, SC, 200A, 120V, 16S	76	37%	28	15	28	33	
Polyphase Com; 3EL, 4W, SC, 200A, 345V, 16S	41	15%	6	14	6	21	
Polyphase Com; 3EL, 4W, Tx, 10A, 120V, 9S	26	31%	8	3	6	15	2
Polyphase Com; 3EL, 4W, Tx, 10A, 345V, 9S	26	62%	16	4	16	6	

9,681

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BRANTFORD POWER	Total	% P/A- base	Total P/A- base	Indoor		Outdoor	
Style of Revenue Meter				S-base	P/A-base	S-base	P/A-base
Single-Phase; 1EL, 2W, SC, 200A, 120V, 1S	17			5		12	
Single-Phase; 1EL, 2W, Tx, 10A, 240V, 3S	189			159		30	
Single-Phase; 1.5EL, 3W, SC, 200A, 240V 2S	33,155			2,546		30,609	
Single-Phase Com; 2EL, 2W Tx, 10A, 240V, 3S	0						
Network; 2EL, 3W, SC, 200A, 120V, 12S	1,249			1,139		110	
Network; 2EL, 3W, SC, 200A, 340V, 12S	0						
Polyphase; 2EL, 3W, SC, 200A, 240V, 13S	61			61			
Polyphase; 3EL, 3W, SC, 200A, 600V, 13S	87			84		3	
Polyphase; 2EL, 3W, Tx, 10A, 120V, 35S	0						
Polyphase; 2EL, 3W, Tx, 10A, 345V, 35S	0					0	
Polyphase; 2.5EL, 4W, Tx, 10A, 120V, 36S	0					0	
Polyphase; 2.5EL, 4W, Tx, 10A, 345V, 36S	1,276					1,276	
Polyphase; 3EL, 4W, SC, 200A, 120V, 16S	0					0	
Polyphase; 3EL, 4W, SC, 200A, 345V, 16S	659			618		41	
Polyphase; 3EL, 4W, Tx, 10A, 120V, 9S	0					0	
Polyphase; 3EL, 4W, Tx, 10A, 120V, 9S	0					0	
Polyphase Com; 2EL, 3W, SC, 200A, 600V, 13S	0					0	
Polyphase Com; 2EL, 3W, Tx, 10A, 120V, 35S	0					0	
Polyphase Com; 2EL, 3W, Tx, 10A, 345V, 35S	0					0	
Polyphase Com; 2.5EL, 4W, Tx, 10A, 120V, 36S	0					0	
Polyphase Com; 2.5EL, 4W, Tx, 10A, 345V, 36S	0					0	
Polyphase Com; 3EL, 4W, SC, 200A, 120V, 16S	0					0	
Polyphase Com; 3EL, 4W, SC, 200A, 345V, 16S	0					0	
Polyphase Com; 3EL, 4W, Tx, 10A, 120V, 9S	0					0	
Polyphase Com; 3EL, 4W, Tx, 10A, 345V, 9S	0					0	

36,693

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CANADIAN NIAGARA POWER	Total	%	Total	Indoor		Outdoor	
Style of Revenue Meter		P/A-base	P/A-base	S-base	P/A-base	S-base	P/A-base
Single-Phase; 1EL, 2W, SC, 200A, 120V, 1S	65	5%	3	27	2	35	1
Single-Phase; 1EL, 2W, Tx, 10A, 240V, 3S	327	17%	57	57	35	213	22
Single-Phase; 1.5EL, 3W, SC, 200A, 240V 2S	25,941	4%	995	1,107	98	23,839	897
Single-Phase Com; 2EL, 2W Tx, 10A, 240V, 3S	0						
Network; 2EL, 3W, SC, 200A, 120V, 12S	675	0%	0	461		214	
Network; 2EL, 3W, SC, 200A, 340V, 12S	0						
Polyphase; 2EL, 3W, SC, 200A, 240V, 13S	0						
Polyphase; 3EL, 3W, SC, 200A, 600V, 13S	180	32%	57	81	46	42	11
Polyphase; 2EL, 3W, Tx, 10A, 120V, 35S	229	72%	166	35	127	28	39
Polyphase; 2EL, 3W, Tx, 10A, 345V, 35S	0						
Polyphase; 2.5EL, 4W, Tx, 10A, 120V, 36S	0						
Polyphase; 2.5EL, 4W, Tx, 10A, 345V, 36S	0						
Polyphase; 3EL, 4W, SC, 200A, 120V, 16S	200	2%	3	84	1	113	2
Polyphase; 3EL, 4W, SC, 200A, 345V, 16S	147	0%		73		74	
Polyphase; 3EL, 4W, Tx, 10A, 120V, 9S	307	50%	152	81	115	74	37
Polyphase; 3EL, 4W, Tx, 10A, 120V, 9S	0						
Polyphase Com; 2EL, 3W, SC, 200A, 600V, 13S	0						
Polyphase Com; 2EL, 3W, Tx, 10A, 120V, 35S	0						
Polyphase Com; 2EL, 3W, Tx, 10A, 345V, 35S	0						
Polyphase Com; 2.5EL, 4W, Tx, 10A, 120V, 36S	0						
Polyphase Com; 2.5EL, 4W, Tx, 10A, 345V, 36S	0						
Polyphase Com; 3EL, 4W, SC, 200A, 120V, 16S	0						
Polyphase Com; 3EL, 4W, SC, 200A, 345V, 16S	0						
Polyphase Com; 3EL, 4W, Tx, 10A, 120V, 9S	0						
Polyphase Com; 3EL, 4W, Tx, 10A, 345V, 9S	0						

28,071

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GRIMSBY POWER	Total	%	Total	Indoor		Outdoor	
Style of Revenue Meter		P/A-Base	P/A-base	S-base	P/A-base	S-base	P/A-base
Single-Phase; 1EL, 2W, SC, 200A, 120V, 1S	5	0%	0	4		1	
Single-Phase; 1EL, 2W, Tx, 10A, 240V, 3S	72	3%	2	5	2	65	
Single-Phase; 1.5EL, 3W, SC, 200A, 240V 2S	8,956	9%	845	192	237	7,919	608
Single-Phase Com; 2EL, 2W Tx, 10A, 240V, 3S	0	0%	0				
Network; 2EL, 3W, SC, 200A, 120V, 12S	393	0%	0	393			
Network; 2EL, 3W, SC, 200A, 340V, 12S	0	0%	0				
Polyphase; 2EL, 3W, SC, 200A, 240V, 13S	23	30%	7	12	6	4	1
Polyphase; 3EL, 3W, SC, 200A, 600V, 13S	5	80%	4		4	1	
Polyphase; 2EL, 3W, Tx, 10A, 120V, 35S	0	0%	0				
Polyphase; 2EL, 3W, Tx, 10A, 345V, 35S	0	0%	0				
Polyphase; 2.5EL, 4W, Tx, 10A, 120V, 36S	0	0%	0				
Polyphase; 2.5EL, 4W, Tx, 10A, 345V, 36S	0	0%	0				
Polyphase; 3EL, 4W, SC, 200A, 120V, 16S	0	0%	0				
Polyphase; 3EL, 4W, SC, 200A, 345V, 16S	0	0%	0				
Polyphase; 3EL, 4W, Tx, 10A, 120V, 9S	0	0%	0				
Polyphase; 3EL, 4W, Tx, 10A, 120V, 9S	0	0%	0				
Polyphase Com; 2EL, 3W, SC, 200A, 600V, 13S	0	0%	0				
Polyphase Com; 2EL, 3W, Tx, 10A, 120V, 35S	0	0%	0				
Polyphase Com; 2EL, 3W, Tx, 10A, 345V, 35S	0	0%	0				
Polyphase Com; 2.5EL, 4W, Tx, 10A, 120V, 36S	0	0%	0				
Polyphase Com; 2.5EL, 4W, Tx, 10A, 345V, 36S	0	0%	0				
Polyphase Com; 3EL, 4W, SC, 200A, 120V, 16S	158	0%	0	131		27	
Polyphase Com; 3EL, 4W, SC, 200A, 345V, 16S	100	99%	99		67	1	32
Polyphase Com; 3EL, 4W, Tx, 10A, 120V, 9S	0	0%	0				
Polyphase Com; 3EL, 4W, Tx, 10A, 345V, 9S	0	0%	0				

9,712

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HALDIMAND COUNTY HYDRO	Total	%	Total	Indoor		Outdoor	
Style of Revenue Meter		P/A-Base	P/A-base	S-base	P/A-base	S-base	P/A-base
Single-Phase; 1EL, 2W, SC, 200A, 120V, 1S	19	63%	12	1	1	6	11
Single-Phase; 1EL, 2W, Tx, 10A, 240V, 3S	1,255	0%	4	31	2	1,220	2
Single-Phase; 1.5EL, 3W, SC, 200A, 240V 2S	18,347	0%	0	721		17,626	
Single-Phase Com; 2EL, 2W Tx, 10A, 240V, 3S	0	0%	0				
Network; 2EL, 3W, SC, 200A, 120V, 12S	237	0%	0	56		181	
Network; 2EL, 3W, SC, 200A, 340V, 12S	0	0%	0				
Polyphase; 2EL, 3W, SC, 200A, 240V, 13S	0	0%	0				
Polyphase; 3EL, 3W, SC, 200A, 600V, 13S	56	36%	20	15	13	21	7
Polyphase; 2EL, 3W, Tx, 10A, 120V, 35S	0	0%	0				
Polyphase; 2EL, 3W, Tx, 10A, 345V, 35S	0	0%	0				
Polyphase; 2.5EL, 4W, Tx, 10A, 120V, 36S	0	0%	0				
Polyphase; 2.5EL, 4W, Tx, 10A, 345V, 36S	0	0%	0				
Polyphase; 3EL, 4W, SC, 200A, 120V, 16S	152	2%	3	63	1	85	3
Polyphase; 3EL, 4W, SC, 200A, 345V, 16S	67	0%	0		29	10	28
Polyphase; 3EL, 4W, Tx, 10A, 120V, 9S	0	0%	0				
Polyphase; 3EL, 4W, Tx, 10A, 120V, 9S	0	0%	0				
Polyphase Com; 2EL, 3W, SC, 200A, 600V, 13S	12	0%	0	5		7	
Polyphase Com; 2EL, 3W, Tx, 10A, 120V, 35S	65	85%	55		28	10	27
Polyphase Com; 2EL, 3W, Tx, 10A, 345V, 35S	0	0%	0				
Polyphase Com; 2.5EL, 4W, Tx, 10A, 120V, 36S	112	100%	112		33		79
Polyphase Com; 2.5EL, 4W, Tx, 10A, 345V, 36S	0	0%	0				
Polyphase Com; 3EL, 4W, SC, 200A, 120V, 16S	75	0%	0	32		43	
Polyphase Com; 3EL, 4W, SC, 200A, 345V, 16S	5	0%	0	2		3	
Polyphase Com; 3EL, 4W, Tx, 10A, 120V, 9S	104	100%	104		31		73
Polyphase Com; 3EL, 4W, Tx, 10A, 345V, 9S	0	0%	0				

20,506

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NIAGARA ON-THE-LAKE HYDRO	Total	% P/A- Base	Total P/A- base	Indoor		Outdoor	
Style of Revenue Meter				S-base	P/A-base	S-base	P/A-base
Single-Phase; 1EL, 2W, SC, 200A, 120V, 1S	0					0	
Single-Phase; 1EL, 2W, Tx, 10A, 240V, 3S	0					0	
Single-Phase; 1.5EL, 3W, SC, 200A, 240V 2S	6,825					6,825	
Single-Phase Com; 2EL, 2W Tx, 10A, 240V, 3S	0					0	
Network; 2EL, 3W, SC, 200A, 120V, 12S	175					175	
Network; 2EL, 3W, SC, 200A, 340V, 12S	0					0	
Polyphase; 2EL, 3W, SC, 200A, 240V, 13S	0					0	
Polyphase; 3EL, 3W, SC, 200A, 600V, 13S	0					0	
Polyphase; 2EL, 3W, Tx, 10A, 120V, 35S	0					0	
Polyphase; 2EL, 3W, Tx, 10A, 345V, 35S	0					0	
Polyphase; 2.5EL, 4W, Tx, 10A, 120V, 36S	0					0	
Polyphase; 2.5EL, 4W, Tx, 10A, 345V, 36S	0					0	
Polyphase; 3EL, 4W, SC, 200A, 120V, 16S	120					120	
Polyphase; 3EL, 4W, SC, 200A, 345V, 16S	90					90	
Polyphase; 3EL, 4W, Tx, 10A, 120V, 9S	0					0	
Polyphase; 3EL, 4W, Tx, 10A, 120V, 9S	0					0	
Polyphase Com; 2EL, 3W, SC, 200A, 600V, 13S	0					0	
Polyphase Com; 2EL, 3W, Tx, 10A, 120V, 35S	0					0	
Polyphase Com; 2EL, 3W, Tx, 10A, 345V, 35S	0					0	
Polyphase Com; 2.5EL, 4W, Tx, 10A, 120V, 36S	0					0	
Polyphase Com; 2.5EL, 4W, Tx, 10A, 345V, 36S	0					0	
Polyphase Com; 3EL, 4W, SC, 200A, 120V, 16S	0					0	
Polyphase Com; 3EL, 4W, SC, 200A, 345V, 16S	0					0	
Polyphase Com; 3EL, 4W, Tx, 10A, 120V, 9S	0					0	
Polyphase Com; 3EL, 4W, Tx, 10A, 345V, 9S	0					0	

7,210

***Phase 2 - Niagara Erie Power Association
Smart Meter Deployment: Contract Negotiation Package***

NIAGARA PENINSULA ENERGY	Total	%	Total	Indoor		Outdoor	
Style of Revenue Meter		P/A-base	P/A-base	S-base	P/A-base	S-base	P/A-base
Single-Phase; 1EL, 2W, SC, 200A, 120V, 1S	15	0%	0	3		12	
Single-Phase; 1EL, 2W, Tx, 10A, 240V, 3S	910	2%	22	48	22	840	
Single-Phase; 1.5EL, 3W, SC, 200A, 240V 2S	46,640	0%	71	2,489	35	44,080	36
Single-Phase Com; 2EL, 2W Tx, 10A, 240V, 3S	195	0%	0	11		184	
Network; 2EL, 3W, SC, 200A, 120V, 12S	1,180	0%	0	1,180			
Network; 2EL, 3W, SC, 200A, 340V, 12S	0	0%	0				
Polyphase; 2EL, 3W, SC, 200A, 240V, 13S	0	0%	0				
Polyphase; 3EL, 3W, SC, 200A, 600V, 13S	84	52%	44	29	44	11	
Polyphase; 2EL, 3W, Tx, 10A, 120V, 35S	11	0%	0			11	
Polyphase; 2EL, 3W, Tx, 10A, 345V, 35S	0	0%	0				
Polyphase; 2.5EL, 4W, Tx, 10A, 120V, 36S	0	0%	0				
Polyphase; 2.5EL, 4W, Tx, 10A, 345V, 36S	0	0%	0				
Polyphase; 3EL, 4W, SC, 200A, 120V, 16S	729	0%	0	370		359	
Polyphase; 3EL, 4W, SC, 200A, 345V, 16S	184	0%	0	167		17	
Polyphase; 3EL, 4W, Tx, 10A, 120V, 9S	245	100%	245		47		198
Polyphase; 3EL, 4W, Tx, 10A, 120V, 9S	0	0%	0				
Polyphase Com; 2EL, 3W, SC, 200A, 600V, 13S	0	0%	0				
Polyphase Com; 2EL, 3W, Tx, 10A, 120V, 35S	228	72%	164	6	61	58	103
Polyphase Com; 2EL, 3W, Tx, 10A, 345V, 35S	0	0%	0				
Polyphase Com; 2.5EL, 4W, Tx, 10A, 120V, 36S	358	42%	149	21	29	188	120
Polyphase Com; 2.5EL, 4W, Tx, 10A, 345V, 36S	0	0%	0				
Polyphase Com; 3EL, 4W, SC, 200A, 120V, 16S	400	0%	0	203		197	
Polyphase Com; 3EL, 4W, SC, 200A, 345V, 16S	104	0%	0	95		9	
Polyphase Com; 3EL, 4W, Tx, 10A, 120V, 9S	303	38%	116	19	43	168	73
Polyphase Com; 3EL, 4W, Tx, 10A, 345V, 9S	0	0%	0				

51,586

***Phase 2 - Niagara Erie Power Association
Smart Meter Deployment: Contract Negotiation Package***

NORFOLK POWER DISTRIBUTION	Total	%	Total	Indoor		Outdoor	
Style of Revenue Meter		P/A-base	P/A-base	S-base	P/A-base	S-base	P/A-base
Single-Phase; 1EL, 2W, SC, 200A, 120V, 1S	46	15%	7	2	7	37	
Single-Phase; 1EL, 2W, Tx, 10A, 240V, 3S	478	10%	47	25	10	406	37
Single-Phase; 1.5EL, 3W, SC, 200A, 240V 2S	16,149	2%	280	1,000	268	14,869	12
Single-Phase Com; 2EL, 2W Tx, 10A, 240V, 3S	0	0%	0				
Network; 2EL, 3W, SC, 200A, 120V, 12S	339	0%	0	339			
Network; 2EL, 3W, SC, 200A, 340V, 12S	0	0%	0				
Polyphase; 2EL, 3W, SC, 200A, 240V, 13S	0	0%	0				
Polyphase; 3EL, 3W, SC, 200A, 600V, 13S	134	99%	132		52	2	80
Polyphase; 2EL, 3W, Tx, 10A, 120V, 35S	233	100%	233		50		183
Polyphase; 2EL, 3W, Tx, 10A, 345V, 35S	0	0%	0				
Polyphase; 2.5EL, 4W, Tx, 10A, 120V, 36S	0	0%	0				
Polyphase; 2.5EL, 4W, Tx, 10A, 345V, 36S	0	0%	0				
Polyphase; 3EL, 4W, SC, 200A, 120V, 16S	274	2%	5	209	5	60	
Polyphase; 3EL, 4W, SC, 200A, 345V, 16S	92	40%	37	55	37		
Polyphase; 3EL, 4W, Tx, 10A, 120V, 9S	0	0%	0				
Polyphase; 3EL, 4W, Tx, 10A, 120V, 9S	0	0%	0				
Polyphase Com; 2EL, 3W, SC, 200A, 600V, 13S	0	0%	0				
Polyphase Com; 2EL, 3W, Tx, 10A, 120V, 35S	0	0%	0				
Polyphase Com; 2EL, 3W, Tx, 10A, 345V, 35S	0	0%	0				
Polyphase Com; 2.5EL, 4W, Tx, 10A, 120V, 36S	0	0%	0				
Polyphase Com; 2.5EL, 4W, Tx, 10A, 345V, 36S	0	0%	0				
Polyphase Com; 3EL, 4W, SC, 200A, 120V, 16S	0	0%	0				
Polyphase Com; 3EL, 4W, SC, 200A, 345V, 16S	0	0%	0				
Polyphase Com; 3EL, 4W, Tx, 10A, 120V, 9S	0	0%	0				
Polyphase Com; 3EL, 4W, Tx, 10A, 345V, 9S	0	0%	0				

17,745

***Phase 2 - Niagara Erie Power Association
Smart Meter Deployment: Contract Negotiation Package***

WELLAND HESC	Total	% P/A- base	Total P/A- base	Indoor		Outdoor	
Style of Revenue Meter				S-base	P/A-base	S-base	P/A-base
Single-Phase; 1EL, 2W, SC, 200A, 120V, 1S	36			20		16	
Single-Phase; 1EL, 2W, Tx, 10A, 240V, 3S	90			60		30	
Single-Phase; 1.5EL, 3W, SC, 200A, 240V 2S	19,155			785		18,370	
Single-Phase Com; 2EL, 2W Tx, 10A, 240V, 3S	0						
Network; 2EL, 3W, SC, 200A, 120V, 12S	880			650		230	
Network; 2EL, 3W, SC, 200A, 340V, 12S	0						
Polyphase; 2EL, 3W, SC, 200A, 240V, 13S	0						
Polyphase; 3EL, 3W, SC, 200A,600V, 13S	41	12%	5	35		1	5
Polyphase; 2EL, 3W, Tx, 10A, 120V, 35S	80			80			
Polyphase; 2EL, 3W, Tx, 10A, 345V, 35S	0						
Polyphase; 2.5EL, 4W, Tx, 10A, 120V, 36S	225			203		22	
Polyphase; 2.5EL, 4W, Tx, 10A, 345V, 36S	0						
Polyphase; 3EL, 4W, SC, 200A, 120V, 16S	1,000			800		200	
Polyphase; 3EL, 4W, SC, 200A, 345V, 16S	0						
Polyphase; 3EL, 4W, Tx, 10A, 120V, 9S	44			30		14	
Polyphase; 3EL, 4W, Tx, 10A, 120V, 9S	0						
Polyphase Com; 2EL, 3W, SC, 200A, 600V, 13S	0						
Polyphase Com; 2EL, 3W, Tx, 10A, 120V, 35S	0						
Polyphase Com; 2EL, 3W, Tx, 10A, 345V, 35S	0						
Polyphase Com; 2.5EL, 4W, Tx, 10A, 120V, 36S	0						
Polyphase Com; 2.5EL, 4W, Tx, 10A, 345V, 36S	0						
Polyphase Com; 3EL, 4W, SC, 200A, 120V, 16S	0						
Polyphase Com; 3EL, 4W, SC, 200A, 345V, 16S	0						
Polyphase Com; 3EL, 4W, Tx, 10A, 120V, 9S	0						
Polyphase Com; 3EL, 4W, Tx, 10A, 345V, 9S	0						

21,551

Phase 2 - Niagara Erie Power Association
Smart Meter Deployment: Contract Negotiation Package

Deployment Schedule

Below is the proposed deployment schedule for residential and small commercial customers of NEPA member utilities.

Figure 2 Proposed Deployment Schedule

(Provided to each LDC separately for approval prior to insertion)

Appendix A

**Functional Specification for an
Advanced Metering Infrastructure
Version 2 (Dated July 5, 2007)**

FUNCTIONAL SPECIFICATION

FOR AN

ADVANCED METERING INFRASTRUCTURE

VERSION 2

July 5, 2007

**FUNCTIONAL SPECIFICATION
FOR AN ADVANCED METERING INFRASTRUCTURE**

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FUNCTIONAL SPECIFICATION FOR AN ADVANCED METERING INFRASTRUCTURE

1.0 APPLICATION OF SPECIFICATION

This Specification sets the required minimum level of functionality for AMI in the Province of Ontario for residential and small general service consumers where the metering of demand is not required. This Specification is not intended to apply to net metering applications.

2.0 FUNCTIONAL SPECIFICATION

2.1 *Deployment*

This Specification shall be met regardless of the size or scope of the AMI deployment by a distributor.

2.2 *Minimum Functionality*

2.2.1 As a minimum:

2.2.1.1 AMI shall collect Meter Reads on an hourly basis from all AMCDs deployed by a distributor and transmit these same Meter Reads to the AMCC and MDM/R, as required, in accordance with these Specifications; and

2.2.1.2 A Meter Read shall be collected, dated and time stamped at the end of each hour (i.e. midnight as represented by 24:00).

2.2.2 The date and time stamping of Meter Reads shall be recorded as year, month, day, hour, minute (i.e. YYYY-MM-DD hh:mm).

2.2.3 All meters shall have a meter multiplier of one (1).

2.2.4 Distributors shall provide the MDM/R with the service multiplier for transformer-type meters.

2.3 *Performance Requirements*

2.3.1 Collection and Transmission of Meter Reads:

2.3.1.1 AMI shall successfully collect and transmit to the AMCC and MDM/R at least 98.0% of the Meter Reads from all AMCDs deployed by a distributor in any Daily Read Period.

2.3.1.2 Meter Reads unsuccessfully collected or transmitted shall not be due to the

same AMI component (including, without limitation, any AMCD) during any three (3) month consecutive time period.

- 2.3.1.3 AMI shall be able to collect and transmit Meter Reads during its operating life without requiring a field visit.
- 2.3.2 Transmission Accuracy: Over the Daily Read Period, 99.9% of the Meter Reads received by the AMCC shall contain the same information as that collected by all AMCDs deployed by the distributor.
- 2.3.3 AMI shall be capable of providing Meter Reads with a precision of at least 10 Watt-hours (0.01 kWh).

2.4 Technical Requirements

- 2.4.1 When an AMI includes AMRCs, the AMRCs shall have the ability to store meter data to accommodate the performance requirements in section 2.3.1.
- 2.4.2 Time Synchronization:
 - 2.4.2.1 AMI shall be operated and synchronized to Official Time, as set by the National Research Council of Canada.
 - 2.4.2.2 AMI shall have the capability of adjusting for changes due to local daylight savings time.
 - 2.4.2.3 AMI installed within a distributor's service area shall have the capability of accommodating more than one (1) time zone.
 - 2.4.2.4 Time synchronization shall be maintained in the AMI to the specified accuracy parameters set out in section 2.4.3.1 following a loss of power.
 - 2.4.2.5 All Meter Reads shall adhere to accurate time synchronization processes to ensure an accurate accounting of electricity consumption at each meter.
- 2.4.3 Time Accuracy:
 - 2.4.3.1 At all times, time accuracy in the AMI shall not exceed a ± 1.5 minute variance from the time established in section 2.4.2.1.
 - 2.4.3.2 AMI shall be able to prove that time accuracy does not exceed the permitted time variance identified in section 2.4.3.1.
- 2.4.4 Loss and Restoration of Power:
 - 2.4.4.1 AMI shall detect and identify the interval in which a loss of power occurred during a Daily Read Period.
 - 2.4.4.2 AMI shall detect and identify the interval in which power was restored following a loss of power.

- 2.4.5 Environmental Tolerances: All AMI components (except the AMCC) shall operate and meet the requirements in these Specifications within a temperature range of minus thirty degrees Celsius (–30° C) to positive sixty-five degrees Celsius (+65° C), and within a humidity range of zero percent (0%) to ninety-five percent (95%) non-condensing.

2.5 *Advanced Metering Communication Device (AMCD)*

2.5.1 Installation Within the Meter:

- 2.5.1.1 The AMCD shall not impair the ability of the meter to be visually read.
- 2.5.1.2 Meters in which an AMCD is installed shall be able to be installed in existing meter sockets or enclosures.
- 2.5.1.3 AMCD shall meet or exceed ANSI standards to withstand electrical surges and transients.

2.5.2 Labelling:

- 2.5.2.1 The AMCD shall be permanently labelled with:
 - (1) Legally required labelling;
 - (2) Manufacturer's name;
 - (3) Model number;
 - (4) AMCD identification number;
 - (5) Input/output connections;
 - (6) Date of manufacture; and
 - (7) Bar code for tracking and inventory management.
- 2.5.3 When installed at a consumer's location, the meter shall visibly display, as a minimum, the AMCD identification number, meter serial number and LDC badge number for the meter.
- 2.5.4 The AMCD shall be able to be initialized or programmed during, or prior to, field installation.

2.6 *Transmission of Meter Reads*

- 2.6.1 All Meter Reads collected during the Daily Read Period shall be received by the AMCC and transferred to the MDM/R no later than 5:00 a.m. local time following the Daily Read Period.
- 2.6.2 Meter Reads are not required to be transmitted in a single transmission and may be transmitted as frequently as necessary in order to meet the requirements in section 2.6.1.

- 2.6.3 AMCC shall transfer the information identified in section 2.6.1 using an approved protocol and file structure.

2.7 *Advanced Metering Regional Collectors (AMRC)*

- 2.7.1 LAN Communication Infrastructure:

- 2.7.1.1 The spectrum allocation and wattage of the radio signal used by an AMI shall not impede neighbouring frequencies.

- 2.7.2 When an AMI includes AMRCs:

- 2.7.2.1 The AMI shall provide for the continuous powering of AMRCs regardless of their location and placement.

- 2.7.2.2 All AMCDs shall be able to collect and transmit Meter Reads when one or more AMRC has a loss of power.

- 2.7.2.3 Memory and software parameters shall be maintained at all AMRC during a loss of power, whether by the provision of backup/alternate power or other solution.

2.8 *Advanced Metering Control Computer (AMCC)*

- 2.8.1 Each AMCC shall have the ability to store a rolling sixty (60) days of Meter Reads.

- 2.8.2 A distributor shall not aggregate Meter Reads into rate periods or calculate consumption data from the Meter Reads collected through its AMI either in its AMCC or any other component.

- 2.8.3 The AMCC shall be able to perform basic operational verification of Meter Reads received before transmitting these Meter Reads to the MDM/R.

2.9 *Customer Account Information*

- 2.9.1 Distributors shall provide initial information associated with customer accounts to the MDM/R on a date to be determined.

- 2.9.2 On an ongoing basis, distributors shall provide information associated with any change to the initial information identified in section 2.9.1 to the MDM/R at a frequency to be determined.

- 2.9.3 Information to be provided to the MDM//R pursuant to sections 2.9.1 and 2.9.2 is to be determined.

2.10 Monitoring & Reporting Capability

2.10.1 The AMI shall have non-critical reporting functionality and critical reporting functionality as required in this section 2.10. Information generated from this reporting functionality shall be available to the MDM/R.

2.10.2 Non-critical reporting:

2.10.2.1 At the completion of every Daily Read Period and following a transmission of Meter Reads, the AMCC shall generate a status report that includes information regarding anomalies and issues affecting the integrity of the AMI or any component of the AMI including information related to any foreseeable impact that such anomalies or issues might have on the AMI's ability to collect and transmit Meter Reads.

2.10.2.2 In addition to section 2.10.2.1, the AMCC shall generate reports:

- (1) Confirming successful initialization of the AMCD's installed in the field;
- (2) Confirming data linkages among an AMCD identification number, LDC badge number, serial number and customer account;
- (3) Confirming that the MDM/R has successfully received notification of any changes to customer account information;
- (4) Confirming that the AMCC has successfully made changes to customer account information following receipt of same from the MDM/R;
- (5) Confirming the successful collection and transmission of Meter Reads or logging all unsuccessful attempts to collect and transmit Meter Reads, identifying the cause, and indicating the status of the unsuccessful attempt(s) pursuant to section 2.3.1;
- (6) Confirming the accuracy of the Meter Reads received by the AMCC pursuant to section 2.3.2;
- (7) Confirming that all Meter Reads have a precision of at least 10 Watt-hours (0.01 kWh) pursuant to section 2.3.3;
- (8) Confirming whether the Meter Reads acquired within the Daily Read Period are in compliance with the time accuracy levels identified in section 2.4.3;
- (9) Confirming whether time synchronization within the AMI or any components of the AMI has been reset within the Daily Read Period;
- (10) Identifying the intervals in which a loss of power occurred and at which power was restored, following a loss of power;
- (11) Addressing the functionality of the AMCD communication link, including status indicators related to the AMCD and AMRC;
- (12) Identifying suspected instances of tampering, interference and theft;

- (13) Flagging potential network, meter and AMCD issues; and
- (14) Identifying any other instances that impact or could potentially impact the AMI's ability to collect and transmit Meter Reads to the AMCC and/or MDM/R on a daily basis.

2.10.2.3 Following a transmission of Meter Reads or at the completion of every Daily Read Period, the information in section 2.10.2.2 (5) shall be stored and used by the AMCC to assess compliance with the requirement specified in section 2.3.1.2.

2.10.2.4 The reports generated in sections 2.10.2.1 and 2.10.2.2 shall be made available to the MDM/R with a frequency to be determined.

2.10.3 Critical reporting:

Critical events are defined to include any AMI operational issue that could adversely impact the collection and transmission of Meter Reads during any Daily Read Period.

2.10.3.1 The AMI shall identify and report the following to the distributor:

- (1) AMCD failures;
- (2) AMRC failures;
- (3) Issues related to the storage capacity of any component of the AMI;
- (4) Communication links failures;
- (5) Network failures; and
- (6) Loss of power and restoration of power.

2.10.3.2 The reports generated in section 2.10.3.1 shall be made available to the MDM/R.

2.11 Security and Authentication:

2.11.1 The AMI shall have security features to prevent unauthorized access to the AMI and meter data and to ensure authentication to all AMI elements.

2.12 Proven Technology

2.12.1 The AMI shall be a technology that has been proven to reliably comply with these Specifications.

2.13 Regulatory Requirements

2.13.1 The AMI shall meet all applicable federal, provincial and municipal laws, codes, rules, directions, guidelines, regulations and statutes (including any requirements of any applicable regulatory authority, agency, board, or department including Industry Canada, the Canadian Standards Association, the Ontario Energy Board and the Electrical Safety

Authority) (collectively, “**Laws**”). For greater certainty, the AMI shall meet all applicable Laws that are necessary for the measurement of data and/or the transmission of data to and from the consumers within the Province of Ontario, including Laws applicable to metering, safety and telecommunications.

2.14 Water or Natural Gas Meter Reads

2.14.1 The AMI should be capable of supporting an increased number of Meter Reads associated with the reading and transmission of water and/or natural gas meters through additional ports on the AMCD, through optionally available multi-port AMCDs, or through additional AMCD/AMRC devices that are compatible with operating on the AMI. When procuring AMI, distributors shall obtain an indication of the capabilities of the proposed AMI to read water and natural gas meters, indicating the makes and models of such meters that can be read, and any requirements for retrofitting them.

3.0 DEFINITIONS

Within this Specification the following words and phrases have the following meanings:

“**AMCC**” is an advanced metering control computer that is used to retrieve or receive and temporarily store Meter Reads before or as they are being transmitted to the MDM/R. The information stored in the AMCC is available to log maintenance and transmission faults and issue reports on the overall health of the AMI to the distributor.

“**AMCD**” is an advanced metering communication device that is housed either under the meter’s glass or outside the meter. It transmits Meter Reads from the meter directly or indirectly to the AMCC.

“**AMI**” means an advanced metering infrastructure. It includes the meter, AMCD, LAN, AMRC, AMCC, WAN and related hardware, software and connectivity required for a fully functioning system that complies with this Specification. With some technologies, an AMI does not include AMRCs. An AMI does not include the MDM/R.

“**AMRC**” is an advanced metering regional collector that collects Meter Reads over the LAN from the AMCD and transmits these Meter Reads to the AMCC.

“**consumer**” or “**customer**” means a person who uses, for the person’s own consumption, electricity that the person did not generate.

“**distributor**” has the meaning provided in the *Ontario Energy Board Act, 1998*.

“**Daily Read Period**” means the 24-hour period for collecting Meter Reads, subject to the two periods annually during which changes to and from daylight savings time take place. The Daily Read Period ends at 12:00 midnight of each day.

“**LAN**” means a local area network, the communication network that transmits Meter Reads from the AMCD to the AMRC.

“meter multiplier” is the factor by which the register reading must be multiplied to obtain the registration in the stated units.

“Meter Read” is a number generated by a meter that reflects cumulative electricity consumption at a specific point in time.

“MDM/R” means the meter data management and meter data repository functions within which Meter Reads are processed to produce rate-ready data and are stored for future use.

“Specification” means these functional specifications.

“transformer-type meter” means a meter designed to be used with instrument transformers.

“WAN” means a wide area network, the communication network that transmits Meter Reads from the AMRC to the AMCC or, in some systems from the AMCD directly to the AMCC, and from the AMCC to the MDM/R.

Appendix B

Sample Terms & Conditions

Contract Terms and Conditions

B.1 Commencement of Contract Time

The successful Vendor shall be notified by NEPA of acceptance of the Vendor's Submission by NEPA sending a Purchase Order. The Vendor shall acknowledge receipt within ten days of the date of sending of the Purchase Order.

The Contract Time shall commence to run on the effective date indicated in the Purchase Order. Vendor shall start to perform the work on the date when the Contract Time commences.

B.2 Vendor Claims

All claims of the Vendor and all questions relating to the interpretation of the Contract, including all questions as to the acceptable fulfillment of the Contract on the part of the Vendor and all questions as to compensation, shall be submitted in writing to the NEPA Project Manager for determination.

All such determinations and other instructions of NEPA will be final unless the Vendor shall file with NEPA a written protest, stating clearly, and in detail the basis thereof, within fifteen (15) calendar days after NEPA notifies the Vendor of any such determination or instruction. If NEPA and the Vendor cannot reach consensus on resolution of the claim within 15 days then the matter will be referred to the dispute settlement mechanisms set forth at section B.25. Work will not be undertaken until a written final decision is rendered.

B.3 Changes in the Work

NEPA, without invalidating the Contract, may direct the Vendor to perform extra work or make changes in the work, provided that all changes or additions form an inseparable part of the work contracted for. Vendor shall make such changes or additions only after receipt of written instructions to do so from NEPA. If such changes or additions cause an increase or decrease in the cost of the Contract, or in the time required to complete the Contract, the adjustment to the contract price or time frames shall be as set out in the Change Order and the Contract shall be modified accordingly.

When a change is ordered, a change order shall be executed by NEPA and the Vendor before any change order work is performed. Any increase or decrease in the contract price and the time required for the completion of the contract work due to a change order shall be specifically set out in the change order. All terms and conditions contained in the Contract documents shall be applicable to change order work. The amount of any increase or decrease shall be added to or subtracted from the contract price as appropriate.

B.4 Delays & Extension of Time

If the Vendor is delayed at any time in the progress of the work by any act or neglect of NEPA, or any cause beyond the Vendor's reasonable control, he shall file with NEPA a notification that an extension of the Contract period is required.

The NEPA Project Manager shall review said notice and to the extent that the Vendor can reasonably demonstrate to NEPA Project Manager that it shall be delayed in its fulfillment of

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Smart Meter Deployment: Contract Negotiation Package***

these terms and conditions and other obligations of this transaction due to a cause beyond its control, a reasonable extension period shall be granted.

B.5 Termination of Right to Proceed

NEPA may, in writing, terminate this Contract in whole or in part at any time, either for NEPA's convenience or for the default of the Vendor. Upon such termination, all data, plans, specifications, reports, estimates, summaries, completed work and work in process, and such other information and materials as may have been accumulated by the Vendor in performing this Contract shall, in the manner and to the extent determined by NEPA, become the property of NEPA. If the termination is for the convenience of the NEPA and without default by the Vendor, an equitable adjustment for the Vendor's direct costs and profit for work actually performed shall be made by mutual agreement between the Vendor and NEPA. No amount shall be allowed for anticipated profit on unperformed services. Any expense incurred because of cost of completion by the NEPA is chargeable to and shall be paid by the Vendor. The total liability to the Vendor shall be limited to the Contract value less the value of any equipment, material or completed services retained by the utility.

Default occurs if the Vendor (1) abandons the work called for hereunder, (2) files a voluntary petition in bankruptcy or fails to obtain dismissal of an involuntary petition in bankruptcy within sixty (60) days after the filing thereof or has a Receiver/Trustee appointed, (3) becomes insolvent, (4) assigns this Contract or sublets any part of the work hereunder without prior written permission of the NEPA, (5) repudiates the Contract, (6) allows liens to be filed against property of the NEPA, (7) fails to meet or perform its obligations hereunder after five days notice or continues in chronic default of its obligations, (8) disregards laws, ordinances, rules and regulations related to the Contract and the work or disregards instructions of the NEPA, (9) fails to complete the work in accordance with the Contract.

B.6 Right to Operate Unsatisfactory Equipment

If the operation or use of the materials or equipment after delivery and/or installation does not comply with the technical requirements set out in the Contract documents to NEPA, NEPA shall have the right to operate and use such materials or equipment until such deficiency can be reasonably corrected provided that the period of such operation or use pending correction shall not impede or delay the ability of the Vendor to perform corrections. Such operation and use shall not constitute an acceptance of any part of the work, nor shall it relieve Vendor of any requirements of the Contract, nor shall it act as a waiver by NEPA of any requirement of the Contract.

B.7 Casualty Insurance

Before commencing work under this contract the Vendor at his own expense shall submit Certificates of Insurance, providing evidence acceptable to NEPA indicating that the Vendor has obtained and will maintain insurance for the duration of the contract. The following requirements apply to all Certificates of Insurance:

- 1) The insurance shall be written by an insurer acceptable to the Company.
- 2) The insurance shall be primary to any coverage carried by the Company.
- 3) The Vendor further agrees to provide the Company with an executed Certificate of Insurance before commencement of work, and with written copies of the insurance policies at any time upon the written request of the Company.
- 4) The Certificate of Insurance shall be an original copy signed by an authorized representative of the insurance carrier(s). (Note – faxed copies may be accepted initially to be followed up by originals in a reasonable length of time.)
- 5) The Certificate of Insurance shall provide that no less than 30 days advance notice will be given in writing to the Company prior to cancellation, termination or alteration of the insurance coverage. The Company shall

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be named as an additional insured on each General Liability Insurance Policy and any Excess Liability Policy or Umbrella Policy used to meet the required general liability limits.

The types of coverage and minimum limits are as follows:

- 1) GENERAL LIABILITY*
 - a) \$4,000,000 each occurrence
 - b) \$6,000,000 general aggregate
- 2) . AUTOMOBILE LIABILITY*
 - a) Bodily injury \$1,000,000 per person
 - b) \$1,000,000 per accident
 - c) Property damage \$500,000 or
 - d) Combined Single Limit \$1,000,000

** A blanket, umbrella, and/or excess liability policy(s) may be utilized to increase limits to the desired level(s).*

B.8 Subcontractors

NEPA members reserve the right to refuse to permit any person or organization (subcontractor) to participate in the work covered by this Contract, such refusal shall not be unreasonably imposed. No subcontract shall relieve the Vendor of any liabilities or obligations under the Contract, and the Vendor agrees that Vendor is fully responsible to NEPA for the acts and omissions of Vendor's subcontractors and of persons employed by them. Vendor shall require every subcontractor to comply with the provisions of the Contract.

B.9 Payment

Payment shall be handled individually with each NEPA member utility and will be made based upon completion of the performance milestones itemized below.

Vendor shall submit to each individual NEPA member a request for payment for each milestone that has been met. Payment for each milestone will be submitted by each individual NEPA member and shall also be contingent on successful completion of the preceding milestones.

- a) Fifteen percent (15%) of the contract price will be paid after the successful Acceptance Test, which requires delivery and integration of the system head-end.
- b) Twenty five percent (25%) of the contract price will be paid after delivery of 35% of the communication infrastructure and 35% of the new meters and other customer premises equipment (Meters are to be installed within 60 days of receipt by the NEPA member utility).
- c) Twenty percent (20%) of the contract price will be paid upon successful installation, operation and Route Acceptance of the equipment described in (b) above and delivery of an additional 30% all equipment on NEPA's system.
- d) Twenty percent (20%) of the contract price will be paid upon successful installation, operation and Route Acceptance of the equipment described in (c) above and delivery of all remaining system elements.
- e) Twenty percent (20%) upon completion of system installation, Acceptance of all routes, and delivery of all documentation, judged by NEPA to be acceptable, not longer than 90 days after complete installation.

The NEPA member will make payment within thirty (30) days of receipt of a request for payment, if the above conditions are met.

When the Vendor has completed all work in accordance with the terms of the Contract Documents, the Vendor shall submit a request for final payment to the applicable NEPA utility. The request for final payment shall constitute a waiver of all claims by the Vendor except for claims specifically listed in the request. Individual

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NEPA members may require WSIB clearance certificates, showing the vendor to be in good standing, prior to processing payment

Vendor's Submission of its request for final payment shall constitute its warrant that the Vendor has; to the best of its knowledge fully completed all work included in the Contract and has fully paid for labour, materials, equipment, services, taxes and all other costs and expenses resulting from this Contract.

B.10 Acceptance

These terms and conditions becoming binding when the Vendor's Submission chosen for acceptance by NEPA is given written notice of acceptance of the submission.

No modification hereof and no condition stated by Vendor in accepting or acknowledging this order, which is in conflict or inconsistent with, or in addition to the terms and conditions set forth herein, shall be binding upon NEPA unless accepted in writing by NEPA.

B.11 Shipments

Vendor shall mail Bill of Lading and Shipping Memo to destination, and electronically deliver copies of said documents to NEPA's Project Manager.

Vendor shall notify the NEPA Project Manager promptly if unable to make shipment. Shipments shall be made to multiple destinations in NEPA service territories for logistical convenience. Such shipment instructions will be stated in the purchase contract that will be developed between the selected Vendor and NEPA.

B.12 Prices

Vendor agrees that prices are firm unless otherwise noted, and Vendor warrants that said prices do not exceed the prices allowed by any applicable Federal, Provincial or Local regulation.

B.13 Compliance with Laws

Vendor warrants that in performing work under this order Vendor will comply with all applicable laws, rules and regulations of governmental authorities and agrees to indemnify and save NEPA harmless from and against any and all liabilities, claims, costs, losses, expenses, and judgments arising from or based on any actual or asserted violation by the Vendor of any such applicable laws, rules and regulations.

B.14 Patents

Vendor agrees to protect and save harmless NEPA from all costs, expenses or damages, arising out of any infringement of claim or infringement or Patents in NEPA's use of material or equipment furnished pursuant to this order.

B.15 Assignment

Vendor agrees that neither this order nor any interest herein shall be assigned or transferred by Vendor except with the prior written approval of NEPA.

B.16 Substitution

No substitution will be permitted under this order except on specific written authority of NEPA's Project Manager.

B.17 Errors in Material

Material or equipment delivered in error, or in excess of the quantity called for, will be returned at the Vendor's expense.

B.18 Vendor's Agent or Employees

If Vendor in the performance of this contract furnishes the services of himself, his agent or employee as an Erecting Engineering, Superintendent, or otherwise in respect to the operation, adjustment, repair, installation, erection or dismantling of material and/or equipment furnished hereunder or as described herein, Vendor agrees to assume all liability with respect to the services of himself, his agent or employees while on the premises of NEPA and to indemnify and save NEPA harmless from all claims, suits, actions and proceedings whatsoever which may be brought on account of injuries or damages to Vendor, his agent or employees or to other persons or property which shall occur as a result of the performance of said services.

B.19 Indemnity

The Vendor agrees to indemnify, hold harmless and defend NEPA (the Company), its parent, subsidiaries and affiliates and their respective employees, agents, officers, and directors, from and against any and all liability for loss, damages, fines, penalties, claims, actions, proceedings, expense, or cost, including but not limited to attorney's fees and litigation expenses which may be asserted against the Company or which the Company may incur or be held liable by reason of

- a) bodily injury, including death, sustained by or alleged to have been sustained by any person or persons, including but not limited to employees of the Company, employees of the Vendor, employees of any subcontractor or any other third parties, and without regard to whether the person or persons are working within the scope of their employment; and/or
- b) damage to property; and/or
- c) personal injury, including but not limited to, false arrest, false imprisonment, or violation of privacy rights; and/or
- d) any unlawful employment practice of the Vendor or any subcontractor, including without limitation, employment discrimination, wrongful discharge, termination of employment or violation or provincial or federal statutes or regulations relating to employment practices; resulting from the acts and/or omissions of Vendor or subcontractor, its employees, agents, subcontractors or those under its or their control, and/or arising out of or in any manner connected with the performance of this Agreement or the operations to be performed under this Agreement to the extent such injury or damage is caused by or is attributable in whole or in part to any act or omission of the Vendor, its affiliates or its or their employees or agents or those under its or their control; provided, however, that the Vendor shall not be held responsible for damage to private property when such damage results from the Vendor's having

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carried out in a proper workmanlike manner instructions received from a duly authorized representative of the Company as to the use to be made of, or act to be performed on, such private property.

B.20 Inspection

Materials and equipments ordered hereunder are subject to inspection and acceptance by NEPA.

Such inspection and acceptance however, shall not be conclusive with regard to defects that could not have reasonably been discovered by such an inspection or latent defects, fraud or such gross mistakes as amount to fraud and shall not be deemed to alter or affect the obligation of Vendor or the Rights of NEPA under the Warranty clause above.

B.21 Unauthorized Rework

Under no circumstances is Vendor permitted to use substitute material to replace defective articles or to repair or rework them by welding or otherwise without NEPA's written permission.

B.22 Premium Transportation

Any premium transportation costs incurred by NEPA and as a result of Vendor's failure to meet the delivery schedule shall be paid for by Vendor.

B.23 Governing Law

The rights of the parties hereto and the construction and effect of this contract shall be subject to and determined in accordance with the laws of the province of Ontario.

B.24 Technology Escrow

The Vendor acknowledges and agrees that the Smart Meter system and all intellectual property and proprietary rights related thereto are the sole and exclusive property of NEPA and that the Vendor has no property right, license or any other entitlement whatsoever in connection with the Smart Meter system save as provider of services and equipment to NEPA pursuant to the terms and conditions of this Agreement. The Vendor represents and warrants that it has not entered into any source code escrow agreement, support agreement, license agreement, marketing agreement, distribution agreement or any other arrangement with any third party with respect to the Smart Meter system, save as specifically acknowledged in writing to NEPA.

On a quarterly basis, Vendor will deliver an up-to-date, complete and comprehensive, and current copy of the source code on electronic media and existing source code documentation including data, drawings, rights, procedures and other materials relevant to the source code for the Smart Meter system ("the Escrow Materials") to _____ ("Escrow Agent"). Such Escrow Materials shall be held in escrow upon the terms and conditions hereinafter provided.

Upon the occurrence of any of the following events, and NEPA's notification to the Escrow Agent of such occurrence, the Escrow Agent shall immediately deliver to NEPA and NEPA shall be entitled to receive immediately the Escrow Materials: (i) Vendor ceases doing business and its business is not continued by another corporation or entity who has agreed to assume Licensor's obligations, (ii) Vendor files for or becomes a party to any involuntary bankruptcy, receivership or similar proceeding, and such involuntary proceeding is not dismissed within forty-five (45) calendar days after filing, (iii) Vendor makes an assignment for the benefit of creditors, (iv)

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Vendor fails or ceases to provide maintenance services for the Smart Meter system under this Agreement or any other agreement between Vendor and NEPA and such failure is not cured within sixty (60) days after written notice thereof from NEPA to Vendor, or (v) the agreement between the Escrow Agent and Vendor is canceled or terminated at any time prior to the termination of this Agreement and no successor Escrow Agent is appointed under substantially the same terms and conditions.

B.25 Arbitration

All claims, disputes, and other matters arising out of this Contract, during the Contract Time, may, upon the agreement of both parties, be referred to Arbitration. The decision of the arbitrator shall be final, conclusive and binding upon both parties. All costs associated with the appointment of the arbitrator shall be shared equally unless the arbitrator determines otherwise.

All claims, disputes and other matters arising out of this Contract shall first be referred to non-binding mediation, and for that purpose [some experienced and neutral mediator] is determined to be mediator. Failing settlement by mediation, matters in dispute shall be settled by arbitration. The Vendor and NEPA shall each appoint an arbitrator and the two so selected shall designate a third arbitrator. If either party fails to appoint its arbitrator within thirty (30) days after receipt of notice of the appointment by the others of their arbitrators or if the two arbitrators fail to appoint a third, then a Judge of the Ontario Court (General Division) shall have the power, upon the request of either party, to make the appointment which has not been made as contemplated herein. The arbitration shall be conducted in accordance with the provisions of The Arbitration Act of Ontario and shall be held as promptly as possible at a mutually agreed to location.

Appendix C

**NEPA Member
Service Territory Maps
and Supplemental Information for
each of the NEPA Members**

Addendum 6

Sensus Security Audit RFP

**Smart Meter Network
Security Audit Services
For Sensus AMI
Request for Proposal**

RFP# 2105S



Facilitated by util-assist

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Section 1: Introduction

1.1 Introduction

1.1.1 Background

With the mass deployment of AMI systems currently under way, security of the AMI network is critical to prevent utilities from becoming susceptible to new levels of potential security breaches and to ensure customer privacy and acceptance of the network. Now that network infrastructure is being installed in the field, there is a requirement for additional security measures to ensure that utility data and equipment are kept secure from manipulation or other forms of control.

Some of the privacy and network security infrastructure concerns that have been raised include:

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

Since early 2009, Ontario utilities have been working with their smart meter providers in understanding the security features of the networks, best practices for their deployment and new features that are being developed for future implementation within the smart meter networks. In November of 2009 the Information and Privacy Commissioner of Ontario released the report Smart Privacy for the Smart Grid which identified areas of concern to be addressed in the area of smart meter and smart grid devices. For reference to this report, please access the following link: <http://www.ipc.on.ca/images/Resources/pbd-smartpriv-smartgrid.pdf>.

As part of the planned implementation of annual security audits for the smart meter networks, in December of 2009, Util-Assist hosted a security audit discovery session in which Ontario Local Distribution Company (LDCs) and security firms discussed possible approaches to AMI network security audits. In particular the LDCs were interested in the possibility of working collaboratively to maximize the cost effectiveness of the security audit process. An opportunity was identified to work together as an industry to complete this critical step in the due diligence required to ensure that utility AMI networks are secure. A common approach to the audit will allow the AMI vendors to allocate resources to focus specifically on the Ontario LDCs' audit firm efforts and their needs.

The following Request for Proposal (RFP) is being released by a Consortium of Ontario LDCs (the "Consortium") who are working together to maximize cost and time effectiveness. The utilities participating in the Consortium are listed below.

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Sensus Utility	
Algoma Power Inc.	Newmarket Tay Power Distribution Ltd
Bluewater Power Distribution Corporation	Niagara Peninsula Energy Inc.
Brant County Power Inc.	Niagara-on-the-Lake Hydro Inc.
Brantford Power Inc.	Norfolk Power Distribution Inc.
Cambridge and North Dumfries Hydro Inc.	North Bay Hydro Distribution Ltd.
Canadian Niagara Power Inc.	Northern Ontario Wires Inc. - Cochrane
Chapleau Public Utilities Corporation	Oakville Hydro Electricity Distribution Inc.
COLLUS Power Corp.	Orangeville Hydro Limited / Grand Valley Energy Inc.
Espanola Regional Hydro Distribution Corp.	Orillia Power Distribution Corporation
Greater Sudbury Hydro Inc.	PowerStream Inc. / Barrie Hydro Distribution Inc.
Grimsby Power Incorporated	PUC Distribution Inc. (Sault Ste. Marie)
Haldimand County Hydro Inc.	Wasaga Distribution Inc.
Hearst Power Distribution Co. Ltd.	Waterloo North Hydro Inc.
Innisfil Hydro Distribution Systems Ltd.	Welland Hydro Electric System Corp.
Kitchener-Wilmot Hydro Inc.	Whitby Hydro Electric Corp.
Lakefront Utilities Inc.	

The attached documentation sets out the procedural and technical requirements for the submission of Proposals to the Consortium, outlines the audit requirements as well as provides the substantive contractual terms that will govern the relationship between parties upon award of the contract

1.1.2 Terminology

For the purposes of this procurement process:

1. **Bidder** shall refer to the vendor proposing a solution to this RFP document by submission of a Proposal.
2. **Vendor** shall refer to the successful Bidder. The term Vendor will be used when stating future requirements, to be performed only by the successful Bidder.
3. **Proposal** shall mean the Bidder's written response provided to the Consortium in accordance with this RFP. The Proposal shall include all written material submitted by Bidder as of the date set forth in the Key Dates (Section 1.2 *Key Dates*)

1.2 Key Dates

Below is the expected timeline that the Consortium will be following during the evaluation of security audit solutions. The Consortium reserves the right to adjust these dates as needed. All Bidders will be notified if any of the following dates are altered. As can be seen, it is the intention of the Consortium to make its decision by **August 13, 2010**.

Security Audit Services RFP released by the Consortium: May 21, 2010

Intention to bid: May 31, 2010

Final Questions Due: June 7, 2010

Answers to Questions: June 14, 2010

Closing Time (Proposals Due): June 28, 2010 @ 3:00PM

Vendor Presentations: TBD (if required)

Proposal Decision: August 13, 2010

Section 2: Instructions to Bidders

2.1 Bid Documents

This RFP establishes the services that the Consortium wishes to acquire. This bid document is the basis upon which the Consortium seeks firm Proposals from selected Bidders and upon which Proposals will be evaluated. The documents are:

- This RFP (a .pdf document), including Appendices that are integral to it.
- AMI_Security_Audit_RFP.xls, a Microsoft Excel workbook. This file allows for entry of pricing information and will heretofore be referred to as the Pricing Spreadsheet.

2.2 Intention to Bid

Recipients of this RFP are asked to inform the Consortium of their intention to bid by completing the template form found in Section 2.19 *Proposal Forms*, and by submitting this form by the date shown in Section 1.2 *Key Dates*. Recipients that express intention to bid will be included in all correspondence (if any) during the bidding process. Please provide full contact information and expression of intention via the provided form to the Consortium contact as per instruction in Section 2.19.1 *Intention to Bid Form*

2.3 Submission Requirements

- 1) A complete Proposal will consist of an original and eight (8) copies of each of
 - a) The Proposal forms,
 - b) The Bidder's response document (including all associated attachments),
 - c) Accompanying the Bidder's response document should be the Proposal forms provided in Section 2.19 *Proposal Forms*,
 - d) The required format of the Bidder's response document is outlined in Section 2.4 *Proposal Format Instructions*,
 - e) A soft copy of all of the above forms and documents should also be provided on one CD.
- 2) The original hard copy shall be clearly identified as "ORIGINAL"; the remainder (i.e. eight copies) shall be marked as "COPY". In the event of discrepancy between the copies of the Response, the one marked "ORIGINAL" shall prevail. Each Bidder's Response shall consist of the required documents with the required number of copies of all commercial information, including pricing, terms and conditions and exceptions (if applicable). Faxed or late Proposals will not be accepted. Proposals must be sealed and marked clearly quoting the RFP number referred to on the cover sheet of the Request for Proposal documents. The use of any means of delivery of a Proposal shall be at the risk of the Bidder.
- 3) Any Bidder wishing to provide additional information other than what is requested in the RFP documents must place such additional information in a separate section marked Supplementary Information, as per Section 2.4 *Proposal Format Instructions*. Any Additional Information or any unsolicited value-added alternatives may, in the Consortium's absolute discretion, be given due consideration, or not.
- 4) The Consortium shall not be liable for, nor shall it reimburse any Bidder for costs incurred in the preparation of Proposals, or any other services or samples that may be requested as part of the evaluation process.

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- 5) The Proposal Forms shall be signed under the Corporate Seal of the Bidder, by the duly authorized signing officer(s). All submitted pages shall be initialled by such officer(s).

2.4 Proposal Format Instructions

Where information has been requested through this RFP, the Bidder's Proposal should clearly indicate the RFP section number that the response pertains to. The Bidder's Proposal should be organized according to the following sections:

- 1) Section 1 of the Proposal will contain the Bidder's Executive Summary, no more than two pages in length that introduces the Bidder and highlights key features of the Proposal.
- 2) Section 2 of the Proposal **should be provided in a separate envelope which has been clearly marked "PRICE OFFER"**. This section will contain the summary pages pertaining to the Price Offer, contained within the Pricing Spreadsheet. The Bidder's detailed itemized pricing information for all services is to be contained within the Pricing Spreadsheet which is to be included with the Proposal in its entirety as well as within this section. Any alternative pricing offers may also be included within the Pricing Spreadsheet, by adding tabs as needed. All pricing shall be expressed in Canadian currency, exclusive of taxes. If your originating currency is not Canadian, the currency exchange that was used to calculate the price in Canadian currency is to be provided.
- 3) Section 3 of the Proposal will contain all requested information from Section 3 of this RFP in the order presented in this document, with the numbering used in this document.
- 4) Section 4 of the Proposal will contain all requested information regarding the Bidder (Section 4: *Bidder Company Information*) in the order presented in this document, with the numbering used in this document.
- 5) Section 6 of the Bidder's Proposal will contain any additional documentation that the Vendor decides to provide regarding their offering.

2.5 Adjustments / Substitutions

- 1) A Proposal may be altered by a Bidder only by submitting another Proposal at any time up to the Closing Time. Adjustments by telephone, facsimile, telegram or letter to a Proposal already submitted will not be considered. The last Proposal received by the Consortium's designee shall supersede and invalidate all Proposals previously submitted by the Bidder for this RFP.
- 2) During the period prior to the Closing Time, changes made by the Consortium to the RFP documents will be issued by the Consortium to the Bidders as written addenda. The Bidder shall list in its Proposal all addenda that were considered in the preparation of its Proposal.

No substitutions or deviation from the Specifications, Proposal Form or General Conditions of Contract will be permitted without the Consortium's approval in writing.

2.6 Complete Bid

Bidders are requested to submit bids that are complete and unambiguous without the need for additional explanation or information. The Consortium reserves the right to make a final determination as to whether a bid is acceptable or unacceptable solely on the basis of the bid as submitted, and proceed with bid evaluation (or not) without requesting further information from any Bidder. If the Consortium deems it desirable and in its best interest, the Consortium may, in its sole discretion, request from any Bidder or Bidders, additional information clarifying or supplementing any submitted bid.

2.7 Clarifications

Upon the issuance of this RFP to Bidders, and continuing through the submission date, all questions or other communications with the Consortium shall be by email only, with the Consortium's authorized representative:

Email: security-sensus@util-assist.com

The Consortium will respond to the question in writing, with both the question and response provided to each Bidder that has declared intention to bid. No response will be made to questions submitted after June 7, 2010.

2.8 Grounds for Disqualification

It is a requirement of this RFP document that Bidder's submitting Proposals for evaluation complete the Pricing Spreadsheet and format their bid submission according to Section 2.4 *Proposal Format Instructions*. The Consortium reserves the right to reject any incomplete bids (as per Section 2.6 *Complete Bid*).

2.9 Post Bid Meeting

The Consortium reserves the right to invite any or all Bidders to make an in-person presentation regarding the proposed security audit solution. The Consortium may request Bidder's assistance in arranging visits or meetings with customers who have completed a security audit with the assistance of the Bidder.

2.10 Withdrawal of Proposal

Bidders will be permitted to withdraw their Proposal unopened after it has been submitted if such a request is received by the designee of the Consortium in writing, prior to the Closing Time.

2.11 Bid Inconsistencies

Any provisions in Bidder's Proposal that is inconsistent with the provisions of this Request for Proposals, unless expressly described in the Proposal as being exceptions, are deemed waived by the Bidder. In the event the order is awarded to Bidder, any claim of inconsistency between the Proposal and this RFP will be resolved in favour of this RFP unless otherwise agreed to in writing by the Consortium.

2.12 Bidder's Statement of Understanding

By submitting a response to this RFP, Bidders acknowledge the following:

- 1) The Bidder acknowledges that it has carefully examined, understands and accepts the RFP documents, has carefully examined the requirements contained in the RFP documents and hereby submits an offer according to the requirements set forth in this RFP.
- 2) It is understood that this Proposal, if it has not been withdrawn in accordance with Section 2, subsection 2.10 *Withdrawal of Proposal*, is irrevocable and shall remain open for acceptance by the Consortium for a period of ninety (90) working days following the opening of the Proposals.
- 3) It is further understood by the Bidder that if the Consortium accepts its Proposal, then the Bidder is bound by the Contract and agrees to provide the goods and/or services upon the terms and conditions of the Contract.

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- 4) While the Consortium has used considerable efforts to ensure an accurate representation of information in this Request for Proposal, the information contained in this Request for Proposal is supplied solely as a guideline for Bidders. The information is not guaranteed or warranted to be accurate by the Consortium, nor is it necessarily comprehensive or exhaustive. Nothing in this Request for Proposal is intended to relieve Bidders from forming their own opinions and conclusions with respect to the matters addressed in this Request for Proposal.

2.13 Proposal Evaluation

- 1) All Proposals shall be opened after the Closing Time in the presence of a Representative of the Consortium or another individual designated by the Consortium to open the Proposals. The opening will not be public.
- 2) In determining the contract award, the lowest Proposal will not necessarily be accepted, and the Consortium reserves the right to accept or reject any or all Proposals in its absolute discretion. Further, Proposals may be accepted or rejected in total or in part.
- 3) An Evaluation Committee will be selected by the Consortium and will review Proposals and will then carry out interviews with selected Bidders for clarification as required.

It is anticipated that a written contract will be negotiated immediately after the successful Bidder has been notified. If a contract cannot be negotiated within sixty (60) days of notification, the Consortium may, at its sole discretion at any time thereafter, terminate negotiations with that Bidder and either negotiate a contract with the next qualified Bidder or choose to terminate the Request for Proposal process and not enter into a contract with any of the Bidders.

2.14 Award of Contract

- 1) The Bidder acknowledges that the Consortium reserves the right, privilege, entitlement and absolute discretion, and for any reason whatsoever to:
 - a) Cancel this Request for Proposals at any time, either before or after the Closing Time;
 - b) Accept a Proposal which is not the highest scoring Proposal submission, or reject a Proposal that is the highest scoring Proposal even if it is the only Proposal received;
 - c) Accept the Proposal deemed most favourable to the interests of the Consortium or that may provide the greatest value advantage and benefit to the Consortium based upon but not limited to price, ability, quality of work, service, past experience, past performance and qualification;
 - d) Accept or reject any and all Proposals, whether in whole or in part;
 - e) Award any part of any Proposal; or
 - f) Accept or reject any unbalanced, irregular, or informal Proposals.
- 2) The Bidder acknowledges that the Consortium will evaluate Proposals using an internal scoring method as referenced in Section 2.17 *Proposal Evaluation Criteria* and other criteria which the Consortium deems relevant, even though such criteria may not have been disclosed to the Bidder. By submitting a Proposal, the Bidder acknowledges the Consortium's rights under this section and absolutely waives any right, or cause of action against the Consortium and its consultants, by reason of the Consortium's failure to accept the Proposal submitted by the Bidder, whether such right or cause of action arises in contract, negligence, or otherwise.
- 3) Contract award, if any, will be communicated by written notification from the Consortium to the successful Bidder.
- 4) Bidders whose Proposals have been rejected by the Consortium will be notified within thirty (30) days of the award date.

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- 5) The successful Bidder shall provide the Consortium with a designated inside customer service representative. Any disputes and/or queries with respect to the Contract will be directed to the Consortium representative, whose decisions with respect to any matter under dispute shall be final and binding.

2.15 Freedom of Information

Proposals submitted to the Consortium become the property of the Consortium and, as such, are subject to the *Freedom of Information and Protection of Privacy Act*, R.S.O. 1990, c. F.31, as amended.

2.16 Ownership of Data

The Consortium shall own all information collected and reported on by the Vendor during the security audit process. Information collected and reported by the Vendor shall not be used for any purpose without the approval of the Consortium.

2.17 Proposal Evaluation Criteria

The Consortium and the evaluation committee representatives will evaluate Proposals using an internal scoring method that weights various parameters to give the Consortium insight into the strengths of each Proposal relative to the Consortium's needs. The Consortium's internal scoring method values the following Proposal attributes (order of presentation does not reflect priority):

Proposal Evaluation Criteria	Section	% Total Points
Project Overview	3	
Bidder Company Information	4	
Section 3 and 4 inclusive:		65%
Pricing Weighting:		35%
Total		100%

Along with the Bidder's company information, and statements of understanding regarding the project, the answers to Sections 3 and 4 will represent 65% of the total weighting of the RFP. Pricing submitted will represent 35% of the total weighting of the RFP. Bidders will be selected for further discussion based on the Team's judgment, determined using the scoring method.

2.18 Payment

When the Vendor has completed all work in accordance with the phases of the contract documents, the Vendor shall submit to the Consortium a request for payment. The request for payment shall constitute a waiver of all claims by the Vendor except for claims specifically listed in the request. The Consortium will make payment within sixty (60) days of receipt of a request for payment at the completion of each project phase.

Vendor's submission of its request for final payment shall constitute its warrant that the Vendor has to the best of its knowledge fully completed all work included in the Contract and has fully paid for labour, materials, equipment, services, taxes and all other costs and expenses resulting from this Contract..

2.19 Proposal Forms

Within this section, there are two forms required for submission. The first form is found in Section 2.19.1 *Intention to Bid Form*; the intention of this form is to allow the Bidder to provide a standard email Response to the Consortium designee to notify the Consortium of the Bidder's intent to respond to the RFP.

2.19.1 Intention to Bid Form

The procedure to be utilized for this form is to copy and paste the following content into an email, and send the email to:

Email: security-sensus@util-assist.com

according to the time line as established by Section 1.2 *Key Dates*.

INTENTION TO BID NOTIFICATION FORM

PROPOSAL NO. – The Consortium RFP-2105S

Intention to Bid:

Please allow this email to represent “ Insert Company Name Here ” intention to respond to the Consortium Proposal No. The Consortium RFP-2105S.

Contact for communication regarding bid: _____
Contact phone number: _____
Contact email address: _____

We acknowledge the Submission Deadline is 3:00 p.m. Eastern Time on June 28, 2010.

2.19.2 RFP Submission Form

The procedure to be utilized for this form is to print the following pages, and include them with the RFP submission, which should be addressed to:

Orangeville Hydro Limited
Attn: Ruth Tyrrell
400 C Line
Orangeville, ON L9W 2Z7

and be submitted according to the timeline as established by Section 1.2 *Key Dates*.

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RFP SUBMISSION FORM

The Consortium

Request for Proposal Number: **The Consortium RFP-2105S**

FOR: SECURITY AUDIT SERVICES

THIS PROPOSAL IS SUBMITTED BY: _____

ADDRESS: _____

TELEPHONE: _____ FAX NO.: _____

BIDDER G.S.T. NO.: _____

PERSON(S) SIGNING ON BEHALF: _____ (print)

POSITION(S) OF THE PERSON(S): _____ (print)

To the Consortium, Hereafter called "Owner":

I/WE _____ the undersigned declare:

1. THAT no Person(s), Firm or Corporation other than the one whose signature(s) of whose proper officers and the seal is or are attached below has any interest in this Proposal or in the contract proposed to be taken.

2. THAT this Proposal is made without any connections, knowledge, comparison of figures or arrangements with any other company, firm or person making a Proposal for the same work and is in all respects fair and without collusion or fraud.

THE Bidder insures that no Owner and or employee of the Consortium, is, or has become interested, directly or indirectly, as a Contracting Party, Partner, Stockholder, surety or otherwise howsoever in or on the performance of the said contract, or in the supplies, work or business in connection with the said contract, or in any portion of the profits thereof, or of any supplies to be used therein, or in any monies to be derived there-from.

3. THAT the several matters stated in the said Proposal are in all respects true.

4. THAT I/WE have carefully examined the requirement(s), as well as all sections of the document including Instruction to Bidders, Project Overview, Installation Services, Proposal Forms, and Appendices relating thereto, prepared, submitted and rendered available by the Consortium and hereby acknowledge the same to be part and parcel of any contract to be let for the work therein described or defined.

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5. THAT I/WE do hereby Propose and offer to enter into a contract to deliver all work as described or implied therein including in every case freight, duty, exchange, G.S.T. and P.S.T. in effect on the date of the acceptance of Proposal, and all other charges on the provisions therein set forth and to accept in full payment therefore, the sums calculated in accordance with the actual measured quantities and unit prices set forth in the Proposal herein.
6. THAT Addendum/Addenda No. ____ to ____ inclusive relate to the said contract and Bidder hereby accepts and agrees to the same as forming part and parcel of the said contract.
7. THAT additions or alterations to or deductions from the said contract, if any, shall be made in accordance with the prices stated in the Schedule of Items of Unit Prices in strict conformity with the requirements of the Contract.
8. THAT this offer is irrevocable and open to acceptance until the formal contract is executed by the awarded Bidder for the said requirement(s) or Sixty (60) working days, and unit prices for as long as stated elsewhere in the document, whichever event first occurs and that the Consortium may at any time within that period without notice, accept this Proposal whether any other Proposal has been previously accepted or not.
9. THAT the awarding of the contract, by the Consortium is based on this submission which shall be an acceptance of this Proposal.
10. THAT I/WE also understand that the Consortium reserves the right to accept or reject all or part of this Proposal or any other and also reserves the right to accept other than the lowest Proposal.

The undersigned affirms that he/she is duly authorized to execute this Proposal.

BIDDER'S SIGNATURE AND SEAL: _____

NAME: _____

(Please Print)

POSITION: _____

WITNESS SIGNATURE: _____

WITNESS NAME: _____

(Please Print)

POSITION: _____

(If Corporate Seal is not available, documentation should be witnessed)

DATED AT THE _____ THIS _____
(City/Town) (Day)
DAY OF _____ 2010.
(Month)

Section 3: Project Overview

3.1 The Current Environment

The chart below includes an overview of the network infrastructure and 3rd party systems in use at each participating utility.

Sensus Utility	Address	Group	# Mtrs	# of Towers	WAN	RNI Location	HAN Devices	Interfaces to the IESO MDMR as well as the following 3rd Party Systems					
								WFM	CIS	GIS	ODS	OMS	AS2
Algoma Power Inc.	Sault Ste. Marie, ON	D9	11,600		not in use		not in use	not in use	H T E	not in use	Harris	not in use	not in use
Bluewater Power Distribution Corporation	Sarnia, ON	Other	35,000		not in use	Q-9 Data Centre	not in use	not in use	SAP	ESRI	TBD	not in use	not in use
Brant County Power Inc.	Paris, ON	NEPA	9,300		not in use		not in use	not in use	Daffron	not in use	Harris	not in use	not in use
Brantford Power Inc.	Brantford, ON	NEPA	34,189		not in use		not in use	Fieldworker	Daffron	not in use	n/a	not in use	nSoftware
Cambridge and North Dumfries Hydro Inc.	Cambridge, ON	CKW	40,000		not in use		TBD	not in use	Harris Northstar	not in use	TBD	not in use	not in use
Canadian Niagara Power Inc.	Fort Erie, ON	NEPA	28,100		not in use		not in use	Fieldworker	SAP	not in use	Harris	not in use	not in use
Chapleau Public Utilities Corporation	Chapleau, ON	D9	1,370		not in use		not in use	not in use	T&W	not in use	Harris	not in use	not in use
COLLUS Power Corp.	Collingwood, ON	CHEC	11,800		not in use		not in use	not in use	Harris Northstar 6.3.0	not in use	Kinetiq	not in use	nSoftware
Espanola Regional Hydro Distribution Corp.	Espanola, ON	D9	3,353		not in use		not in use	not in use	Harris	not in use	Harris	not in use	nSoftware
Greater Sudbury Hydro Inc.	Sudbury, ON	Other	43,772		not in use		not in use	not in use	Harris Northstar	not in use	not in use	not in use	not in use
Grimsby Power Incorporated	Grimsby, ON	NEPA	9,600		not in use		not in use	Fieldworker	SAP	not in use	Harris	not in use	not in use
Haldimand County Hydro Inc.	Caledonia, ON	NEPA	20,551		not in use		not in use	not in use	Harris Northstar 6.2.9	not in use	Harris	not in use	not in use
Hearst Power Distribution Co. Ltd.	Hearst, ON	D9	2,751		not in use		not in use	not in use	Harris Northstar	not in use	Harris	not in use	not in use
Innisfil Hydro Distribution Systems Ltd.	Innisfil, ON	CHEC	14,000	2	Bell HS	Q-9 Data Centre	TBD	Harris mCare	Harris Northstar 6.2.9	not in use	Kinetiq	not in use	nSoftware
Kitchener-Wilmot Hydro Inc.	Kitchener, ON	CKW	85,000	4	TBD	Q-9 Data Centre	Peaksaver	Fieldworker	in-house	Intergraph	inhouse	not in use	Inovis
Lakefront Utilities Inc.	Cobourg, ON	CHEC	8,238		not in use		not in use	not in use	Harris Ver 5.34	not in use	Kinetiq	not in use	not in use
Newmarket Tay Power Distribution Ltd	Newmarket, ON	Other	35,000		not in use		not in use	onService	Harris	not in use	not in use	not in use	not in use
Niagara Peninsula Energy Inc.	Niagara Falls, ON	NEPA	48,416		not in use		not in use	not in use	Harris Northstar	not in use	Harris	not in use	not in use
Niagara-on-the-Lake Hydro Inc.	Virgil, ON	NEPA	7,650		Fibre Optic		Omnistat	not in use	Harris Northstar 6.3.0	not in use	Kinetiq	not in use	TBD
Norfolk Power Distribution Inc.	Simcoe, ON	NEPA	18,300		not in use		not in use	not in use	Daffron	not in use	Harris	not in use	not in use
North Bay Hydro Distribution Ltd.	North Bay, ON	D9	23,268		not in use		not in use	not in use	H T E	not in use	Harris	not in use	nuBridges
Northern Ontario Wires Inc. - Cochrane	Cochrane, ON	D9	6,370		not in use		not in use	not in use	Harris	not in use	Harris	not in use	Cleo
Oakville Hydro Electricity Distribution Inc.	Oakville, ON	Other	60,000	3	not in use	Q-9 Data Centre	Peaksaver	Harris mCare	Harris Northstar 6.3.0	not in use	Kinetiq	not in use	nSoftware
Orangeville Hydro Ltd. / Grand Valley Energy Inc.	Orangeville, ON	CHEC	9,112	1	not in use		not in use	not in use	Harris Northstar 6.3.0	not in use	Kinetiq	not in use	not in use
Orillia Power Distribution Corporation	Orillia, ON	Other	9,694		not in use		not in use	not in use	Harris Northstar	not in use	Harris	not in use	not in use
PowerStream Inc. / Barrie Hydro Distribution Inc.	Vaughan, ON	Other	350,000		not in use		not in use	not in use	T&W	not in use	Kinetiq	not in use	BizTalk
PUC Distribution Inc. (Sault Ste. Marie)	Sault Ste. Marie, ON	D9	32,300		not in use		not in use	not in use	Harris	not in use	Harris	not in use	nSoftware
Wasaga Distribution Inc.	Wasaga Beach, ON	CHEC	11,800		not in use		not in use	not in use	Harris Northstar 6.3.0	not in use	Kinetiq	not in use	not in use
Waterloo North Hydro Inc.	Waterloo, ON	CKW	40,000		not in use		not in use	not in use	Daffron	not in use	inhouse	not in use	not in use
Welland Hydro Electric System Corp.	Welland, ON	NEPA	21,493		not in use		not in use	Fieldworker	APPX 4.2.9	not in use	Harris	not in use	not in use
Whitby Hydro Electric Corp.	Whitby, ON	Other	36,000		not in use		not in use	not in use	Northstar ver 6.2.9	not in use	not in use	not in use	not in use

3.2 Project Objectives

The objective of this project is to complete an audit of security of the AMI systems in place at the participating utilities and to produce results with the audit firm to work with the AMI vendor to implement viable countermeasures to address areas of concern from their report.

There are common characteristics / configurations within the AMI networks deployed at the utilities that are part of the Consortium enabling us to benefit from a group audit. What will be important to utilities is that the audit firm completes the necessary tasks to provide confirmation that each utility's system is configured to the tested standard. Custom configurations such as Wide Area Network (WAN) backhauls and unique head end system hosting locations or data access by other systems have been identified to allow the audit firm to describe their approach on common and custom configurations that should be addressed during the audit process.

Utilities that have installed the same AMI network configuration throughout their network will have a common review. It is understood that the custom efforts for unique configurations will be identified by the audit firm and quoted so the individual utilities that this is applicable to have clarity on the costing and audit process proposed by the Bidder.

Specifically, the audit will:

- Identify security vulnerabilities within an entire AMI solution, from both an independent device perspective and for the infrastructure as a whole;
- Perform a threat risk assessment with the vendor to assess viability of existing security countermeasures embedded in AMI solutions and the management of those countermeasures as they pertain to confidentiality, integrity, and availability of the solution; and
- Where required, provide direction on new countermeasures or remedial actions to ensure an adequate level of security exists within the AMI system. It is a requirement that the Vendor participate in meetings with the AMI vendor representatives as part of the remediation process.

3.3 The Audit Process

The audit process described in this RFP is designed to be extensive, efficient and cost-effective for the participating utilities and provides benefits to the AMI vendor and the security audit firms as compares to completing individual reviews.

The Vendor is expected to complete an in-depth security review at one participating utility that has installed each AMI vendor solution. The audit should utilize the "bottom up" approach as described in the NIST document entitled "Smart Grid Cyber Security Strategy and Requirements"; http://csrc.nist.gov/publications/drafts/nistir-7628/draft-nistir-7628_2nd-public-draft.pdf identifying any gaps in the system and working with the vendors and utilities on filling these gaps.

Once this review is complete, the Vendor is expected to review the technology at all participating utilities to confirm that their AMI systems are configured to the same standard as that declared as the standard for the group audit. In cases where the set-up is different, the Vendor must describe any security risks this poses and describe any remedial actions required.

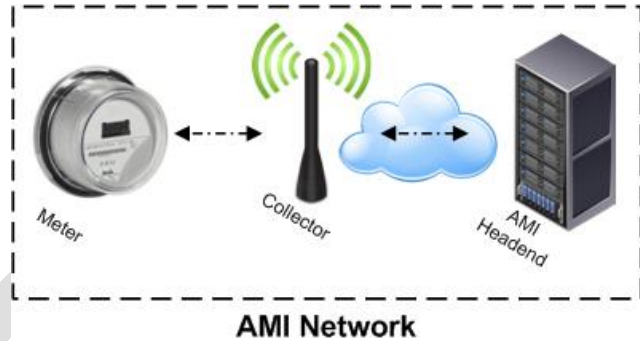
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Util-Assist will support all parties during this project with their project management team acting as the liaison in the process, coordinating meetings and action items and acting as the main point of contact on behalf of the Consortium with the audit firm..

3.4 Project Scope

The enduring goal is to ensure that the AMI network deployed has secure end to end communication. The following sections address the levels of the network to be audited with the Bidder to provide detailed responses on all the sections listed.

The following list is a summary of the smart meter networks deployed at each Consortium member.



Sensus Utility	
Algoma Power Inc.	Newmarket Tay Power Distribution Ltd
Bluewater Power Distribution Corporation	Niagara Peninsula Energy Inc.
Brant County Power Inc.	Niagara-on-the-Lake Hydro Inc.
Brantford Power Inc.	Norfolk Power Distribution Inc.
Cambridge and North Dumfries Hydro Inc.	North Bay Hydro Distribution Ltd.
Canadian Niagara Power Inc.	Northern Ontario Wires Inc. - Cochrane
Chapleau Public Utilities Corporation	Oakville Hydro Electricity Distribution Inc.
COLLUS Power Corp.	Orangeville Hydro Limited / Grand Valley Energy Inc.
Espanola Regional Hydro Distribution Corp.	Orillia Power Distribution Corporation
Greater Sudbury Hydro Inc.	PowerStream Inc. / Barrie Hydro Distribution Inc.
Grimsby Power Incorporated	PUC Distribution Inc. (Sault Ste. Marie)
Haldimand County Hydro Inc.	Wasaga Distribution Inc.
Hearst Power Distribution Co. Ltd.	Waterloo North Hydro Inc.
Innisfil Hydro Distribution Systems Ltd.	Welland Hydro Electric System Corp.
Kitchener-Wilmot Hydro Inc.	Whitby Hydro Electric Corp.
Lakefront Utilities Inc.	

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3.4.1 Meters to Collectors

The communication of the meter to the Collectors is a common characteristic in all AMI networks deployed by the Consortium in this RFP with no unique configuration by any members. There are four type of meters deployed with each type potentially containing a different firmware. A list of the meters types deployed at each Consortium member is listed below.



Sensus Utility	Meter Types currently in the field	# Mtrs
Algoma Power Inc.	iConA	11,600
Bluewater Power Distribution Corporation	iConA, A3	35,000
Brant County Power Inc.	iConA	9,300
Brantford Power Inc.	iCon, iConA, A3	35,900
Cambridge and North Dumfries Hydro Inc.	iConA, A3	40,000
Canadian Niagara Power Inc.	iConA	28,100
Chapleau Public Utilities Corporation	iConA	1,370
COLLUS Power Corp.	iConA	11,800
Espanola Regional Hydro Distribution Corp.	iConA	3,353
Greater Sudbury Hydro Inc.	iConA	43,772
Grimsby Power Incorporated	iConA	9,600
Haldimand County Hydro Inc.	iConA	20,551
Hearst Power Distribution Co. Ltd.	iConA	2,751
Innisfil Hydro Distribution Systems Ltd.	iConA	14,000
Kitchener-Wilmot Hydro Inc.	iConA	85,000
Lakefront Utilities Inc.	iConA	8,238
Newmarket Tay Power Distribution Ltd	iConF, A3	35,000
Niagara Peninsula Energy Inc.	iConA	48,416
Niagara-on-the-Lake Hydro Inc.	iConA	7,650
Norfolk Power Distribution Inc.	iConA	18,300
North Bay Hydro Distribution Ltd.	iConA	23,268
Northern Ontario Wires Inc. - Cochrane	iConA	6,370
Oakville Hydro Electricity Distribution Inc.	iConA, A3	60,000
Orangeville Hydro Limited / Grand Valley Energy Inc.	iConA	9,112
Orillia Power Distribution Corporation	iConA	9,694
PowerStream Inc. / Barrie Hydro Distribution Inc.	iConA, iConG, iConF, A3	350,000
PUC Distribution Inc. (Sault Ste. Marie)	iConA	32,300
Wasaga Distribution Inc.	iConA	11,800
Waterloo North Hydro Inc.	iConA	40,000
Welland Hydro Electric System Corp.	iConA	21,493
Whitby Hydro Electric Corp.	iConA	36,000

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Components of the Meters to Collectors layer of the AMI system that should be included in the audit are:

- Meter Communication
 - Residential (All Meter Manufacturers)
 - Commercial (All Meter Manufacturers)
 - Remote Disconnect
- Collector Communication Infrastructure and Physical Access to Equipment
 - TGB's
 - FRP (Pole Top)
- Repeater Communication (FNP)
- Field Tools (FMT)
- Vendor Meter Configuration Software

For this Section 3.4.1, the Bidder is to declare their understanding of the components that need to be audited in this section with the Bidder to provide a list of their experience with each of the components to be audited listed above.

Instructions to Bidders for responding to Sections 3.4.1.1 through 3.4.1.7

The Bidder is to provide a written response to the items in Sections 3.4.1.1 to 3.4.1.7 identifying the following for each item;

- a) Please provide a listing of what the Bidder's recommendation is in regards to the scope of detail required in each of the categories.
- b) Please describe the proposed methodology to complete this scope of work including what role each party is to play in the audit process.
- c) Please describe the recommended on-going audit and security processes for both the AMI vendors and participating utilities for this level of the audit.
- d) Experience in completing an audit at the level described in an AMI network.
- e) Bidder to declare if this portion of the audit would be performed by the Bidder or sub-contracted out. If it is the intent of the Bidder to sub-contract out this work, the Bidder is required to supply details on who the sub-contractor is and provide detail on the sub-contractor's experience.

3.4.1.1 Remote Attestation of Meters

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to the means to determine whether a remote field unit has an expected and approved configuration.

3.4.1.2 Protection of Routing Protocols in AMI Layer

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to protection from route injection, node impersonation, traffic injection, traffic modification.

3.4.1.3 Key Management for Meters

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to analysing meter, collector or other devices to determine if they are subject to a break-once break-everywhere scenario due to one shared secret being used across the entire

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infrastructure. In relation to encryption, Bidders are to provide their recommendation as to how the sharing and trusting of keys is evaluated.

3.4.1.4 Tamper Evidence

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to analysing that tamper resistance and tamper evidence must be resistant to false positives from both natural and adversarial actions.

3.4.1.5 Authenticating and Authorizing Maintenance Personnel to Meters and Collectors

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to user and role based (read-only, read-write) authentication to meters and collectors.

3.4.1.6 Protection from Eavesdropping, Impersonation, Man-in-the-Middle, and Denial-of-Service

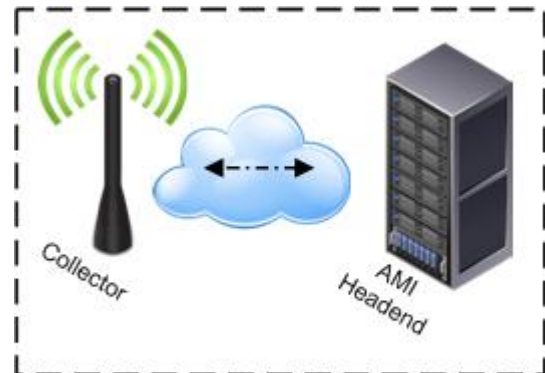
Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to analysing protection from eavesdropping, impersonation, man-in-the-middle and denial-of service threats.

3.4.1.7 Insecure Firmware Updates

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to verifying firmware update mechanisms are not used to install malware.

3.4.2 Collector(s) to AMI Headend

The communication from the Collector(s) to AMI Headend is unique to the WAN availability at the collector location for each AMI network deployed by the Consortium in this RFP. A list of the different WAN configurations in use by Consortium member has been provided below.



Collector(s) to AMI Headend

Sensus	WAN Config
Most commonly deployed	HSA Link
Second most commonly deployed	Private Fiber
Third most commonly deployed	VPN Link
Fourth most commonly deployed	GPRS
Sensus is working to provide details for individual utilities	

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Sensus Utility	WAN Backhaul in use	Modem in use
Algoma Power Inc.		
Bluewater Power Distribution Corporation		
Brant County Power Inc.		
Brantford Power Inc.		
Cambridge and North Dumfries Hydro Inc.		
Canadian Niagara Power Inc.		
Chapleau Public Utilities Corporation		
COLLUS Power Corp.		
Espanola Regional Hydro Distribution Corp.		
Greater Sudbury Hydro Inc.		
Grimsby Power Incorporated		
Haldimand County Hydro Inc.		
Hearst Power Distribution Co. Ltd.		
Innisfil Hydro Distribution Systems Ltd.		
Kitchener-Wilmot Hydro Inc.	TBD	TBD
Lakefront Utilities Inc.		
Newmarket Tay Power Distribution Ltd		
Niagara Peninsula Energy Inc.		
Niagara-on-the-Lake Hydro Inc.	Fibre Optic	FO
Norfolk Power Distribution Inc.		
North Bay Hydro Distribution Ltd.		
Northern Ontario Wires Inc. - Cochrane		
Oakville Hydro Electricity Distribution Inc.		
Orangeville Hydro Limited / Grand Valley Energy Inc.		
Orillia Power Distribution Corporation		
PowerStream Inc. / Barrie Hydro Distribution Inc.		
PUC Distribution Inc. (Sault Ste. Marie)		
Wasaga Distribution Inc.		
Waterloo North Hydro Inc.		
Welland Hydro Electric System Corp.		
Whitby Hydro Electric Corp.		

Components of the Meters to Collectors layer of the AMI system that should be included in the audit are:

- Collectors
 - Pole Top
 - Socket Based
 - All WAN Providers listed in Consortium
- AMI Headend WAN Communication Interface

For this Section 3.4.2, the Bidder is to declare their understanding of the components that need to be audited in this section with the Bidder to provide a list of their experience with each of the components to be audited listed above.

Instructions to Bidders for Sections 3.4.2.1 through 3.4.2.3

The Bidder is to provide a written response to the following areas in question identifying the following for each item;

- a) Please provide a listing of what the Bidder's recommendation is in regards to the scope of detail required in each of the categories.
- b) Please describe the proposed methodology to complete this scope of work including what role each party is to play in the audit process.
- c) Please describe the recommended on-going audit and security processes for both the AMI vendors and participating utilities for this level of the audit.
- d) Experience in completing an audit at the level described in an AMI network.
- e) Bidder to declare if this portion of the audit would be performed by their Bidder or sub-contracted out. If this is the Bidders intent, Bidder is required to supply details on who the sub-contractor is and their experience..

3.4.2.1 Public Versus Private WAN Links

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to verifying the security of the WAN communication, Identifying counter measure systems (e.g. firewalls) in both public and private WAN environments.

3.4.2.2 Physical and Logical Security of Modem and TGB

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to testing the physical and logical security of a modem. At minimum, it is the expectation that the Bidder would analyze:

- Physical breach in access to the TGB equipment
- Physical breach of the hardware in use for TGB communication

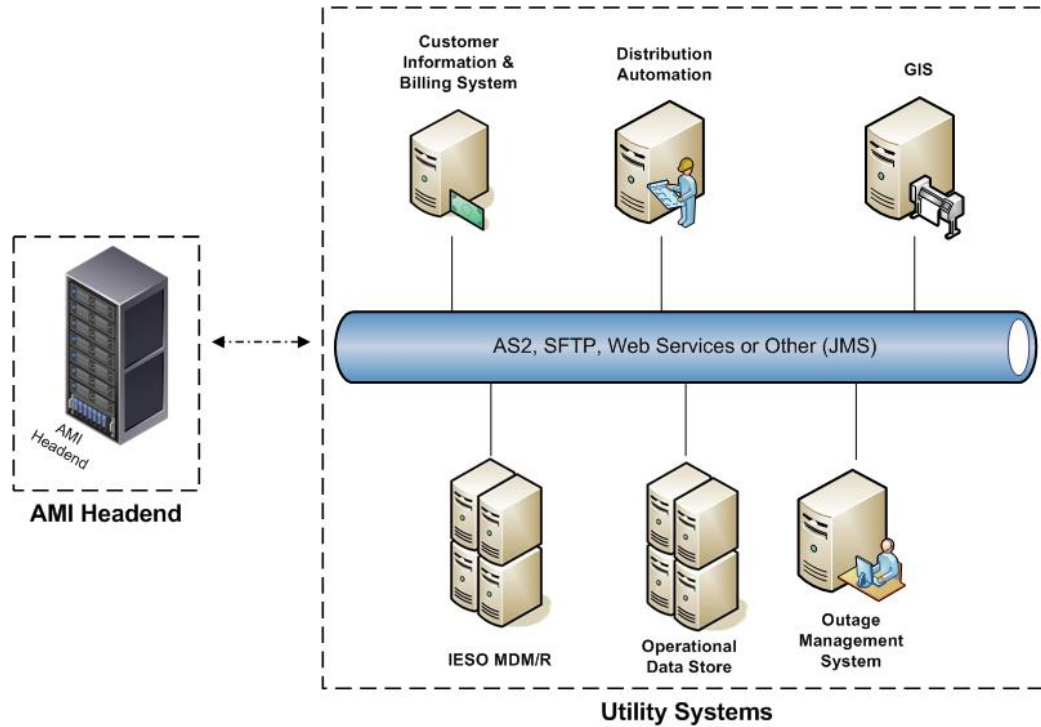
3.4.2.3 Traffic Analysis / Logging

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to traffic analysis and logging including the identity of the communicating parties, message length, frequency, etc.

3.4.3 AMI Headend to Other Utility Interfaces

The hosting location of the AMI Headend systems is common amongst a large majority of the Consortium members. The communication of the AMI Headend to other utility systems has some common characteristics (i.e. communication from AMI Headend to IESO MDM/R) with the majority being a unique configuration.

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A list of the hosting location and third party systems connected to the AMI Headend for each Consortium member is listed below.

Utility	Headend Location	Headend Shared?	WFM	CIS	GIS	ODS	OMS	AS2
Kitchener-Wilmot Hydro Inc.	Q-9 Data Centre	No	Fieldworker	in-house	Intergraph	in-house	Not In Use	Inovis
COLLUS Power Corp.	Q-9 Data Centre	Yes - CHEC	Not In Use	Harris Northstar 6.3.0	Not In Use	Kinetiq	Not In Use	nSoftware
Innisfil Hydro Distribution Systems Ltd.	Q-9 Data Centre	Yes - CHEC	Harris mCare	Harris Northstar 6.2.9	ASI/Autodesk	Kinetiq	ASI	nSoftware
Lakefront Utilities Inc.	Q-9 Data Centre	Yes - CHEC	Not In Use	Harris Ver 5.34	Not In Use	Kinetiq	Not In Use	Not In Use
Orangeville Hydro Limited / Grand Valley Energy Inc.	Q-9 Data Centre	Yes - CHEC	Not In Use	Harris Northstar 6.3.0	Not In Use	Kinetiq	Not In Use	Not In Use
Wasaga Distribution Inc.	Q-9 Data Centre	Yes - CHEC	Not In Use	Harris Northstar 6.3.0	Not In Use	Kinetiq	Not In Use	Not In Use
Algoma Power Inc.	Q-9 Data Centre	Yes - D9	Not In Use	H T E	Not In Use	Harris	Not In Use	Not In Use
Chapleau Public Utilities Corporation	Q-9 Data Centre	Yes - D9	Not In Use	T&W	Not In Use	Harris	Not In Use	Not In Use
Espanola Regional Hydro Distribution Corp.	Q-9 Data Centre	Yes - D9	Not In Use	Harris	Not In Use	Harris	Not In Use	nSoftware
Hearst Power Distribution Co. Ltd.	Q-9 Data Centre	Yes - D9	Not In Use	Harris Northstar	Not In Use	Harris	Not In Use	Not In Use
North Bay Hydro Distribution Ltd.	Q-9 Data Centre	Yes - D9	Not In Use	H T E	Not In Use	Harris	Not In Use	nuBridges
Northern Ontario Wires Inc. - Cochrane	Q-9 Data Centre	Yes - D9	Not In Use	Harris	Not In Use	Harris	Not In Use	Cleo
PUC Distribution Inc. (Sault Ste. Marie)	Q-9 Data Centre	Yes - D9	Not In Use	Harris	Not In Use	Harris	Not In Use	nSoftware
Brant County Power Inc.	Q-9 Data Centre	Yes - NEPA	Not In Use	Daffron	Not In Use	Harris	Not In Use	Not In Use
Brantford Power Inc.	Q-9 Data Centre	Yes - NEPA	Fieldworker	Daffron	Not In Use	Kinetiq	Not In Use	Not In Use
Canadian Niagara Power Inc.	Q-9 Data Centre	Yes - NEPA	Fieldworker	SAP	Not In Use	Harris	Not In Use	Not In Use
Grimsby Power Incorporated	Q-9 Data Centre	Yes - NEPA	Fieldworker	SAP	Not In Use	Harris	Not In Use	Not In Use
Haldimand County Hydro Inc.	Q-9 Data Centre	Yes - NEPA	Not In Use	Harris Northstar 6.2.9	Not In Use	Harris	Not In Use	Not In Use
Niagara-on-the-Lake Hydro Inc.	Q-9 Data Centre	Yes - NEPA	Not In Use	Harris Northstar 6.3.0	Not In Use	Kinetiq	Not In Use	TBD
Niagara Peninsula Energy Inc.	Q-9 Data Centre	Yes - NEPA	Not In Use	Harris Northstar	Not In Use	Harris	Not In Use	Not In Use
Norfolk Power Distribution Inc.	Q-9 Data Centre	Yes - NEPA	Not In Use	Daffron	Not In Use	Harris	Not In Use	Not In Use
Welland Hydro Electric System Corp.	Q-9 Data Centre	Yes - NEPA	Fieldworker	APPX 4.2.9	Not In Use	Harris	Not In Use	Not In Use
Cambridge and North Dumfries Hydro Inc.	Q-9 Data Centre	No	Not In Use	Harris Northstar	Not In Use	TBD	Not In Use	Not In Use
Waterloo North Hydro Inc.	Q-9 Data Centre	No	Not In Use	Daffron	Not In Use	in-house	Not In Use	Not In Use
Bluewater Power Distribution Corporation	Q-9 Data Centre	No	Not In Use	SAP	ESRI	TBD	Not In Use	Not In Use
Greater Sudbury Hydro Inc.	in-house	No	Not In Use	Harris Northstar	Not In Use	Not In Use	Not In Use	Not In Use
Newmarket Tay Power Distribution Ltd	Q-9 Data Centre	No	OnService	Harris	Not In Use	Kinetiq	Not In Use	Not In Use
Oakville Hydro Electricity Distribution Inc.	Q-9 Data Centre	No	Harris mCare	Harris Northstar 6.3.0	Not In Use	Kinetiq	Not In Use	nSoftware
Orillia Power Distribution Corporation		Yes - CHEC	Not In Use	Harris Northstar	Not In Use	Harris	Not In Use	Not In Use
PowerStream Inc. / Barrie Hydro Distribution Inc.		No	Fieldworker	T&W	Not In Use	Kinetiq	Not In Use	BizTalk
Whitby Hydro Electric Corp.		No	Harris mCare	Northstar ver 6.2.9	Not In Use	Kinetiq	Not In Use	Not In Use

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Components of the AMI Headend to other utility interfaces layer of the AMI system that should be included in the audit are;

- AMI Headend

For this Section 3.4.3, Bidder is to declare their understanding of the components that need to be audited in this section with the Bidder to provide a list of their experience with each of the components to be audited listed above.

Instructions to Bidders for Sections 3.4.3.1 through 3.4.3.11

The Bidder is to provide a written response to the following areas in question identifying the following for each item;

- a) Please provide a listing of what the Bidder's recommendation is in regards to the scope of detail required in each of the categories.
- b) Please describe the proposed methodology to complete this scope of work including what role each party is to play in the audit process.
- c) Please describe the recommended on-going audit and security processes for both the AMI vendors and participating utilities for this level of the audit.
- d) Experience in completing an audit at the level described in an AMI network.
- e) Bidder to declare if this portion of the audit would be performed by their Bidder or sub contracted out. If this is the Bidders intent, Bidder is required to supply details on who the sub contractor is and their experience..

3.4.3.1 Patch Management

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their process to identify the risk and impact of vulnerability in order to prioritize upgrades.

Security infrastructure needs to be in place that can mitigate possible threats with patches until the upgrade can be qualified and deployed so that the reliability of the system can be maintained.

3.4.3.2 Code Quality Vulnerability

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to testing code quality as this leads to unpredictable behaviour providing an opportunity to an attacker to stress the system in unexpected ways.

3.4.3.3 Authorization Vulnerability

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to testing of authorization vulnerabilities.

3.4.3.4 Cryptographic Vulnerability

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to testing for cryptographic vulnerabilities.

3.4.3.5 Interfaces

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to testing configuration and interfaces in place when considering the AMI network and its segregation in relation to the utility's existing corporate network infrastructure. Below are the suggested interfaces that would be a minimum requirement in the analysis:

- AS2
- SFTP
- Web Services / JMS (If Applicable)

3.4.3.6 Logging and Auditing Standards

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to testing logging and auditing vulnerability.

3.4.3.7 Sensitive Data Protection

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to testing for sensitive data protection.

3.4.3.8 Session Management Standards

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to testing for session management.

3.4.3.9 Use of Dangerous Web Services

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to testing for the user of dangerous APIs.

3.4.3.10 System Configuration / Hardening

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to analysing system configuration / hardening.

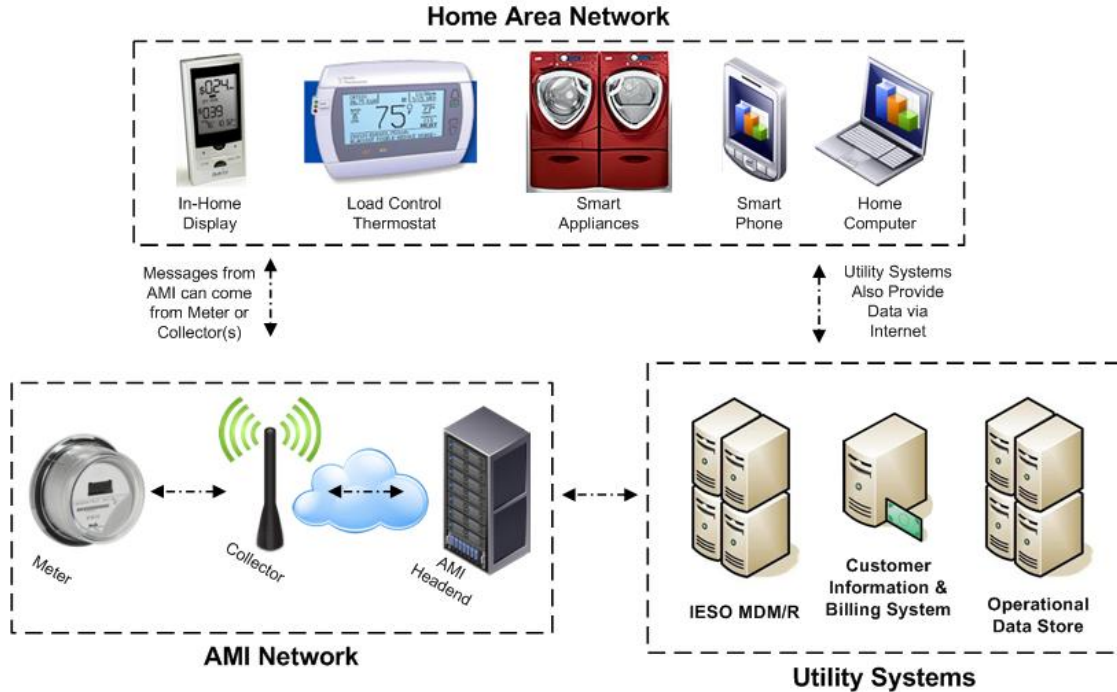
3.4.3.11 Malware Protection

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to analyzing for protection against malware.

3.4.4 Home Area Network (HAN) Interfaces

Connections between the utility AMI system and the customer's HAN should also be included in the audit. In the case where HAN technology has not been installed at the utility but is commercially available from the vendor, the technology should be tested to ensure it would be secure if installed to the vendor's specifications.

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A list of HAN devices deployed for each Consortium member is listed below.

Sensus Utility	HAN Devices in Use
Algoma Power Inc.	not in use
Bluewater Power Distribution Corporation	not in use
Brant County Power Inc.	not in use
Brantford Power Inc.	not in use
Cambridge and North Dumfries Hydro Inc.	TBD
Canadian Niagara Power Inc.	not in use
Chapleau Public Utilities Corporation	not in use
COLLUS Power Corp.	not in use
Espanola Regional Hydro Distribution Corp.	not in use
Greater Sudbury Hydro Inc.	not in use
Grimsby Power Incorporated	not in use
Haldimand County Hydro Inc.	not in use
Hearst Power Distribution Co. Ltd.	not in use
Innisfil Hydro Distribution Systems Ltd.	TBD
Kitchener-Wilmot Hydro Inc.	Peaksaver - stat
Lakefront Utilities Inc.	not in use
Newmarket Tay Power Distribution Ltd	not in use
Niagara Peninsula Energy Inc.	not in use
Niagara-on-the-Lake Hydro Inc.	50 HAI Omnistat - stat
Norfolk Power Distribution Inc.	not in use
North Bay Hydro Distribution Ltd.	not in use
Northern Ontario Wires Inc. - Cochrane	not in use
Oakville Hydro Electricity Distribution Inc.	Peaksaver - stat
Orangeville Hydro Ltd / Grand Valley Energy Inc.	not in use
Orillia Power Distribution Corporation	not in use
PowerStream Inc. / Barrie Hydro Distribution Inc.	not in use
PUC Distribution Inc. (Sault Ste. Marie)	not in use
Wasaga Distribution Inc.	not in use
Waterloo North Hydro Inc.	not in use
Welland Hydro Electric System Corp.	not in use
Whitby Hydro Electric Corp.	not in use

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Components of the HAN layer of the AMI system that should be included in the audit are;

- In-Home Display
- Load Control Thermostat
- Energy Gateway
- Load Control Devices
- WEB Presentment Tools

For this Section 3.4.4, Bidder is to declare their understanding of the components that need to be audited in this section with the Bidder to provide a list of their experience with each of the components to be audited listed above.

Instructions to Bidders for Sections 3.4.4.1 through 3.4.4.3

The Bidder is to provide a written response to the following areas in question identifying the following for each item;

- a) Please provide a listing of what the Bidder's recommendation is in regards to the scope of detail required in each of the categories.
- b) Please describe the proposed methodology to complete this scope of work including what role each party is to play in the audit process.
- c) Please describe the recommended on-going audit and security processes for both the AMI vendors and participating utilities for this level of the audit.
- d) Experience in completing an audit at the level described in an AMI network.
- e) Bidder to declare if this portion of the audit would be performed by their Bidder or sub contracted out. If this is the Bidders intent, Bidder is required to supply details on who the sub contractor is and their experience.

3.4.4.1 Authenticating and Authorizing Consumers to Meters

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to analysing the authentication and authorization of consumers to meters.

3.4.4.2 Authenticating HAN Devices to/from HAN Gateways

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to analysing the authentication of HAN devices to and from HAN gateways.

3.4.4.3 Control the Range of History on In-Home Displays

Following the instructions to Bidders above, Bidders are to respond to questions A through E when describing their approach to how they would analyze the controls to determine how private information of previous owners is not shared in consumption history with move-in move outs and new owners..

3.5 Change Management Controls

Bidders are to comment on their level of experience in the area of Change Management Controls. Bidders are to also provide information in helping the LDCs to identify what system patches or other changes would actually change the security levels. This should include possible requirements for QA, development and/or testing environments to allow for proper change management and patch testing.

3.6 Deliverables

The deliverables for this audit are:

- An agreed upon security assessment framework and methodology for
 - a) AMI vendors and
 - b) utility environments;
- A Security Audit Risk Assessment Report which includes for
 - a) each participating AMI vendor and
 - b) each participating utility:
 - o a listing of existing risks by AMI components and classification by likelihood and consequence;
 - o a listing remedial actions or mitigating measures for each risk identified;
 - o a description of the ongoing audit processes which should be undertaken by the utility on an annual basis'
 - o the applicable vendor assessment blended with the utility's specific environment (within the utility's report).
- A presentation of audit findings to the Consortium and AMI vendor with custom audit components presented to each applicable utility.
- The Bidder is to provide a sample template as to the deliverable report that they will provide (utility agnostic). This report should address the strengths, weaknesses, opportunities and threats found.
- The Bidder shall identify minimum acceptable security practices to allow the Consortium to review and decide what should be adopted so that the proper reporting can be set up to indicate the level being achieved.
- The Bidder is expected to participate in the remediation process with the AMI vendors as outlined further in Section 3.8 *Remediation Process*.

The Bidder shall confirm acceptance of these deliverables.

3.7 Project Timing

The following dates are the proposed timelines for the project:

Item	Start Date	Completion Date
Vendor to conduct audit and testing	August 16 th , 2010	October 15 th , 2010
Draft report to utilities		November 15 th , 2010
Remediation of issues with utilities and vendors		November 15 th , 2010 to December 15 th , 2010
Final Report		TBA

- a) The Bidder shall confirm acceptance of these dates and indicate any recommended changes to the timeframes based on their experience.
- b) The Bidder shall provide a detailed project plan and schedule for completion of the project within the defined timelines.
- c) The Bidder shall provide information on their experience working with remediation efforts.

3.8 Remediation Process

The remediation process is deemed as a critical component in the success of this project and it is the expectation that the Bidder is involved in the remediation process with the AMI vendors to include, at minimum, the following:

- Meet with the AMI vendors to discuss the results of the security audit report;
- Provide the AMI vendors with detailed written information on security violations found; and
- Comment on acceptability of the AMI vendor's remedial actions or mitigating measures to the risks identified in the audit.

Section 4: Bidder Company Information

4.1 Bidder Experience

The Bidder must have demonstrated experience in evaluating security, identifying issues and providing direction on remediation within Smart Grid environments in North America.

1. How long has the Bidder been providing security audit services?
2. Describe the Bidder's primary line of business and the percentage of its business derived from the completion of security audit services.
3. The Bidder must provide documentation of:
 - a) Proven experience in performing security and vulnerability testing in the AMI / Smart Grid space, with a specific focus on addressing the entire AMI network (HAN to meter to systems);
 - b) Knowledge and experience pertaining to AMI security testing, regulations, and guidelines;
 - c) Indicate the standards and methodologies that the Bidder has used in past that are relevant to AMI network security;
4. The Bidder must identify and describe the suggested process for the security assessments and testing to be performed;
5. The Bidder must identify and describe the proposed methodology for security testing along with an explanation on why this methodology should be used;
6. The Bidder must identify and describe the proposed approach for determining the correct depth of testing required for each component of AMI;
7. The Bidder must identify work groups that they are involved and awards that they may have received that are relevant to the Smart Grid;
8. The Bidder must provide a security audit sample report.

4.2 Financial / Business Stability

1. How many years has the Bidder been in business?
2. What is the current size (number of employees), turnover rates for last three (3) years, and location(s) of the Bidder's company?
3. Number of employees assigned to application audit services.

4.3 Resources

1. The Bidder is asked to acknowledge the requirement to designate a Contract Manager, who shall have the authority to handle and resolve any issues, disputes or contractual issues in a timely manner. The Bidder should describe the Contract Manager's experience with managing projects of a similar size and scope, including timelines, and results if applicable.
2. The Bidder is to describe how the assigned project manager oversees subcontractor work.
3. The Bidder is asked to provide a listing of the key resources that will be utilized within this project and to provide a description of their related experience.

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4. Should the Bidder sub-contract out any of the work described in Section 3, the Bidder is asked to provide a listing of the key resources that will be utilized within this project and to provide a description of their related experience.
5. Response should include the Contract Manager's and any other team member's Curriculum Vitae (CV) that will be assigned to the project. It is the expectation that the resources outlined in the Bidder's response will be the resources allocated to the project and changes to the resources will require the approval of the Consortium.
6. The Bidder is to identify the process used to perform background checks on its employees.
7. The Bidder is to identify the process used to perform background checks on any subcontractors used.

4.4 Perspectives Expressed by References

To ensure the best possible audit results, the selected Bidder must be a proven vendor in the area of security audit services and therefore the following information is requested:

Provide a list of at least three (3) references (contact names and phone numbers) and letters of reference for companies for whom the Bidder has completed security audit services the same or similar to the one(s) described in this RFP for the past three (3) years.

4.5 Bidder Services / Audit Service Contract

Based on the engagement described in **Section 3 Project Overview** the Bidder is to provide a contract for their services for the Consortium to review. This review will allow the Consortium to evaluate the ability of the Consortium to come to commercial terms with the Bidder and mitigate risks with a delay in the start up of the project due to an extended contract negotiations process.

Section 5: Price Submission Requirements

Describe in detail the pricing for the systems proposed. Detail any assumptions made in the proposed solution and pricing. All of this information should be included within the Pricing Spreadsheet. **As per Section 2.4 Proposal Format Instructions, any hard copies of the pricing submission should be submitted in a separate envelope, marked "PRICE OFFER".**

5.1 Pricing Submission

A Microsoft Excel workbook has been provided with this pdf document (entitled SecurityAudit_PricingSheet_2010.xls). The following tabs are included within this Pricing Spreadsheet:

- a) Pricing_Option1: This tab requires completion by the Bidder, and represents the pricing for the Bidder to provide security audit services as outlined within this RFP.
- b) Pricing_Option2: This tab is optional and allows the Bidder to provide pricing in an alternative format, should they desire to do so, and are of the opinion that their services are better represented with pricing apart from that outlined on the Pricing_Option1 tab.

Note: Pricing_Option1 is mandatory, Pricing_Option2 is optional.

Bidders are free to add additional pricing tabs as required should they feel that there are more than one alternative option which may allow for more competitive pricing.

- c) Eval_Criteria: this tab is for reference, it is a copy of the table that is shown in Section 2.13 *Proposal Evaluation*.

Section 6: Contract Terms and Conditions

6.1 Commencement of Contract Time

The successful Vendor shall be notified by the Consortium of acceptance of the Vendor's Submission by the Consortium sending an Acceptance Letter. The Vendor shall acknowledge receipt, sign a non-disclosure agreement with each Consortium member, the AMI Vendor and enter contract negotiations within ten days of the date of sending of the Acceptance Letter.

The Contract Time shall commence to run as per the dates indicated in Section 3.7 *Project Timing*. Vendor shall start to perform the work on the date when the Contract Time commences

6.2 Vendor Claims

All claims of the Vendor and all questions relating to the interpretation of the Contract, including all questions as to the acceptable fulfillment of the Contract on the part of the Vendor and all questions as to compensation, shall be submitted in writing to the Util-Assist Project Manager for determination.

All such determinations and other instructions of the Consortium will be final unless the Bidder shall file with the Consortium a written protest, stating clearly, and in detail the basis thereof, within fifteen (15) calendar days after the Consortium notifies the Bidder of any such determination or instruction. The Consortium will issue a decision upon each such protest within fifteen (15) calendar days and its decision will be final. Work will not be undertaken until a written final decision is rendered.

6.3 Changes in the Work

The Consortium, without invalidating the Contract, may direct the Vendor to perform extra work or make changes in the work, provided that all changes or additions form an inseparable part of the work contracted for. Vendor shall make such changes or additions only after receipt of written instructions to do so from the Consortium. If such changes or additions cause an increase or decrease in the cost of the Contract, or in the time required to complete the Contract, the adjustment to the contract price or time frames shall be as set out in the Change Order and the Contract shall be modified accordingly.

When a change is ordered, a change order shall be executed by the Consortium and the Vendor before any change order work is performed. Any increase or decrease in the contract price and the time required for the completion of the contract work due to a change order shall be specifically set out in the change order. All terms and conditions contained in the Contract documents shall be applicable to change order work. The amount of any increase or decrease shall be added to or subtracted from the contract price as appropriate.

6.4 Delays and Extension of Time

If the Vendor is delayed at any time in the progress of the work by any act or neglect of the Consortium, or any cause beyond the Vendor's reasonable control, they shall file with the Consortium a notification that an extension of the Contract period is required.

The Util-Assist Project Manager shall review said notice and to the extent that the Vendor can reasonably demonstrate to the Consortium Project Manager that it shall be delayed in its fulfillment of these terms and conditions and other obligations of this transaction due to a cause beyond its control, a reasonable extension period shall be granted.

6.5 Termination of Right to Proceed

The Consortium may, in writing, terminate this Contract in whole or in part at any time, either for the Consortium's convenience or for the default of the Vendor. Upon such termination, all data, plans, specifications, reports, estimates, summaries, completed work and work in process, and such other information and materials as may have been accumulated by the Vendor in performing this Contract shall, in the manner and to the extent determined by the Consortium, become the property of the Consortium. If the termination is for the convenience of the Consortium and without default by the Vendor, an equitable adjustment for the Vendor's direct costs and profit for work actually performed shall be made by mutual agreement between the Vendor and the Consortium. No amount shall be allowed for anticipated profit on unperformed services. Any expense incurred because of cost of completion by the Consortium is chargeable to and shall be paid by the Vendor. The total liability to the Vendor shall be limited to the Contract value less the value of any equipment, material or completed services retained by the utility.

Default occurs if the Vendor (1) abandons the work called for hereunder, (2) files a voluntary petition in bankruptcy or fails to obtain dismissal of an involuntary petition in bankruptcy within sixty (60) days after the filing thereof or has a Receiver/Trustee appointed, (3) becomes insolvent, (4) assigns this Contract or sublets any part of the work hereunder without prior written permission of the Consortium, (5) repudiates the Contract, (6) allows liens to be filed against property of the Consortium, (7) fails to meet or perform its obligations hereunder after five days notice or continues in chronic default of its obligations, (8) disregards laws, ordinances, rules and regulations related to the Contract and the work or disregards instructions of the Consortium, (9) fails to complete the work in accordance with the Contract.

6.6 Casualty Insurance

Before commencing work under this contract the Vendor at his own expense shall submit Certificates of Insurance, providing evidence acceptable to the Consortium indicating that the Vendor has obtained and will maintain insurance for the duration of the contract. The following requirements apply to all Certificates of Insurance:

- 1) The insurance shall be written by an insurer acceptable to the Consortium,
- 2) The insurance shall be primary to any coverage carried by the Consortium.
- 3) The Vendor further agrees to provide the Consortium with an executed Certificate of Insurance before commencement of work, and with written copies of the insurance policies at any time upon the written request of the Consortium.
- 4) The Certificate of Insurance shall be an original copy signed by an authorized representative of the insurance carrier(s). (Note – faxed copies may be accepted initially to be followed up by originals in a reasonable length of time.)
- 5) The Certificate of Insurance shall provide that no less than 30 days advance notice will be given in writing to the Consortium prior to cancellation, termination or alteration of the insurance coverage. The Consortium shall be named as an additional insured on each General Liability Insurance Policy and any Excess Liability Policy or Umbrella Policy used to meet the required general liability limits.

The types of coverage and minimum limits are as follows:

- 1) **COMPREHENSIVE & COMMERCIAL GENERAL LIABILITY***
 - a) \$2,000,000 each occurrence
 - b) \$5,000,000 general aggregate

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- 2) AUTOMOBILE LIABILITY*
 - a) Bodily injury \$1,000,000 per person
 - b) \$1,000,000 per accident
 - c) Property damage \$500,000 or
 - d) Combined Single Limit \$2,500,000
- 3) PROFESSIONAL LIABILITY*
 - a) Policies of insurance in an amount of not less than \$500,000 per claim

** A blanket, umbrella, and/or excess liability policy(s) may be utilized to increase limits to the desired level(s).*

6.7 Sub-contractors

The Consortium reserves the right to refuse to permit any person or organization (sub-contractor) to participate in the work covered by this Contract, such refusal shall not be unreasonably imposed. No sub-contract shall relieve the Vendor of any liabilities or obligations under the Contract, and the Vendor agrees that Vendor is fully responsible to the Consortium for the acts and omissions of Vendor's sub-contractors and of persons employed by them. Vendor shall require every sub-contractor to comply with the provisions of the Contract

6.8 Acceptance

These terms and conditions becoming binding when the Vendor's Submission chosen for acceptance by the Consortium is given written notice of acceptance of the submission.

No modification hereof and no condition stated by Vendor in accepting or acknowledging this order, which is in conflict or inconsistent with, or in addition to the terms and conditions set forth herein, shall be binding upon the Consortium unless accepted in writing by the Consortium.

6.9 Shipments

Vendor shall mail Bill of Lading and Shipping Memo to destination, and the Consortium's Project Manager for any hardware / equipment being sent to the Consortium.

Vendor shall notify the Util-Assist Project Manager promptly if unable to make shipment.

6.10 Prices

Vendor agrees that prices are firm unless otherwise noted, and Vendor warrants that said prices do not exceed the prices allowed by any applicable Federal, Provincial or Local regulation.

6.11 Compliance with Laws

Vendor warrants that in performing work under this order Vendor will comply with all applicable laws, rules and regulations of governmental authorities and agrees to indemnify and save the Consortium harmless from and against any and all liabilities, claims, costs, losses, expenses, and judgments arising from or based on any actual or asserted violation by the Vendor of any such applicable laws, rules and regulations.

6.12 Assignment

Vendor agrees that neither this order nor any interest herein shall be assigned or transferred by Vendor except with the prior written approval of the Consortium.

6.13 Substitution

No substitution will be permitted under this order except on specific written authority of the Consortium's Project Manager.

Appendix A

(Place Holder for Network
Overview to be provided by AMI
provider)

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Addendum 7

Bill Impacts

Rate Class

General Service Less Than 50 kW

Monthly Rates and Charges	Current Rate	Applied For Rate	
Service Charge	45.35	45.43	\$1.20 SMDR
Smart Meter Funding Adder	1.00	4.86	\$3.66 SMIRR
Service Charge Rate Rider(s)	-	0.75	
Distribution Volumetric Rate	0.01360	0.01362	
Distribution Volumetric Rate Rider(s)	(0.00410)	0.00058	
Low Voltage Volumetric Rate	0.00000	0.00000	
Retail Transmission Rate – Network Service Rate	0.00560	0.00544	
Retail Transmission Rate – Line and Transformation Connection Service Rate	0.00120	0.00114	
Wholesale Market Service Rate	0.0052	0.0052	
Rural Rate Protection Charge	0.0013	0.0013	
Standard Supply Service – Administration Charge (if applicable)	0.25	0.25	
Debt Retirement Charge (DRC)	0.0070	0.0070	
Loss Factor	1.0463	1.0463	

Consumption	2,000	kWh	kW
RPP Tier One	600	kWh	Load Factor

Current Loss Factor	1.0463
Proposed Loss Factor	1.0463

General Service Less Than 50 kW	Volume	Current Rate (\$)	Current Charge (\$)	Volume	Proposed Rate (\$)	Proposed Charge (\$)	Change (\$)	Change (%)	% of Total Bill
Energy First Tier (kWh)	600.00	0.0680	40.80	600.00	0.0680	40.80	0.00	0.00%	12.90%
Energy Second Tier (kWh)	1,492.60	0.0790	117.92	1,492.60	0.0790	117.92	0.00	0.00%	37.30%
Sub-Total: Energy			158.72			158.72	0.00	0.00%	50.20%
Service Charge	1	45.35	45.35	1	45.43	45.43	0.08	0.18%	14.37%
Service Charge Rate Rider(s)	1	1.00	1.00	1	5.61	5.61	4.61	461.00%	1.77%
Distribution Volumetric Rate	2,000	0.0136	27.20	2,000	0.0136	27.25	0.05	0.18%	8.62%
Low Voltage Volumetric Rate	2,000	0.0000	0.00	2,000	0.0000	0.00	0.00	0.00%	0.00%
Distribution Volumetric Rate Rider(s)	2,000	(0.0041)	(8.20)	2,000	0.0006	1.16	9.36	(114.16)%	0.37%
Total: Distribution			65.35			79.45	14.10	21.58%	25.13%
Retail Transmission Rate – Network Service Rate	2,092.60	0.0056	11.72	2,092.60	0.0054	11.39	-0.33	(2.82)%	3.60%
Retail Transmission Rate – Line and Transformation Connection Service Rate	2,092.60	0.0012	2.51	2,092.60	0.0011	2.38	-0.13	(5.12)%	0.75%
Total: Retail Transmission			14.23			13.77	-0.46	(3.23)%	4.36%
Sub-Total: Delivery (Distribution and Retail Transmission)			79.58			93.22	13.64	17.14%	29.49%
Wholesale Market Service Rate	2,092.60	0.0052	10.88	2,092.60	0.0052	10.88	0.00	0.00%	3.44%
Rural Rate Protection Charge	2,092.60	0.0013	2.72	2,092.60	0.0013	2.72	0.00	0.00%	0.86%
Standard Supply Service – Administration Charge (if applicable)	1	0.25	0.25	1	0.25	0.25	0.00	0.00%	0.08%
Sub-Total: Regulatory			13.85			13.85			4.38%
Debt Retirement Charge (DRC)	2,000.00	0.00700	14.00	2,000	0.0070	14.00	0.00	0.00%	4.43%
Total Bill before Taxes			266.15			279.79	13.64	5.13%	88.50%
HST		13%	34.60		13%	36.37	1.77	5.13%	11.50%
Total Bill			300.75			316.16	15.42	5.13%	100.00%
Ontario Clean Energy Benefit (OCEB)		(10%)	-30.07		(10%)	-31.62			
Total Bill (less OCEB)			270.67			284.55	13.87	5.13%	

Rate Class

Residential

Monthly Rates and Charges	Current Rate	Applied For Rate	
Service Charge	18.06	18.09	\$1.07 SMDR
Smart Meter Funding Adder	1.00	4.15	\$3.08 SMIRR
Service Charge Rate Rider(s)	-	0.30	\$4.15
Distribution Volumetric Rate	0.01270	0.01272	
Distribution Volumetric Rate Rider(s)	(0.00370)	0.00067	
Low Voltage Volumetric Rate	0.00000	0.00000	
Retail Transmission Rate – Network Service Rate	0.00610	0.00593	
Retail Transmission Rate – Line and Transformation Connection Service Rate	0.00130	0.00123	
Wholesale Market Service Rate	0.0052	0.0052	
Rural Rate Protection Charge	0.0013	0.0013	
Standard Supply Service – Administration Charge (if applicable)	0.25	0.25	
Debt Retirement Charge (DRC)	0.0070	0.0070	
Loss Factor	1.0463	1.0463	

Consumption	1,000	kWh		kW
RPP Tier One	600	kWh	Load Factor	

Current Loss Factor	1.0463
Proposed Loss Factor	1.0463

Residential	Volume	Current Rate (\$)	Current Charge (\$)	Volume	Proposed Rate (\$)	Proposed Charge (\$)	Change (\$)	Change (%)	% of Total Bill
Energy First Tier (kWh)	600.00	0.0680	40.80	600.00	0.0680	40.80	0.00	0.00%	27.04%
Energy Second Tier (kWh)	446.30	0.0790	35.26	446.30	0.0790	35.26	0.00	0.00%	23.37%
Sub-Total: Energy			76.06			76.06	0.00	0.00%	50.41%
Service Charge	1	18.06	18.06	1	18.09	18.09	0.03	0.18%	11.99%
Service Charge Rate Rider(s)	1	1.00	1.00	1	4.45	4.45	3.45	345.00%	2.95%
Distribution Volumetric Rate	1,000	0.0127	12.70	1,000	0.0127	12.72	0.02	0.18%	8.43%
Low Voltage Volumetric Rate	1,000	0.0000	0.00	1,000	0.0000	0.00	0.00	0.00%	0.00%
Distribution Volumetric Rate Rider(s)	1,000	(0.0037)	(3.70)	1,000	0.0007	0.67	4.37	(117.98)%	0.44%
Total: Distribution			28.06			35.93	7.87	28.05%	23.81%
Retail Transmission Rate – Network Service Rate	1,046.30	0.0061	6.38	1,046.30	0.0059	6.20	-0.18	(2.82)%	4.11%
Retail Transmission Rate – Line and Transformation Connection Service Rate	1,046.30	0.0013	1.36	1,046.30	0.0012	1.29	-0.07	(5.12)%	0.86%
Total: Retail Transmission			7.74			7.49	-0.25	(3.22)%	4.97%
Sub-Total: Delivery (Distribution and Retail Transmission)			35.80			43.42	7.62	21.29%	28.78%
Wholesale Market Service Rate	1,046.30	0.0052	5.44	1,046.30	0.0052	5.44	0.00	0.00%	3.61%
Rural Rate Protection Charge	1,046.30	0.0013	1.36	1,046.30	0.0013	1.36	0.00	0.00%	0.90%
Standard Supply Service – Administration Charge (if applicable)	1	0.25	0.25	1	0.25	0.25	0.00	0.00%	0.17%
Sub-Total: Regulatory			7.05			7.05			4.67%
Debt Retirement Charge (DRC)	1,000.00	0.00700	7.00	1,000	0.0070	7.00	0.00	0.00%	4.64%
Total Bill before Taxes			125.91			133.53	7.62	6.05%	88.50%
HST		13%	16.37		13%	17.36	0.99	6.05%	11.50%
Total Bill			142.28			150.89	8.61	6.05%	100.00%
Ontario Clean Energy Benefit (OCEB)		(10%)	-14.23		(10%)	-15.09			
Total Bill (less OCEB)			128.05			135.80	7.75	6.05%	

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Addendum 8

Smart Meter Model



Ontario Energy Board

Smart Meter Model

Choose Your Utility:

Niagara Peninsula Energy Inc.
 Niagara-on-the-Lake Hydro Inc.
 Norfolk Power Distribution Inc.

Application Contact Information

Name: Philip Wormwell

Title: Director of Corporate Services

Phone Number: 905.468.4235 x380

Email Address: pwormwell@notlhydro.com

We are applying for rates effective: May 1, 2012

Last COS Re-based Year: 2009

Legend

DROP-DOWN MENU

INPUT FIELD

CALCULATION FIELD

Copyright

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



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

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

Smart Meter Capital Cost and Operational Expense Data	2006	2007	2008	2009	2010	2011	2012 and later	Total
	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
Smart Meter Installation Plan								
Actual/Planned number of Smart Meters installed during the Calendar Year								
Residential				159	6,378	129	150	6816
General Service < 50 kW					1,094	153	15	1262
Actual/Planned number of Smart Meters installed (Residential and GS < 50 kW only)	0	0	0	159	7472	282	165	8078
Percentage of Residential and GS < 50 kW Smart Meter Installations Completed	0.00%	0.00%	0.00%	1.97%	94.47%	97.96%	100.00%	100.00%
Actual/Planned number of GS > 50 kW meters installed								0
Other (please identify)								0
Total Number of Smart Meters installed or planned to be installed	0	0	0	159	7472	282	165	8078
1 Capital Costs								
1.1 ADVANCED METERING COMMUNICATION DEVICE (AMCD)								
	Asset Type							
	Asset type must be selected to enable calculations							
1.1.1 Smart Meters (may include new meters and modules, etc.)	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
	Smart Meter			298,733	490,186	77,394	15,223	\$ 881,536
1.1.2 Installation Costs (may include socket kits, labour, vehicle, benefits, etc.)	Smart Meter			4,976	211,501	47,925	900	\$ 265,303
1.1.3a Workforce Automation Hardware (may include fieldwork handhelds, barcode hardware, etc.)	Computer Hardware			-49	660	0		\$ 611
1.1.3b Workforce Automation Software (may include fieldwork handhelds, barcode hardware, etc.)								\$ -
Total Advanced Metering Communications Devices (AMCD)	\$ -	\$ -	\$ -	\$ 303,661	\$ 702,347	\$ 125,319	\$ 16,123	\$ 1,147,450
1.2 ADVANCED METERING REGIONAL COLLECTOR (AMRC) (includes LAN)								
	Asset Type							
1.2.1 Collectors	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
	Other Equipment			158,703		7,773		\$ 166,476
1.2.2 Repeaters (may include radio licence, etc.)								\$ -
1.2.3 Installation (may include meter seals and rings, collector computer hardware, etc.)	Smart Meter		19,955	36,983	474			\$ 57,412
Total Advanced Metering Regional Collector (AMRC) (Includes LAN)	\$ -	\$ -	\$ 19,955	\$ 195,685	\$ 474	\$ 7,773	\$ -	\$ 223,887

regardless of whether a distributor has deployments in 2012, distributors should enter the forecasted OM&A for 2012 for all smart meters in service.

		2006	2007	2008	2009	2010	2011	2012 and later	Total
Smart Meter Capital Cost and Operational Expense Data		Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
Asset Type		Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
1.3 ADVANCED METERING CONTROL COMPUTER (AMCC)									
1.3.1 Computer Hardware									\$ -
1.3.2 Computer Software									\$ -
1.3.3 Computer Software Licences & Installation (includes hardware and software) (may include AS/400 disk space, backup and recovery computer, UPS, etc.)									\$ -
Total Advanced Metering Control Computer (AMCC)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Asset Type		Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
1.4 WIDE AREA NETWORK (WAN)									
1.4.1 Activation Fees									\$ -
Total Wide Area Network (WAN)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Asset Type		Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
1.5 OTHER AMI CAPITAL COSTS RELATED TO MINIMUM FUNCTIONALITY									
1.5.1 Customer Equipment (including repair of damaged equipment)	Smart Meter					2,680	545		\$ 3,225
1.5.2 AMI Interface to CIS	Computer Software				2,000		8,400	0	\$ 10,400
1.5.3 Professional Fees	Smart Meter	2,435	11,605	21,086	28,225	41,863	32,270	28,860	\$ 166,344
1.5.4 Integration									\$ -
1.5.5 Program Management	Smart Meter		10,542	20,339	12,655	15,146	14,475	0	\$ 73,157
1.5.6 Other AMI Capital									\$ -
Total Other AMI Capital Costs Related to Minimum Functionality		\$ 2,435	\$ 22,147	\$ 41,425	\$ 42,880	\$ 59,689	\$ 55,689	\$ 28,860	\$ 253,126
Total Capital Costs Related to Minimum Functionality		\$ 2,435	\$ 22,147	\$ 61,380	\$ 542,226	\$ 762,510	\$ 188,781	\$ 44,984	\$ 1,624,464
Asset Type		Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
1.6 CAPITAL COSTS BEYOND MINIMUM FUNCTIONALITY (Please provide a descriptive title and identify nature of beyond minimum functionality costs)									
1.6.1 Costs related to technical capabilities in the smart meters or related communications infrastructure that exceed those specified in O.Reg 425/06									\$ -
1.6.2 Costs for deployment of smart meters to customers other than residential and small general service									\$ -
1.6.3 Costs for TOU rate implementation, CIS system upgrades, web presentation, integration with the MDM/R, etc.	Computer Software					176,371	76,212	15,896	\$ 268,479
Total Capital Costs Beyond Minimum Functionality		\$ -	\$ -	\$ -	\$ -	\$ 176,371	\$ 76,212	\$ 15,896	\$ 268,479
Total Smart Meter Capital Costs		\$ 2,435	\$ 22,147	\$ 61,380	\$ 542,226	\$ 938,881	\$ 264,994	\$ 60,880	\$ 1,892,942

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 2 OM&A Expenses

2.1 ADVANCED METERING COMMUNICATION DEVICE (AMCD)

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

2.1.2 Other (please specify)

Total Incremental AMCD OM&A Costs

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

2.2.1 Maintenance

2.2.2 Other (please specify)

Total Incremental AMRC OM&A Costs

2.3 ADVANCED METERING CONTROL COMPUTER (AMCC)

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

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

2.3.2 Other (please specify)

Total Incremental AMCC OM&A Costs

2.4 WIDE AREA NETWORK (WAN)

2.4.1 WAN Maintenance

2.4.2 Other (please specify)

Total Incremental AMRC OM&A Costs

2.5 OTHER AMI OM&A COSTS RELATED TO MINIMUM FUNCTIONALITY

2.5.1 Business Process Redesign

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

2.5.3 Program Management

2.5.4 Change Management (may include training, etc.)

2.5.5 Administration Costs

2.5.6 Other AMI Expenses
(please specify)

Total Other AMI OM&A Costs Related to Minimum Functionality

TOTAL OM&A COSTS RELATED TO MINIMUM FUNCTIONALITY

2.6 OM&A COSTS RELATED TO BEYOND MINIMUM FUNCTIONALITY

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

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

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

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

Total OM&A Costs Beyond Minimum Functionality

Total Smart Meter OM&A Costs

	2006	2007	2008	2009	2010	2011	2012 and later	Total
	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
								\$ -
								\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
								\$ -
								\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
								\$ -
								\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
								\$ -
					30,782	13,442	27,147	\$ 71,371
								\$ -
	\$ -	\$ -	\$ -	\$ -	\$ 30,782	\$ 13,442	\$ 27,147	\$ 71,371
								\$ -
								\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
								\$ -
				2,484	6,734	17,167	0	\$ 26,385
						9,891	3,168	\$ 13,059
				0				\$ -
				106				\$ 106
						7,138	1,500	\$ 8,638
	\$ -	\$ -	\$ -	\$ 2,590	\$ 6,734	\$ 34,196	\$ 4,668	\$ 48,187
	\$ -	\$ -	\$ -	\$ 2,590	\$ 37,516	\$ 47,637	\$ 31,815	\$ 119,558
	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual		
								\$ -
								\$ -
				1,222	11,082	25,576	7,852	\$ 45,733
	\$ -	\$ -	\$ -	\$ 1,222	\$ 11,082	\$ 25,576	\$ 7,852	\$ 45,733
	\$ -	\$ -	\$ -	\$ 3,811	\$ 48,598	\$ 73,214	\$ 39,667	\$ 165,290

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		2006	2007	2008	2009	2010	2011	2012 and later	Total
		Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	
3 Aggregate Smart Meter Costs by Category									
3.1	Capital								
3.1.1	Smart Meter	\$ 2,435	\$ 22,147	\$ 61,380	\$ 381,572	\$ 761,850	\$ 172,608	\$ 44,984	\$ 1,446,977
3.1.2	Computer Hardware	\$ -	\$ -	\$ -	-\$ 49	\$ 660	\$ -	\$ -	\$ 611
3.1.3	Computer Software	\$ -	\$ -	\$ -	\$ 2,000	\$ 176,371	\$ 84,612	\$ 15,896	\$ 278,879
3.1.4	Tools & Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1.5	Other Equipment	\$ -	\$ -	\$ -	\$ 158,703	\$ -	\$ 7,773	\$ -	\$ 166,476
3.1.6	Applications Software	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1.7	Total Capital Costs	\$ 2,435	\$ 22,147	\$ 61,380	\$ 542,226	\$ 938,881	\$ 264,994	\$ 60,880	\$ 1,892,942
3.2	OM&A Costs								
3.2.1	Total OM&A Costs	\$ -	\$ -	\$ -	\$ 3,811	\$ 48,598	\$ 73,214	\$ 39,667	\$ 165,290



Ontario Energy Board

Smart Meter Model

Niagara-on-the-Lake Hydro Inc.

	2006	2007	2008	2009	2010	2011	2012 and later
Cost of Capital							
Capital Structure¹							
Deemed Short-term Debt Capitalization			0.0%	4.0%	4.0%	4.0%	4.0%
Deemed Long-term Debt Capitalization	50.0%	50.0%	53.3%	52.7%	56.0%	56.0%	56.0%
Deemed Equity Capitalization	50.0%	50.0%	46.7%	43.3%	40.0%	40.0%	40.0%
Preferred Shares	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of Capital Parameters							
Deemed Short-term Debt Rate			0.00%	1.33%	1.33%	1.33%	1.33%
Deemed Long-term Debt Rate (actual/embedded/deemed) ²	6.60%	6.60%	6.60%	6.04%	6.04%	6.04%	6.04%
Target Return on Equity (ROE)	9.0%	9.00%	9.00%	8.01%	8.01%	8.01%	8.01%
Return on Preferred Shares	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WACC	7.80%	7.80%	7.72%	6.70%	6.64%	6.64%	6.64%
Working Capital Allowance							
Working Capital Allowance Rate	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
<i>(% of the sum of Cost of Power + controllable expenses)</i>							
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							
<i>(expressed as expected useful life in years)</i>							
Smart Meters - years	15	15	15	15	15	15	15
- rate (%)	6.67%	6.67%	6.67%	6.67%	6.67%	6.67%	6.67%
Computer Hardware - years	5	5	5	5	5	5	5
- rate (%)	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
Computer Software - years	5	5	5	5	5	5	5
- rate (%)	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
Tools & Equipment - years	10	10	10	10	10	10	10
- rate (%)	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Other Equipment - years	25	25	25	25	25	25	25
- rate (%)	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
CCA Rates							
Smart Meters - CCA Class	47	47	47	47	47	47	47
Smart Meters - CCA Rate	8%	8%	8%	8%	8%	8%	8%
Computer Equipment - CCA Class	50	50	50	50	50	50	50
Computer Equipment - CCA Rate	55%	55%	55%	55%	55%	55%	55%
General Equipment - CCA Class	47	47	47	47	47	47	47
General Equipment - CCA Rate	8%	8%	8%	8%	8%	8%	8%
Applications Software - CCA Class							
Applications Software - CCA Rate							

Assumptions

¹ Planned smart meter installations occur evenly throughout the year.

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

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



Ontario Energy Board

Smart Meter Model

Niagara-on-the-Lake Hydro Inc.

	2006	2007	2008	2009	2010	2011	2012 and later
Net Fixed Assets - Smart Meters							
Gross Book Value							
Opening Balance		\$ 2,435	\$ 24,582	\$ 85,963	\$ 467,535	\$ 1,229,385	\$ 1,401,993
Capital Additions during year (from Smart Meter Costs)	\$ 2,435	\$ 22,147	\$ 61,380	\$ 381,572	\$ 761,850	\$ 172,608	\$ 44,984
Retirements/Removals (if applicable)							
Closing Balance	\$ 2,435	\$ 24,582	\$ 85,963	\$ 467,535	\$ 1,229,385	\$ 1,401,993	\$ 1,446,977
Accumulated Depreciation							
Opening Balance		\$ 81	\$ 982	\$ 4,667	\$ 23,117	\$ 79,681	\$ 167,393
Amortization expense during year	\$ 81	\$ 901	\$ 3,685	\$ 18,450	\$ 56,564	\$ 87,713	\$ 94,966
Retirements/Removals (if applicable)							
Closing Balance	\$ 81	\$ 982	\$ 4,667	\$ 23,117	\$ 79,681	\$ 167,393	\$ 262,359
Net Book Value							
Opening Balance	\$ -	\$ 2,354	\$ 23,601	\$ 81,296	\$ 444,419	\$ 1,149,704	\$ 1,234,600
Closing Balance	\$ 2,354	\$ 23,601	\$ 81,296	\$ 444,419	\$ 1,149,704	\$ 1,234,600	\$ 1,184,618
Average Net Book Value	\$ 1,177	\$ 12,977	\$ 52,449	\$ 262,857	\$ 797,062	\$ 1,192,152	\$ 1,209,609
Net Fixed Assets - Computer Hardware							
Gross Book Value							
Opening Balance		\$ -	\$ -	\$ -	\$ 49	\$ 611	\$ 611
Capital Additions during year (from Smart Meter Costs)	\$ -	\$ -	\$ -	\$ 49	\$ 660	\$ -	\$ -
Retirements/Removals (if applicable)							
Closing Balance	\$ -	\$ -	\$ -	\$ 49	\$ 611	\$ 611	\$ 611
Accumulated Depreciation							
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ 5	\$ 17	\$ 139
Amortization expense during year	\$ -	\$ -	\$ -	\$ 5	\$ 22	\$ 122	\$ 122
Retirements/Removals (if applicable)							
Closing Balance	\$ -	\$ -	\$ -	\$ 5	\$ 17	\$ 139	\$ 261
Net Book Value							
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ 44	\$ 594	\$ 472
Closing Balance	\$ -	\$ -	\$ -	\$ 44	\$ 594	\$ 472	\$ 350
Average Net Book Value	\$ -	\$ -	\$ -	\$ 22	\$ 275	\$ 533	\$ 411
Net Fixed Assets - Computer Software (including Applications Software)							
Gross Book Value							
Opening Balance		\$ -	\$ -	\$ -	\$ 2,000	\$ 178,371	\$ 262,983
Capital Additions during year (from Smart Meter Costs)	\$ -	\$ -	\$ -	\$ 2,000	\$ 176,371	\$ 84,612	\$ 15,896
Retirements/Removals (if applicable)							
Closing Balance	\$ -	\$ -	\$ -	\$ 2,000	\$ 178,371	\$ 262,983	\$ 278,879
Accumulated Depreciation							
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ 200	\$ 18,237	\$ 62,372
Amortization expense during year	\$ -	\$ -	\$ -	\$ 200	\$ 18,037	\$ 44,135	\$ 54,186
Retirements/Removals (if applicable)							
Closing Balance	\$ -	\$ -	\$ -	\$ 200	\$ 18,237	\$ 62,372	\$ 116,559
Net Book Value							
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ 1,800	\$ 160,133	\$ 200,611
Closing Balance	\$ -	\$ -	\$ -	\$ 1,800	\$ 160,133	\$ 200,611	\$ 162,320
Average Net Book Value	\$ -	\$ -	\$ -	\$ 900	\$ 80,967	\$ 180,372	\$ 181,465
Net Fixed Assets - Tools and Equipment							
Gross Book Value							
Opening Balance		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Capital Additions during year (from Smart Meter Costs)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retirements/Removals (if applicable)							
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Accumulated Depreciation							
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Amortization expense during year	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retirements/Removals (if applicable)							
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Book Value							
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Average Net Book Value	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Fixed Assets - Other Equipment							
Gross Book Value							
Opening Balance		\$ -	\$ -	\$ -	\$ 158,703	\$ 158,703	\$ 166,476
Capital Additions during year (from Smart Meter Costs)	\$ -	\$ -	\$ -	\$ 158,703	\$ -	\$ 7,773	\$ -
Retirements/Removals (if applicable)							
Closing Balance	\$ -	\$ -	\$ -	\$ 158,703	\$ 158,703	\$ 166,476	\$ 166,476
Accumulated Depreciation							
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ 3,174	\$ 9,522	\$ 16,026
Amortization expense during year	\$ -	\$ -	\$ -	\$ 3,174	\$ 6,348	\$ 6,504	\$ 6,659
Retirements/Removals (if applicable)							
Closing Balance	\$ -	\$ -	\$ -	\$ 3,174	\$ 9,522	\$ 16,026	\$ 22,685
Net Book Value							
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ 155,528	\$ 149,180	\$ 150,450
Closing Balance	\$ -	\$ -	\$ -	\$ 155,528	\$ 149,180	\$ 150,450	\$ 143,791
Average Net Book Value	\$ -	\$ -	\$ -	\$ 77,764	\$ 152,354	\$ 149,815	\$ 147,120



Ontario Energy Board

Smart Meter Model

Niagara-on-the-Lake Hydro Inc.

	2006	2007	2008	2009	2010	2011	2012 and Later
Average Net Fixed Asset Values (from Sheet 4)							
Smart Meters	\$ 1,177	\$ 12,977	\$ 52,449	\$ 262,857	\$ 797,062	\$ 1,192,152	\$ 1,209,609
Computer Hardware	\$ -	\$ -	\$ -	\$ 22	\$ 275	\$ 533	\$ 411
Computer Software	\$ -	\$ -	\$ -	\$ 900	\$ 80,967	\$ 180,372	\$ 181,465
Tools & Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Equipment	\$ -	\$ -	\$ -	\$ 77,764	\$ 152,354	\$ 149,815	\$ 147,120
Total Net Fixed Assets	\$ 1,177	\$ 12,977	\$ 52,449	\$ 341,500	\$ 1,030,658	\$ 1,522,873	\$ 1,538,606
Working Capital							
Operating Expenses (from Sheet 2)	\$ -	\$ -	\$ -	\$ 3,811	\$ 48,598	\$ 73,214	\$ 39,667
Working Capital Factor (from Sheet 3)	15%	15%	15%	15%	15%	15%	15%
Working Capital Allowance	\$ -	\$ -	\$ -	\$ 572	\$ 7,290	\$ 10,982	\$ 5,950
Incremental Smart Meter Rate Base	\$ 1,177	\$ 12,977	\$ 52,449	\$ 342,071	\$ 1,037,947	\$ 1,533,855	\$ 1,544,556
Return on Rate Base							
Capital Structure							
Deemed Short Term Debt	\$ -	\$ -	\$ -	\$ 13,683	\$ 41,518	\$ 61,354	\$ 61,782
Deemed Long Term Debt	\$ 588	\$ 6,489	\$ 27,955	\$ 180,272	\$ 581,251	\$ 858,959	\$ 864,951
Equity	\$ 588	\$ 6,489	\$ 24,493	\$ 148,117	\$ 415,179	\$ 613,542	\$ 617,822
Preferred Shares	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capitalization	\$ 1,177	\$ 12,977	\$ 52,449	\$ 342,071	\$ 1,037,947	\$ 1,533,855	\$ 1,544,556
Return on							
Deemed Short Term Debt	\$ -	\$ -	\$ -	\$ 182	\$ 552	\$ 816	\$ 824
Deemed Long Term Debt	\$ 39	\$ 428	\$ 1,845	\$ 10,888	\$ 35,108	\$ 51,881	\$ 52,243
Equity	\$ 53	\$ 584	\$ 2,204	\$ 11,864	\$ 33,256	\$ 49,145	\$ 49,488
Preferred Shares	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Return on Capital	\$ 92	\$ 1,012	\$ 4,049	\$ 22,935	\$ 68,916	\$ 101,842	\$ 102,554
Operating Expenses	\$ -	\$ -	\$ -	\$ 3,811	\$ 48,598	\$ 73,214	\$ 39,667
Amortization Expenses (from Sheet 4)							
Smart Meters	\$ 81	\$ 901	\$ 3,685	\$ 18,450	\$ 56,564	\$ 87,713	\$ 94,966
Computer Hardware	\$ -	\$ -	\$ -	\$ 5	\$ 22	\$ 122	\$ 122
Computer Software	\$ -	\$ -	\$ -	\$ 200	\$ 18,037	\$ 44,135	\$ 54,186
Tools & Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Equipment	\$ -	\$ -	\$ -	\$ 3,174	\$ 6,348	\$ 6,504	\$ 6,659
Total Amortization Expense in Year	\$ 81	\$ 901	\$ 3,685	\$ 21,819	\$ 80,971	\$ 138,474	\$ 155,933
Incremental Revenue Requirement before Taxes/PILs	\$ 173	\$ 1,913	\$ 7,734	\$ 48,565	\$ 198,484	\$ 313,529	\$ 298,154
Calculation of Taxable Income							
Incremental Operating Expenses	\$ -	\$ -	\$ -	\$ 3,811	\$ 48,598	\$ 73,214	\$ 39,667
Amortization Expense	\$ 81	\$ 901	\$ 3,685	\$ 21,819	\$ 80,971	\$ 138,474	\$ 155,933
Interest Expense	\$ 39	\$ 428	\$ 1,845	\$ 11,070	\$ 35,660	\$ 52,697	\$ 53,067
Net Income for Taxes/PILs	\$ 53	\$ 584	\$ 2,204	\$ 11,864	\$ 33,256	\$ 49,145	\$ 49,488
Grossed-up Taxes/PILs (from Sheet 7)	\$ 27.83	\$ 285.87	\$ 969.32	\$ 3,865.09	\$ 4,801.54	\$ 6,275.42	\$ 9,173.23
Revenue Requirement, including Grossed-up Taxes/PILs	\$ 201	\$ 2,199	\$ 8,704	\$ 52,430	\$ 193,683	\$ 307,254	\$ 307,328



Ontario Energy Board

Smart Meter Model

Niagara-on-the-Lake Hydro Inc.

For PILs Calculation

UCC - Smart Meters

	2006 Audited Actua	2007 Audited Actua	2008 Audited Actua	2009 Audited Actua	2010 Audited Actua	2011 Audited Actua	2012 and later Forecast
Opening UCC	\$ -	\$ 2,337.68	\$ 23,412.17	\$ 80,464.41	\$ 440,336.65	\$ 1,136,485.53	\$ 1,211,270.58
Capital Additions	\$ 2,435.08	\$ 22,147.40	\$ 61,380.43	\$ 381,572.29	\$ 761,849.80	\$ 172,608.22	\$ 44,983.53
Retirements/Removals (if applicable)							
UCC Before Half Year Rule	\$ 2,435.08	\$ 24,485.08	\$ 84,792.60	\$ 462,036.70	\$ 1,202,186.45	\$ 1,309,093.75	\$ 1,256,254.11
Half Year Rule (1/2 Additions - Disposals)	\$ 1,217.54	\$ 11,073.70	\$ 30,680.22	\$ 190,786.15	\$ 380,924.90	\$ 86,304.11	\$ 22,491.77
Reduced UCC	\$ 1,217.54	\$ 13,411.38	\$ 54,102.38	\$ 271,250.55	\$ 821,261.55	\$ 1,222,789.64	\$ 1,233,762.34
CCA Rate Class	47	47	47	47	47	47	47
CCA Rate	8%	8%	8%	8%	8%	8%	8%
CCA	\$ 97.40	\$ 1,072.91	\$ 4,328.19	\$ 21,700.04	\$ 65,700.92	\$ 97,823.17	\$ 98,700.99
Closing UCC	\$ 2,337.68	\$ 23,412.17	\$ 80,464.41	\$ 440,336.65	\$ 1,136,485.53	\$ 1,211,270.58	\$ 1,157,553.12

UCC - Computer Equipment

	2006 Audited Actua	2007 Audited Actua	2008 Audited Actua	2009 Audited Actua	2010 Audited Actua	2011 Audited Actua	2012 and later Forecast
Opening UCC	\$ -	\$ -	\$ -	\$ -	\$ 1,414.33	\$ 128,983.88	\$ 119,386.74
Capital Additions Computer Hardware	\$ -	\$ -	\$ -	\$ 49.20	\$ 660.44	\$ -	\$ -
Capital Additions Computer Software	\$ -	\$ -	\$ -	\$ 2,000.00	\$ 176,370.50	\$ 84,612.41	\$ 15,896.00
Retirements/Removals (if applicable)							
UCC Before Half Year Rule	\$ -	\$ -	\$ -	\$ 1,950.80	\$ 178,445.27	\$ 213,596.29	\$ 135,282.74
Half Year Rule (1/2 Additions - Disposals)	\$ -	\$ -	\$ -	\$ 975.40	\$ 88,515.47	\$ 42,306.21	\$ 7,948.00
Reduced UCC	\$ -	\$ -	\$ -	\$ 975.40	\$ 89,929.80	\$ 171,290.09	\$ 127,334.74
CCA Rate Class	50	50	50	50	50	50	50
CCA Rate	55%	55%	55%	55%	55%	55%	55%
CCA	\$ -	\$ -	\$ -	\$ 536.47	\$ 49,461.39	\$ 94,209.55	\$ 70,034.11
Closing UCC	\$ -	\$ -	\$ -	\$ 1,414.33	\$ 128,983.88	\$ 119,386.74	\$ 65,248.63

UCC - General Equipment

	2006 Audited Actua	2007 Audited Actua	2008 Audited Actua	2009 Audited Actua	2010 Audited Actua	2011 Audited Actua	2012 and later Forecast
Opening UCC	\$ -	\$ -	\$ -	\$ -	\$ 152,354.45	\$ 140,166.09	\$ 136,414.88
Capital Additions Tools & Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Capital Additions Other Equipment	\$ -	\$ -	\$ -	\$ 158,702.55	\$ -	\$ 7,773.00	\$ -
Retirements/Removals (if applicable)							
UCC Before Half Year Rule	\$ -	\$ -	\$ -	\$ 158,702.55	\$ 152,354.45	\$ 147,939.09	\$ 136,414.88
Half Year Rule (1/2 Additions - Disposals)	\$ -	\$ -	\$ -	\$ 79,351.28	\$ 152,354.45	\$ 3,886.50	\$ -
Reduced UCC	\$ -	\$ -	\$ -	\$ 79,351.28	\$ 152,354.45	\$ 144,052.59	\$ 136,414.88
CCA Rate Class	47	47	47	47	47	47	47
CCA Rate	8%	8%	8%	8%	8%	8%	8%
CCA	\$ -	\$ -	\$ -	\$ 6,348.10	\$ 12,188.36	\$ 11,524.21	\$ 10,913.19
Closing UCC	\$ -	\$ -	\$ -	\$ 152,354.45	\$ 140,166.09	\$ 136,414.88	\$ 125,501.69



Ontario Energy Board

Smart Meter Model

Niagara-on-the-Lake Hydro Inc.

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	\$ 52.96	\$ 583.98	\$ 2,204.41	\$ 11,864.16	\$ 33,255.84	\$ 49,144.71	\$ 49,487.57
Amortization	\$ 81.17	\$ 900.59	\$ 3,684.85	\$ 21,819.07	\$ 80,970.92	\$ 138,473.76	\$ 155,933.12
CCA - Smart Meters	-\$ 97.40	-\$ 1,072.91	-\$ 4,328.19	-\$ 21,700.04	-\$ 65,700.92	-\$ 97,823.17	-\$ 98,700.99
CCA - Computers	\$ -	\$ -	\$ -	\$ 536.47	-\$ 49,461.39	-\$ 94,209.55	-\$ 70,034.11
CCA - Applications Software	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CCA - Other Equipment	\$ -	\$ -	\$ -	-\$ 6,348.10	-\$ 12,188.36	-\$ 11,524.21	-\$ 10,913.19
Change in taxable income	\$ 36.73	\$ 411.65	\$ 1,561.07	\$ 5,098.61	-\$ 13,123.91	-\$ 15,938.46	\$ 25,772.40
Tax Rate (from Sheet 3)	36.12%	36.12%	33.50%	33.00%	31.00%	28.25%	26.25%
Income Taxes Payable	\$ 13.27	\$ 148.69	\$ 522.96	\$ 1,682.54	-\$ 4,068.41	-\$ 4,502.62	\$ 6,765.26
ONTARIO CAPITAL TAX							
Smart Meters	\$ 2,353.91	\$ 23,600.73	\$ 81,296.31	\$ 444,418.66	\$ 1,149,704.46	\$ 1,234,600.07	\$ 1,184,617.93
Computer Hardware	\$ -	\$ -	\$ -	\$ 44.28	\$ 594.40	\$ 472.15	\$ 349.90
Computer Software (Including Application Software)	\$ -	\$ -	\$ -	\$ 1,800.00	\$ 160,133.45	\$ 200,610.52	\$ 162,320.34
Tools & Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Equipment	\$ -	\$ -	\$ -	\$ 155,528.50	\$ 149,180.40	\$ 150,449.84	\$ 143,790.81
Rate Base	\$ 2,353.91	\$ 23,600.73	\$ 81,296.31	\$ 601,702.88	\$ 1,459,612.70	\$ 1,586,132.57	\$ 1,491,078.98
Less: Exemption							
Deemed Taxable Capital	\$ 2,353.91	\$ 23,600.73	\$ 81,296.31	\$ 601,702.88	\$ 1,459,612.70	\$ 1,586,132.57	\$ 1,491,078.98
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)	\$ 7.06	\$ 53.10	\$ 182.92	\$ 1,353.83	\$ 1,094.71	\$ -	\$ -
Change in Income Taxes Payable	\$ 13.27	\$ 148.69	\$ 522.96	\$ 1,682.54	-\$ 4,068.41	-\$ 4,502.62	\$ 6,765.26
Change in OCT	\$ 7.06	\$ 53.10	\$ 182.92	\$ 1,353.83	\$ 1,094.71	\$ -	\$ -
PILs	\$ 20.33	\$ 201.79	\$ 705.87	\$ 3,036.37	-\$ 2,973.70	-\$ 4,502.62	\$ 6,765.26
Gross Up PILs							
Tax Rate	36.12%	36.12%	33.50%	33.00%	31.00%	28.25%	26.25%
Change in Income Taxes Payable	\$ 20.77	\$ 232.76	\$ 786.40	\$ 2,511.26	-\$ 5,896.25	-\$ 6,275.42	\$ 9,173.23
Change in OCT	\$ 7.06	\$ 53.10	\$ 182.92	\$ 1,353.83	\$ 1,094.71	\$ -	\$ -
PILs	\$ 27.83	\$ 285.87	\$ 969.32	\$ 3,865.09	-\$ 4,801.54	-\$ 6,275.42	\$ 9,173.23



Ontario Energy Board

Smart Meter Model

Niagara-on-the-Lake Hydro Inc.

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	\$ -	\$ 76.96	4.14%	\$ -	\$ 76.96		\$ 0.24
2007 Q2	4.59%	4.72%	Jun-06	2006	Q2	\$ 76.96	\$ 1,432.78	4.14%	\$ 0.27	\$ 1,510.01		\$ 0.24
2007 Q3	4.59%	5.18%	Jul-06	2006	Q3	\$ 1,509.74	\$ 1,879.97	4.59%	\$ 5.77	\$ 3,395.48		\$ 0.24
2007 Q4	5.14%	5.18%	Aug-06	2006	Q3	\$ 3,389.71	\$ 1,831.36	4.59%	\$ 12.97	\$ 5,234.04		\$ 0.24
2008 Q1	5.14%	5.18%	Sep-06	2006	Q3	\$ 5,221.07	\$ 1,849.92	4.59%	\$ 19.97	\$ 7,090.96		\$ 0.24
2008 Q2	4.08%	5.18%	Oct-06	2006	Q4	\$ 7,070.99	\$ 1,841.45	4.59%	\$ 27.05	\$ 8,939.49		\$ 0.24
2008 Q3	3.35%	5.43%	Nov-06	2006	Q4	\$ 8,912.44	\$ 1,778.09	4.59%	\$ 34.09	\$ 10,724.62		\$ 0.24
2008 Q4	3.35%	5.43%	Dec-06	2006	Q4	\$ 10,690.53	\$ 1,659.55	4.59%	\$ 40.89	\$ 12,390.97	\$ 12,491.09	\$ 0.24
2009 Q1	2.45%	6.61%	Jan-07	2007	Q1	\$ 12,350.08	\$ 2,043.28	4.59%	\$ 47.24	\$ 14,440.60		\$ 0.24
2009 Q2	1.00%	6.61%	Feb-07	2007	Q1	\$ 14,393.36	\$ 1,649.92	4.59%	\$ 55.05	\$ 16,098.33		\$ 0.24
2009 Q3	0.55%	5.67%	Mar-07	2007	Q1	\$ 16,043.28	\$ 1,827.93	4.59%	\$ 61.37	\$ 17,932.58		\$ 0.24
2009 Q4	0.55%	4.66%	Apr-07	2007	Q2	\$ 17,871.21	\$ 1,876.15	4.59%	\$ 68.36	\$ 19,815.72		\$ 0.24
2010 Q1	0.55%	4.34%	May-07	2007	Q2	\$ 19,747.36	\$ 1,817.07	4.59%	\$ 75.53	\$ 21,639.96		\$ 0.24
2010 Q2	0.55%	4.34%	Jun-07	2007	Q2	\$ 21,564.43	\$ 1,856.33	4.59%	\$ 82.48	\$ 23,503.24		\$ 0.24
2010 Q3	0.89%	4.66%	Jul-07	2007	Q3	\$ 23,420.76	\$ 1,826.52	4.59%	\$ 89.58	\$ 25,336.86		\$ 0.24
2010 Q4	1.20%	4.01%	Aug-07	2007	Q3	\$ 25,247.28	\$ 1,977.13	4.59%	\$ 96.57	\$ 27,320.98		\$ 0.24
2011 Q1	1.47%	4.29%	Sep-07	2007	Q3	\$ 27,224.41	\$ 1,948.86	4.59%	\$ 104.13	\$ 29,277.40		\$ 0.24
2011 Q2	1.47%	4.29%	Oct-07	2007	Q4	\$ 29,173.27	\$ 1,881.70	5.14%	\$ 124.96	\$ 31,179.93		\$ 0.24
2011 Q3	1.47%	4.29%	Nov-07	2007	Q4	\$ 31,054.97	\$ 1,816.25	5.14%	\$ 133.02	\$ 33,004.24		\$ 0.24
2011 Q4	1.47%	4.29%	Dec-07	2007	Q4	\$ 32,871.22	\$ 1,876.11	5.14%	\$ 140.80	\$ 34,888.13	\$ 23,476.34	\$ 0.24
2012 Q1	1.47%	4.29%	Jan-08	2008	Q1	\$ 34,747.33	\$ 1,782.11	5.14%	\$ 148.83	\$ 36,678.27		\$ 0.24
2012 Q2	1.47%	4.29%	Feb-08	2008	Q1	\$ 36,529.44	\$ 1,814.00	5.14%	\$ 156.47	\$ 38,499.91		\$ 0.24
2012 Q3	1.47%	4.29%	Mar-08	2008	Q1	\$ 38,343.44	\$ 1,896.70	5.14%	\$ 164.24	\$ 40,404.38		\$ 0.24
2012 Q4	1.47%	4.29%	Apr-08	2008	Q2	\$ 40,240.14	\$ 1,935.17	4.08%	\$ 136.82	\$ 42,312.13		\$ 0.24
			May-08	2008	Q2	\$ 42,175.31	\$ 1,861.36	4.08%	\$ 143.40	\$ 44,180.07		\$ 0.24
			Jun-08	2008	Q2	\$ 44,036.67	\$ 1,896.38	4.08%	\$ 149.72	\$ 46,082.77		\$ 0.24
			Jul-08	2008	Q3	\$ 45,933.05	\$ 1,880.64	3.35%	\$ 128.23	\$ 47,941.92		\$ 0.24
			Aug-08	2008	Q3	\$ 47,813.69	\$ 1,827.37	3.35%	\$ 133.48	\$ 49,774.54		\$ 0.24
			Sep-08	2008	Q3	\$ 49,641.06	\$ 1,897.87	3.35%	\$ 138.58	\$ 51,677.51		\$ 0.24
			Oct-08	2008	Q4	\$ 51,538.93	\$ 1,897.74	3.35%	\$ 143.88	\$ 53,580.55		\$ 0.24
			Nov-08	2008	Q4	\$ 53,436.67	\$ 1,881.02	3.35%	\$ 149.18	\$ 55,466.87		\$ 0.24
			Dec-08	2008	Q4	\$ 55,317.69	\$ 1,776.07	3.35%	\$ 154.43	\$ 57,248.19	\$ 24,093.69	\$ 0.24
			Jan-09	2009	Q1	\$ 57,093.76	\$ 1,906.52	2.45%	\$ 116.57	\$ 59,116.85		\$ 0.24
			Feb-09	2009	Q1	\$ 59,000.28	\$ 1,800.94	2.45%	\$ 120.46	\$ 60,921.68		\$ 0.24
			Mar-09	2009	Q1	\$ 60,801.22	\$ 2,020.72	2.45%	\$ 124.14	\$ 62,946.08		\$ 0.24
			Apr-09	2009	Q2	\$ 62,821.94	\$ 1,938.46	1.00%	\$ 52.35	\$ 64,812.75		\$ 0.24
			May-09	2009	Q2	\$ 64,760.40	\$ 1,997.49	1.00%	\$ 53.97	\$ 66,811.86		\$ 1.00
			Jun-09	2009	Q2	\$ 66,757.89	\$ 6,383.54	1.00%	\$ 55.63	\$ 73,197.06		\$ 1.00
			Jul-09	2009	Q3	\$ 73,141.43	\$ 7,620.33	0.55%	\$ 33.52	\$ 80,795.28		\$ 1.00
			Aug-09	2009	Q3	\$ 80,761.76	\$ 8,081.18	0.55%	\$ 37.02	\$ 88,879.96		\$ 1.00
			Sep-09	2009	Q3	\$ 88,842.94	\$ 8,084.88	0.55%	\$ 40.72	\$ 96,968.54		\$ 1.00
			Oct-09	2009	Q4	\$ 96,927.82	\$ 8,165.08	0.55%	\$ 44.43	\$ 105,137.33		\$ 1.00
			Nov-09	2009	Q4	\$ 105,092.90	\$ 7,944.09	0.55%	\$ 48.17	\$ 113,085.16		\$ 1.00
			Dec-09	2009	Q4	\$ 113,036.99	\$ 7,643.26	0.55%	\$ 51.81	\$ 120,732.06	\$ 64,365.28	\$ 1.00
			Jan-10	2010	Q1	\$ 120,680.25	\$ 7,881.05	0.55%	\$ 55.31	\$ 128,616.61		\$ 1.00
			Feb-10	2010	Q1	\$ 128,561.30	\$ 7,769.07	0.55%	\$ 58.92	\$ 136,389.29		\$ 1.00
			Mar-10	2010	Q1	\$ 136,330.37	\$ 7,791.34	0.55%	\$ 62.48	\$ 144,184.19		\$ 1.00
			Apr-10	2010	Q2	\$ 144,121.71	\$ 7,811.34	0.55%	\$ 66.06	\$ 151,999.11		\$ 1.00
			May-10	2010	Q2	\$ 151,933.05	\$ 7,866.54	0.55%	\$ 69.64	\$ 159,869.23		\$ 1.00
			Jun-10	2010	Q2	\$ 159,799.59	\$ 8,056.46	0.55%	\$ 73.24	\$ 167,929.29		\$ 1.00
			Jul-10	2010	Q3	\$ 167,856.05	\$ 8,035.77	0.89%	\$ 124.49	\$ 176,016.31		\$ 1.00
			Aug-10	2010	Q3	\$ 175,891.82	\$ 8,169.23	0.89%	\$ 130.45	\$ 184,191.50		\$ 1.00
			Sep-10	2010	Q3	\$ 184,061.05	\$ 8,036.15	0.89%	\$ 136.51	\$ 192,233.71		\$ 1.00
			Oct-10	2010	Q4	\$ 192,097.20	\$ 8,044.97	1.20%	\$ 192.10	\$ 200,334.27		\$ 1.00
			Nov-10	2010	Q4	\$ 200,142.17	\$ 8,162.38	1.20%	\$ 200.14	\$ 208,504.69		\$ 1.00
			Dec-10	2010	Q4	\$ 208,304.55	\$ 7,573.00	1.20%	\$ 208.30	\$ 216,085.85	\$ 96,574.94	\$ 1.00
			Jan-11	2011	Q1	\$ 215,877.55	\$ 7,957.44	1.47%	\$ 264.45	\$ 224,099.44		\$ 1.00
			Feb-11	2011	Q1	\$ 223,834.99	\$ 7,803.05	1.47%	\$ 274.20	\$ 231,912.24		\$ 1.00
			Mar-11	2011	Q1	\$ 231,638.04	\$ 10,260.14	1.47%	\$ 283.76	\$ 242,181.94		\$ 1.00
			Apr-11	2011	Q2	\$ 241,898.18	\$ 5,560.26	1.47%	\$ 296.33	\$ 247,754.77		\$ 1.00
			May-11	2011	Q2	\$ 247,458.44	\$ 7,771.99	1.47%	\$ 303.14	\$ 255,533.57		\$ 1.00
			Jun-11	2011	Q2	\$ 255,230.43	\$ 8,529.24	1.47%	\$ 312.66	\$ 264,072.33		\$ 1.00
			Jul-11	2011	Q3	\$ 263,759.67	\$ 8,029.69	1.47%	\$ 323.11	\$ 272,112.47		\$ 1.00
			Aug-11	2011	Q3	\$ 271,789.36	\$ 8,586.46	1.47%	\$ 332.94	\$ 280,708.76		\$ 1.00
			Sep-11	2011	Q3	\$ 280,375.82	\$ 8,000.00	1.47%	\$ 343.46	\$ 288,719.28		\$ 1.00
			Oct-11	2011	Q4	\$ 288,375.82	\$ 8,000.00	1.47%	\$ 353.26	\$ 296,729.08		\$ 1.00
			Nov-11	2011	Q4	\$ 296,375.82	\$ 8,000.00	1.47%	\$ 363.06	\$ 304,738.88		\$ 1.00
			Dec-11	2011	Q4	\$ 304,375.82	\$ 8,000.00	1.47%	\$ 372.86	\$ 312,748.68	\$ 100,321.50	\$ 1.00
			Jan-12	2012	Q1	\$ 312,375.82	\$ 8,000.00	1.47%	\$ 382.66	\$ 320,758.48		\$ 1.00
			Feb-12	2012	Q1	\$ 320,375.82	\$ 8,000.00	1.47%	\$ 392.46	\$ 328,768.28		\$ 1.00



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	\$ 328,375.82	\$ 8,000.00	1.47%	\$ 402.26	\$ 336,778.08		\$ 1.00
			Apr-12	2012	Q2	\$ 336,375.82	\$ 8,000.00	1.47%	\$ 412.06	\$ 344,787.88		\$ 1.00
			May-12	2012	Q2	\$ 344,375.82		1.47%	\$ 421.86	\$ 344,797.68		
			Jun-12	2012	Q2	\$ 344,375.82		1.47%	\$ 421.86	\$ 344,797.68		
			Jul-12	2012	Q3	\$ 344,375.82		1.47%	\$ 421.86	\$ 344,797.68		
			Aug-12	2012	Q3	\$ 344,375.82		1.47%	\$ 421.86	\$ 344,797.68		
			Sep-12	2012	Q3	\$ 344,375.82		1.47%	\$ 421.86	\$ 344,797.68		
			Oct-12	2012	Q4	\$ 344,375.82		1.47%	\$ 421.86	\$ 344,797.68		
			Nov-12	2012	Q4	\$ 344,375.82		1.47%	\$ 421.86	\$ 344,797.68		
			Dec-12	2012	Q4	\$ 344,375.82		1.47%	\$ 421.86	\$ 344,797.68	\$ 36,964.32	
Total Funding Adder Revenues Collected							\$ 344,375.82		\$ 13,911.34	\$ 358,287.16	\$ 358,287.16	



Ontario Energy Board

Smart Meter Model

Niagara-on-the-Lake Hydro Inc.

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	\$ -	\$ 81.17	\$ 81.17	\$ 40.58	4.37%	\$ 1.77
2007	\$ -	\$ 900.59	\$ 981.75	\$ 531.46	4.73%	\$ 25.12
2008	\$ -	\$ 3,684.85	\$ 4,666.60	\$ 2,824.18	3.98%	\$ 112.40
2009	\$ 3,811.29	\$ 21,819.07	\$ 30,296.96	\$ 17,481.78	1.14%	\$ 198.86
2010	\$ 48,597.77	\$ 80,970.92	\$ 159,865.65	\$ 95,081.31	0.80%	\$ 758.27
2011	\$ 73,213.91	\$ 138,473.76	\$ 371,553.32	\$ 265,709.49	1.47%	\$ 3,905.93
2012	\$ 39,667.19	\$ 155,933.12	\$ 567,153.63	\$ 469,353.47	1.47%	\$ 6,899.50
Cumulative Interest to 2011						\$ 5,002.36
Cumulative Interest to 2012						\$ 11,901.85



Ontario Energy Board

Smart Meter Model

Niagara-on-the-Lake Hydro Inc.

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

Check if applicable

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

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

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

	2006	2007	2008	2009	2010	2011	2012 and later	Total
Deferred and forecasted Smart Meter Incremental Revenue Requirement (from Sheet 5)	\$ 200.80	\$ 2,198.68	\$ 8,703.61	\$ 52,429.99	\$ 193,682.71	\$ 307,254.06	\$ 307,327.72	\$ 871,797.58
Interest on Deferred and forecasted OM&A and Amortization Expense (Sheet 8A/8B) (Check one of the boxes below)	\$ 1.77	\$ 25.12	\$ 112.40	\$ 198.86	\$ 758.27	\$ 3,905.93		\$ 5,002.36
☐ Sheet 8A (Interest calculated on monthly balances)								\$ -
☒ Sheet 8B (Interest calculated on average annual balances)	\$ 1.77	\$ 25.12	\$ 112.40	\$ 198.86	\$ 758.27	\$ 3,905.93		\$ 5,002.36
SMFA Revenues (from Sheet 8)	\$ 12,350.08	\$ 22,397.25	\$ 22,346.43	\$ 63,586.49	\$ 95,197.30	\$ 96,498.27	\$ 32,000.00	\$ 344,375.82
SMFA Interest (from Sheet 8)	\$ 141.01	\$ 1,079.09	\$ 1,747.26	\$ 778.79	\$ 1,377.64	\$ 3,823.23	\$ 4,964.32	\$ 13,911.34
Net Deferred Revenue Requirement	-\$ 12,288.52	-\$ 21,252.53	-\$ 15,277.68	-\$ 11,736.44	\$ 97,866.05	\$ 210,838.49	\$ 270,363.40	\$ 518,512.77
Number of Metered Customers (average for 2012 test year)							8078	

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

Years for collection or refunding	2
Deferred Incremental Revenue Requirement from 2006 to December 31, 2011 plus Interest on OM&A and Amortization	\$ 569,472.22
SMFA Revenues collected from 2006 to 2012 test year (inclusive) Plus Simple Interest on SMFA Revenues	\$ 358,287.16
Net Deferred Revenue Requirement	\$ 211,185.06
SMDR May 1, 2012 to April 30, 2014	\$ 1.09
Check: Forecasted SMDR Revenues	\$ 211,320.48

Match

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

Incremental Revenue Requirement for 2012	\$ 307,327.72
SMIRR	\$ 3.17
Check: Forecasted SMIRR Revenues	\$ 307,287.12

Match

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Addendum 9

Summary of Smart Meter Costs by Vendor

	A	B	K	N	O	P	Q	R	S	T	U	V	W
1					VENDORS								
2		Smart Meter Capital Cost and Operational Expense Data	FROM TOTALS IN OEB MODEL	INTERNAL COSTS	Elster	KTI	AWD (Advanced Wireless Data)	General Electric	Jesstec	Olameter	American Casting	Max Tower	Ekstrom
3				Labour and truck costs. Meter reading savings (2012)	Meters	Meters; bluetooth handheld; collector	Collector	Meters	Ring meter seals	Mass meter installer; transceiver	Meter seals	Radio tower	Socket kits; meter rings
4	1	Capital Costs											
5	1.1	ADVANCED METERING COMMUNICATION DEVICE (AMCD)											
6	1.1.1	Smart meters	\$ 881,536.30	\$ 3,159	\$ 44,593	\$ 822,305	\$ -	\$ 11,480	\$ -	\$ -	0	0	0
7	1.1.2	Installation costs	\$ 265,302.59	\$ 159,783	-	\$ 203	\$ -	0	0	\$ 80,485	\$ -	0	\$ 9,505
8	1.1.3a	Workforce Automation Hardware	\$ 611.24	0	0	\$ 611	\$ -	0	0	0	0	0	0
9		Subtotal	\$ 1,147,450.13	\$ 162,942	\$ 44,593	\$ 823,119	\$ -	\$ 11,480	\$ -	\$ 80,485	\$ -	\$ -	\$ 9,505
10	1.2	ADVANCED METERING REGIONAL COLLECTOR (AMRC) (includes LAN)											
11	1.2.1	Collectors	\$ 166,475.55	0	0	\$ 135,277	\$ 7,773	0	0	0	0	\$ 23,426	\$ -
12	1.2.3	Installation	\$ 57,411.78	\$ 20,285	0	\$ -	\$ -	\$ 22,963	0	\$ 3,190	0	\$ 10,808	0
13		Subtotal	\$ 223,887.33	\$ 20,285	\$ -	\$ 135,277	\$ 7,773	\$ -	\$ 22,963	\$ -	\$ 3,190	\$ 23,426	\$ 10,808
14	1.3	ADVANCED METERING CONTROL COMPUTER (AMCC)											
15	1.3.3	Software licenses and installation	\$ -	0	0	0	0	0	0	0	0	0	0
16		Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
17	1.5	OTHER AMI CAPITAL COSTS RELATED TO MINIMUM FUNCTIONALITY											
18	1.5.1	Customer equipment	\$ 3,224.54	0	0	0	0	0	0	0	0	0	0
19	1.5.2	AMI interface to CIS	\$ 10,400.00	0	0	0	0	0	0	0	0	0	0
20	1.5.3	Professional Fees	\$ 166,344.21	0	0	0	0	0	0	0	0	0	0
21	1.5.5	Program management	\$ 73,157.33	\$ 72,980	0	0	0	0	0	0	0	0	0
22		Subtotal	\$ 253,126.08	\$ 72,980	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
23	1.6	CAPITAL COSTS BEYOND MINIMUM FUNCTIONALITY											
24	1.6.3	TOU rate imp'n; CIS system upgrade; web presentment; MDMR integration	\$ 268,478.91	\$ 82,583	0	0	0	0	0	0	0	0	0
25		Subtotal	\$ 268,478.91	\$ 82,583	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
26		Total	\$ 1,892,942.45	\$ 338,789	\$ 44,593	\$ 958,395	\$ 7,773	\$ 11,480	\$ 22,963	\$ 80,485	\$ 3,190	\$ 23,426	\$ 20,313
27	2	OM&A Expenses											
28	2.3	ADVANCED METERING CONTROL COMPUTER (AMCC)											
29	2.3.2	Software maintenance	\$ 71,370.71	0	0	0	0	0	0	0	0	0	0
30		Subtotal	\$ 71,370.71	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
31	2.5	OTHER AMI OM&A COSTS RELATED TO MINIMUM FUNCTIONALITY											
32	2.5.2	Customer Communication	\$ 26,384.58	\$ 10,358	0	0	0	0	0	0	0	0	0
33	2.5.3	Program management	\$ 13,059.35	0	0	0	0	0	0	0	0	0	0
34	2.5.4	Change management	\$ -	\$ -	0	0	0	0	0	0	0	0	0
35	2.5.5	Administration costs	\$ 105.52	0	0	0	0	0	0	0	0	0	0
36	2.5.6	Other AMI expenses	\$ 8,637.50	0	0	0	0	0	0	0	0	0	0
37		Subtotal	\$ 48,186.95	\$ 10,358	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
38	2.6	OM&A COSTS RELATED TO BEYOND MINIMUM FUNCTIONALITY											
39	2.6.3	Web presentment; ODS fees; sync operator; meter reading savings	\$ 45,732.50	\$ (33,420)	0	0	0	0	0	0	0	0	0
40		Subtotal	\$ 45,732.50	\$ 33,420	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
41		Total	\$ 165,290.16	\$ 23,062	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42		Grand Total	\$ 2,058,232.61	\$ 315,728	\$ 44,593	\$ 958,395	\$ 7,773	\$ 11,480	\$ 22,963	\$ 80,485	\$ 3,190	\$ 23,426	\$ 20,313

	A	B	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ
1															
2		Smart Meter Capital Cost and Operational Expense Data	Green-Port	Guillevin	Tim Maxim	T's Electric	Vineland Growers	Young Utility Equipment	Kinetiq	Harris Northstar	Sensus	Iron Mountain	Utilassist/ UCS	Bell Canada	ITM
3			Disposal container rental	Ties and tape	Meter installation	Repairs	Trailer rental	Base adaptors	ODS set-up; meter fees, file processing	CIS upgrade; web presentment	TGB fees, base station service	Source code; Escrow account fees	Consulting; MDMR sync operator	Security Audit	MDMR set-up, meter loading, syncing, As2 hosting
4	1														
5	1.1	ADVANCED METERING COMMUNICATION DEVICE (AMCD)													
6	1.1.1	Smart meters	0	0	0	0	0	0	\$ -	0	0	0	0	0	0
7	1.1.2	Installation costs	\$ 1,750	\$ 332	\$ 3,893	\$ -	\$ 1,868	\$ 7,148	0	0	0	0	0	0	0
8	1.1.3a	Workforce Automation Hardware	0	0	0	0	0	0	0	0	0	0	0	0	0
9		Subtotal	\$ 1,750	\$ 332	\$ 3,893	\$ -	\$ 1,868	\$ 7,148	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
10	1.2	ADVANCED METERING REGIONAL COLLECTOR (AMRC) (includes LAN)													
11	1.2.1	Collectors	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0	0	0	0	0	0	0
12	1.2.3	Installation	0	0	0	0	0	0	0	0	0	0	0	0	0
13		Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14	1.3	ADVANCED METERING CONTROL COMPUTER (AMCC)													
15	1.3.3	Software licenses and installation	0	0	0	0	0	0	\$ -	0	0	0	0	0	0
16		Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
17	1.5	OTHER AMI CAPITAL COSTS RELATED TO MINIMUM FUNCTIONALITY													
18	1.5.1	Customer equipment	0	0	0	\$ 3,225	0	0	\$ -	\$ -	0	0	0	0	0
19	1.5.2	AMI interface to CIS	0	0	0	0	0	0	\$ 2,000	\$ 8,400	0	0	0	0	0
20	1.5.3	Professional Fees	0	0	0	0	0	0	0	\$ 10,906	0	\$ -	\$ 134,611	\$ -	\$ 6,877
21	1.5.5	Program management	0	0	0	0	0	0	0	0	0	0	0	0	0
22		Subtotal	\$ -	\$ -	\$ -	\$ 3,225	\$ -	\$ -	\$ 2,000	\$ 19,306	\$ -	\$ -	\$ 134,611	\$ -	\$ 6,877
23	1.6	CAPITAL COSTS BEYOND MINIMUM FUNCTIONALITY													
24	1.6.3	TOU rate imp'n; CIS system upgrade; web presentment; MDMR integration	0	0	0	0	0	0	0	\$ 185,896	0	0	0	0	0
25		Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 185,896	\$ -	\$ -	\$ -	\$ -	\$ -
26		Total	\$ 1,750	\$ 332	\$ 3,893	\$ 3,225	\$ 1,868	\$ 7,148	\$ 2,000	\$ 205,202	\$ -	\$ -	\$ 134,611	\$ -	\$ 6,877
27	2	OM&A Expenses													
28	2.3	ADVANCED METERING CONTROL COMPUTER (AMCC)													
29	2.3.2	Software maintenance	0	0	0	0	0	0	0	0	\$ 71,215	\$ 156	\$ -	0	0
30		Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 71,215	\$ 156	\$ -	\$ -	\$ -
31	2.5	OTHER AMI OM&A COSTS RELATED TO MINIMUM FUNCTIONALITY													
32	2.5.2	Customer Communication	0	0	0	0	0	0	0	0	0	0	0	0	0
33	2.5.3	Program management	0	0	0	0	0	0	0	0	0	\$ -	\$ 999	\$ 12,061	0
34	2.5.4	Change management	0	0	0	0	0	0	0	0	0	\$ -	\$ -	0	0
35	2.5.5	Administration costs	0	0	0	0	0	0	0	0	\$ (844)	\$ 950	\$ -	0	0
36	2.5.6	Other AMI expenses	0	0	0	0	0	0	0	0	0	\$ -	\$ 8,638	\$ -	0
37		Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 844	\$ 950	\$ 9,636	\$ 12,061	\$ -
38	2.6	OM&A COSTS RELATED TO BEYOND MINIMUM FUNCTIONALITY													
39	2.6.3	Web presentment; ODS fees; sync operator; meter reading savings	0	0	0	0	0	0	\$ 42,104	\$ 3,622	0	\$ -	\$ 28,663	\$ -	\$ 4,764
40		Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 42,104	\$ 3,622	\$ -	\$ -	\$ 28,663	\$ -	\$ 4,764
41		Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 42,104	\$ 3,622	\$ 70,371	\$ 1,106	\$ 38,299	\$ 12,061	\$ 4,764
42		Grand Total	\$ 1,750	\$ 332	\$ 3,893	\$ 3,225	\$ 1,868	\$ 7,148	\$ 44,104	\$ 208,824	\$ 70,371	\$ 1,106	\$ 172,910	\$ 12,061	\$ 11,641

	A	B	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU
1													
2		Smart Meter Capital Cost and Operational Expense Data	Loud Advertising	Local newspapers	Minuteman	Palmese Photodesign	Scout Services	Shadow Graphic	NOTL Community Centre	Hydro Ottawa	Lancaster Brooks LLP	Auto Trim	Misc suppliers
3			Smart meter booklets	Smart meters and TOU info	Customer letter copying	Leave-behind material	TOU info on bill envelopes	TOU banner	Room rental	TOU video	Legal fees	Vehicle decals	Various small items
4	1	Capital Costs											
5	1.1	ADVANCED METERING COMMUNICATION DEVICE (AMCD)											
6	1.1.1	Smart meters	0	0	0	0	0	0	0	0	\$0.00	0	0
7	1.1.2	Installation costs	0	0	0	0	0	0	0	0	0	\$ 292	\$ 45
8	1.1.3a	Workforce Automation Hardware	0	0	0	0	0	0	0	0	0	0	0
9		Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 292	\$ 45
10	1.2	ADVANCED METERING REGIONAL COLLECTOR (AMRC) (includes LAN)											
11	1.2.1	Collectors	0	0	0	0	0	0	0	0	0	0	0
12	1.2.3	Installation	0	0	0	0	0	0	0	0	0	0	\$ 166
13		Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 166
14	1.3	ADVANCED METERING CONTROL COMPUTER (AMCC)											
15	1.3.3	Software licenses and installation	0	0	0	0	0	0	0	0	0	0	0
16		Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
17	1.5	OTHER AMI CAPITAL COSTS RELATED TO MINIMUM FUNCTIONALITY											
18	1.5.1	Customer equipment	0	0	0	0	0	0	0	0	0	0	0
19	1.5.2	AMI interface to CIS	0	0	0	0	0	0	0	0	0	0	0
20	1.5.3	Professional Fees	\$ -	0	0	0	0	0	0	0	\$ 13,950	\$ -	\$ -
21	1.5.5	Program management	0	0	0	0	0	0	0	0	0	0	\$ 178
22		Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 13,950	\$ -	\$ 178
23	1.6	CAPITAL COSTS BEYOND MINIMUM FUNCTIONALITY											
24	1.6.3	TOU rate imp'n; CIS system upgrade; web presentment; MDMR integration	0	0	0	0	0	0	0	0	0	0	0
25		Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
26		Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 13,950	\$ 292	\$ 389
27	2	OM&A Expenses											
28	2.3	ADVANCED METERING CONTROL COMPUTER (AMCC)											
29	2.3.2	Software maintenance	0	0	0	0	0	0	0	0	0	0	0
30		Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
31	2.5	OTHER AMI OM&A COSTS RELATED TO MINIMUM FUNCTIONALITY											
32	2.5.2	Customer Communication	\$ 2,430	\$ 3,566	\$ 1,094	\$ 5,735	\$ 1,344	\$ 1,327	\$ 180	\$ 350	\$ -	\$ -	0
33	2.5.3	Program management	0	0	0	0	0	0	0	0	0	0	0
34	2.5.4	Change management	0	0	0	0	0	0	0	0	0	0	0
35	2.5.5	Administration costs	0	0	0	0	0	0	0	0	0	0	0
36	2.5.6	Other AMI expenses	0	0	0	0	0	0	0	0	0	0	0
37		Subtotal	\$ 2,430	\$ 3,566	\$ 1,094	\$ 5,735	\$ 1,344	\$ 1,327	\$ 180	\$ 350	\$ -	\$ -	\$ -
38	2.6	OM&A COSTS RELATED TO BEYOND MINIMUM FUNCTIONALITY											
39	2.6.3	Web presentment; ODS fees; sync operator; meter reading savings	\$ -	0	0	0	0	0	0	0	0	0	0
40		Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
41		Total	\$ 2,430	\$ 3,566	\$ 1,094	\$ 5,735	\$ 1,344	\$ 1,327	\$ 180	\$ 350	\$ -	\$ -	\$ -
42		Grand Total	\$ 2,430	\$ 3,566	\$ 1,094	\$ 5,735	\$ 1,344	\$ 1,327	\$ 180	\$ 350	\$ 13,950	\$ 292	\$ 389

Addendum 10

Confidential Materials Filed with Board

[Two hard copies of these documents have been filed with the Board in a separate package by courier]

- Advanced Metering Infrastructure Services Agreement between NOTLHI and Sensus;
- Smart Meter Installation Agreement between NOTLHI and Olameter Inc.;
- Operational Data Store Agreement between NOTLHI, Kinetiq Canada Ltd. and 437967 Ontario Ltd. o/a Savage Data Systems;
- NEPA ODS Vendor Selection Report
- Bell – Network Security Audit Statement of Work
- Uti-Assist – NEPA MDMR Integration and Testing Scope Document
- Uti-Assist – NEPA Consulting and Sync Operator Proposal
- Greenport – Disposal Purchase Order

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