



**Sector Smart Meter
Audit Review Report**

**Ontario Energy Board
Regulatory Audit and Accounting**

March 31, 2010

1. Executive Summary

The Board's Regulatory Audit and Accounting staff ("Regulatory Audit") conducted an electricity distributor sector smart meter audit review (the "Audit Review") for the period of January 1, 2006 to September 30, 2009. The Audit Review summarizes the results of a Smart Meter Questionnaire regarding distributors' smart meter regulatory accounting treatment. There were 78 electricity distributor respondents out of 80, which represents a 98% response rate.

In preparation of the Audit Review report, Regulatory Audit relied on the information that was provided by the distributors through the survey and compiled the details related to the smart meter variance accounts 1555 and 1556 of the electricity distributors Uniform System of Accounts.

Part 1 of the Audit Review report provides a compilation of the Smart Meter Questionnaire data that were provided to Regulatory Audit by the distributors including the following:

1. Total investments in smart metering initiative for capital expenditures ("CAPEX") and operating maintenance and administrative expenses ("OM&A")
2. Funding dollars received by the distributors
3. Board approved recoveries for CAPEX and OM&A
4. Recorded stranded meter costs
5. Number of smart meters installed in the review period

Part 1 of the report provides the details regarding the balances in accounts 1555 and 1556 that are reported by the distributors to the Board through Reporting and Report Keeping Requirements (RRR) as single net figures.

Part 2 of the Audit Review report identifies the general observations resulting from the responses to the smart meter questionnaire. Most observations are related to the non-conformity with the Accounting Procedures Handbook ("APH") or accounting guidance that was provided in relation to the accounting treatment of the smart meters.

2. Objectives of the Audit Review

The overall objective of the review is to determine whether the recording of the balances in accounts 1555 and 1556 followed the APH and other Board guidance for the period of January 1, 2006 to September 30, 2009.

The Audit Review was conducted to determine:

- a. the total number of smart meters installed from 2006 to time of questionnaire

- b. the dollar amount recorded in account 1555 – total by year and sub-accounts by:
 - capital expenditures (CAPEX) and related carrying charges
 - funding adders/revenues and related carrying charges
 - stranded costs
- c. the dollar amount recorded in account 1556 – total by year and all sub accounts (various types of OM&A) and related carrying charges

In addition, the review assessed if and how utilities tracked, recorded, and reported expenditures in accounts 1555 and 1556.

3. Background

The smart metering initiative is a Government policy committed to installing electricity smart meters for all low-volume consumers in Ontario households and small businesses by the end of 2010.

In order to facilitate smart meter implementation by electricity distributors, as part of the 2006 electricity distributor rates process, the Board approved funding adders (i.e., seed money that began to accrue May 1, 2006) for most electricity distributors to assist them with their investments in smart meters.

On June 13, 2006, the Board issued a letter to electricity distributors and communicated the establishment of new variance accounts and accounting procedures for smart meters (i.e., accounts 1555, Smart Meter Capital and Recovery Offset Variance Account and 1556, Smart Meter OM&A Variance Account).¹ The Board also created a sub-account of the account 1555 to track the revenue funding adders.

On January 16, 2007, the Board issued a letter to electricity distributors in which the Board established a new sub-account of account 1555 for stranded costs (i.e., Smart Meter Capital and Recovery Offset Variance Account, Sub-account Stranded Meter Costs)².

In early 2007, twelve out of thirteen³ distributors authorized to conduct discretionary metering activities filed applications pursuant to section 78 of the *Ontario Energy Board*

¹ Smart Meters and Low Voltage Accounting Meters arising from the Board's 2006 EDR Decision on Common or Generic Issues – Board File No. EB-2006-0136, June 13, 2006

² Stranded Meter Costs Related to the Installation of Smart Meters, January 16, 2007.

³ Chatham-Kent Hydro Inc. Enersource Hydro Mississauga Inc. Horizon Utilities Corporation Hydro One Brampton Networks Inc., Hydro One Networks Inc., Hydro Ottawa Limited, Middlesex Power Distribution Corporation, Milton Hydro Distribution Inc., PowerStream Inc., Tay Hydro Electric Distribution Co. Inc., Toronto Hydro-Electric System Limited, Veridian Connections Inc., Newmarket Hydro Limited

Act, 1998, S.O. 1998, c.15 (the “Act”) for the approval of distribution rates, which applications included a smart metering rate adder to be effective as of May 1, 2007.

In mid-2007, the Board conducted a combined proceeding in relation to smart meter costs of the thirteen distributors that were at that time authorized by regulation to conduct smart meter activities (proceeding EB-2007-0063). The thirteen distributors were deemed (or “named”) to be applicants in the combined proceeding. In its Decision with Reasons issued on August 8, 2007, among many other issues, the Board addressed the following:

1. accounting matters related to smart meter costs
2. the treatment of stranded meter costs
3. the cost recovery methodology of smart meter costs in rates

Since the issuance of the Board’s Decision in proceeding EB-2007-0063, additional distributors became authorized by regulation (O. Reg. 427/06) to conduct smart meter activities. In addition, O. Reg. 426/06 confirmed that certain stranded meter costs could be recovered subject to a determination by the Board that the costs were prudent. As of the date of this report, all licensed distributors except the 3 First Nations electricity distributors were authorized to engage in smart meter activities.⁴

4. Scope of the Audit Review

The scope of the Audit Review includes a sector-wide audit review in the form of a questionnaire⁵ to gather general information specific to accounts 1555 and 1556 to determine whether the recording of the balances in these accounts followed the Accounting Procedures Handbook (APH) and other Board guidance. The questionnaire included a number of questions that helped Regulatory Audit to assess if and how, the distributors followed the accounting guidance related to the smart meters, i.e. if the costs were recorded in the established smart meter deferral and variance accounts, or in non smart meter approved accounts.

The review period was January 1, 2006 to September 30, 2009.

⁴ The First Nations electricity distributors have applied for smart meter exemption from the Ministry of Energy and Infrastructure.

⁵ A copy of the questionnaire can be found on the Board’s website, <http://www.oeb.gov.on.ca/OEB/Industry/Rules+and+Requirements/Regulatory+Audit+and+Accounting/Webinar+-+Smart+Meters+Audit+Review>

5. Review Approach

On November 16, 2009, Regulatory Audit issued a letter to all licensed electricity distributors to initiate the sector-wide audit review of accounting for smart meters. Regulatory Audit indicated that the Board had determined that a sector-wide review of accounting treatment and record-keeping for smart meters would be performed among electricity distributors for the period of January 1, 2006 to September 30, 2009. The results of the questionnaire in this Audit Review report are provided on an aggregated basis.

By early January 2010, 78 of the 80 electricity distributors responded to the questionnaire, representing 98% of the total surveyed.

This Audit Review report summarizes the review and analysis of the information that Regulatory Audit received from the questionnaire responses regarding the recording and reporting of amount balances in accounts 1555 and 1556.

For the purpose of this review, Regulatory audit staff used procedures that consisted primarily of enquiry and analytical procedures related to the smart meters data that were provided to Regulatory Audit through the questionnaire.

6. Source Documents Establishing Accounting Treatment Requirements

This Audit Review relied on to the following source documents that established the Board's accounting treatment requirements:

- a. Article 220 of APH for accounts 1555 and 1556
- b. APH Frequently Asked Questions (FAQs) August 2008, FAQ # 8-10
- c. Board Letters of Direction dated June 13, 2006, "Smart Meters Arising from Board's 2006 EDR Decision on Common or Generic Issues" and January 16, 2007, "Stranded Meter Costs Related to the Installation of Smart Meters."
- d. Decision with Reasons (EB-2007-0063) issued on August 8, 2007
- e. Board Guideline G – 2008 0002, "Smart Meter Funding and Recovery" dated October 22, 2008.

7. Part 1 – Smart Meter Questionnaire Results

These questionnaire results summarize the smart meter activities for the 78 electricity distributors that responded to the Regulatory Audit Smart Meter Questionnaire. The results are for the period January 1, 2006 through to September 30, 2009.

The survey helped Regulatory Audit obtain the details regarding the balances in accounts 1555 and 1556 that are reported by the distributors to the Board through RRR. Since the balances in these accounts are reported as single net figures, the details of account balances provide useful information related to the smart meters activities. In addition, the survey obtained the information for the historical number of smart meters that were installed during the review period.

7.1 Number of Smart Meters Installed for the Period of 2006 to 2008

Table 1 below illustrates number of the meters installed for the period of 2006 to 2008 based on the information that was provided to the Regulatory Audit through the survey questionnaire.⁶

The scope for the Audit Review report only includes the information related to the smart meter investments recorded in the accounts 1555 and 1556 as well as the number of meters installed for the period January 1, 2006 to December 31, 2008. Thus, the scope does not cover the information related to the future smart meter deployment and TOU pricing.

The Board issued a letter on June 26, 2009 requiring distribution companies to file a plan with the Board by July 1, 2009 that included monthly targets for implementation of smart meters from June 2009 to June 2011. In addition, the Board directed that the companies make quarterly filings of their progress so that actual smart meter installations could be compared to the plans. The Board publishes a summary report on its website that compares the actual installation of meters against the baseline projection for each quarter in regards to the future smart meter deployment and TOU pricing.

The figures for the total number smart meters installed for the residential and general service <50 kW, as of September 30, 2009, that are shown in Table 1 below, were obtained from the Quarterly Monitoring Report on Smart Meter Deployment and TOU Pricing that was published on the Board website on November 20, 2009.

The figures shown in Table 1 below for the smart meters that were installed during January 1, 2009 to September 30, 2009 were calculated using the difference between the amounts described below:

⁶ Thirteen distributors authorized to conduct discretionary metering activities in 2006. Additional distributors were authorized to conduct smart meter activities started to be authorized starting in 2008.

- The figures for the total number smart meters installed for the residential and general service <50 kW, as of September 30, 2009, from the Quarterly Monitoring Report on Smart Meter Deployment and TOU Pricing that was published on the Board website on November 20, 2009.
- The total number of the smart meters installed for the period of 2006 to 2008 obtained from the Smart Meter Questionnaire.

Table 1 – Number of Smart Meters Installed in the Review Period

YEAR	RESIDENTIAL	GENERAL SERVICE < 50 KW	TOTAL
2006	349,189	1,873	351,062
2007	817,311	21,838	839,149
2008	902,720	69,131	971,851
January 1 to September 30, 2009	813,919	77,950	891,869
Total as of September 30, 2009	2,883,139	170,792	3,053,931

7.2 Summary of Total Investments Recorded in Smart Meter Accounts

Table 2 below provides a summary of the total investments recorded in the Board's established smart meter accounts 1555 and 1556.

In its Decision (EB-2007–0063), the Board determined that there were 14 cost categories in relation to the smart meters and other related equipment and systems (see Appendix 1). These costs categories represent capital expenditures and OM&A expenses that the distributors can track in the approved variance accounts.

Table 2 – Summary of Total Investments Recorded in Accounts 1555 and 1556

Total Investments in CAPEX (see Table 3 for details)	\$ 570,339,200
Total OM&A Expenses (see Table 4 for details)	\$ 62,954,940
Total Investments in CAPEX and OM&A Expenses	\$ 633,294,140

7.3 Total Investments in CAPEX

As of September 30, 2009, the total investments in CAPEX were approximately \$570 million (Table 3).

Table 3 – Total Investments in CAPEX (Account 1555)

	Investment Year 2006 \$	Investment Year 2007 \$	Investment Year 2008 \$	Investment Sept. 30, 2009 \$	TOTAL
Total Investments	57,226,553	127,176,911	167,208,451	218,727,285	570,339,200
Carrying charges	517,173	697,719	1,090,701	624,396	2,929,989
Capital Expenditures	56,709,380	126,479,192	166,117,750	218,102,889	567,409,211

7.4 Total OM&A Expenses (Account 1556)

As of September 30, 2009, total OM&A expenses were approximately \$63 million (Table 4).

Table 4 - Total OM&A Expenses (Account 1556)

	OM&A Year 2006	OM&A Year 2007	OM&A Year 2008	OM&A as of Sept. 30, 2009	TOTAL
TOTAL OM&A	8,208,649	15,995,969	17,917,771	20,832,551	62,954,940
Operating Expenses	250,327	3,567,385	2,791,668	4,213,812	10,823,192
Maintenance Expenses	0	64,038	8,139	321,383	393,560
Administrative Expenses	518,610	1,073,616	2,133,430	2,849,436	6,575,092
Amortization	721,619	4,582,833	5,699,257	6,704,633	17,708,342
*Other OM&A related Expenses	6,681,219	6,682,518	7,157,552	6,650,202	27,171,491
Carrying Charges	36,874	25,579	127,725	93,085	283,263

* Note: Some distributors recorded OM&A expenses under "Other OM&A" and did not provide the breakdown for operating expenses, maintenance expenses, and administrative expenses.

7.5 Advanced Funding Dollars Received by the Distributors

As of September 30, 2009, the total advanced funding dollars received by distributors was approximately \$51 million (Table 5).

The seed money provided to the distributors to assist in smart meter investment and deployment. As part of the 2006 electricity distributor rates process, the Board approved funding adders for most electricity distributors that were effective May 1, 2006.

**Table 5 - Total Advanced Funding Dollars Received by the Distributors
(Sub-account 1555)**

	Funding Year 2006 \$	Funding Year 2007 \$	Funding Year 2008 \$	Funding As of Sept. 30, 2009 \$	TOTAL
Total Funding Adders/Revenues	9,419,103	9,586,026	21,311,530	10,990,947	51,307,606
Carrying Charges	28,659	231,789	422,230	123,576	806,254
Funding Adders/Revenues	9,390,444	9,354,237	20,889,300	10,867,371	50,501,352

7.6 Board Approved CAPEX and OM&A

The Board established a mechanism for recovery of costs related to the smart meters initiative through the distribution rates and published guidance in the Guideline G-2008-0002, "Smart Meter Funding and Cost Recovery" dated October 22, 2008. In this guideline, the Board stated that the smart meter capital and operating costs are normally approved (or denied) in the process of adjusting a distributor's rate base or revenue requirement, respectively, during a cost of service proceeding to set rates.

Furthermore, the Board stated that it expects that a distributor will normally file for inclusion of smart meter costs into ongoing operations and rate base when it files for a cost of service rate adjustment. When applying for recovery of smart meter costs, a distributor should ensure that all cost information has been audited, including the smart meter related deferral account balances.

The total funding adders received by distributors, as shown in Table 5 above, are used to offset the approved recoveries.

As of September 30, 2009, seven utilities had filed applications with the Board and received approvals totaling approximately \$84 million in CAPEX expenditures and OM&A expenses recorded in accounts 1555 and 1556 (Table 6).⁷

Table 6 - Total Board Approval of CAPEX and OM&A

	Approval Year 2006 \$	Approval Year 2007 \$	Approval Year 2008 \$	Total Approvals of December 31, 2008 \$
Total Board Approved Amounts – Accounts 1555 and 1556	23,689,931	50,671,563	9,699,536	84,061,030
Board Approved Capital Expenditures ⁸	22,989,980	45,633,806	8,784,936	77,408,722
Board Approved OM&A	699,951	5,037,757	914,600	6,652,308

7.7 Stranded Meter Costs

O. Reg. 426/06 of the OEB Act, (as amended by O. Reg. 234/08) states:

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*.

As of September 30, 2009, the total stranded costs recorded in 1555 (Sub-account Stranded Costs) was approximately \$32 Million (Table 7). Of the 78 respondents, 13 recorded stranded costs. None of the distributors had recorded stranded costs in

⁷ Chatham-Kent Hydro Inc., Enersource Hydro Mississauga Inc., Hydro One Networks Inc., Middlesex Power Distribution Corporation, PowerStream Inc., Toronto Hydro-Electric System Limited, and Newmarket Hydro Limited.

⁸ Represents approved smart meter costs for inclusion in rate base

account 1555 (Sub-account Stranded Costs) in 2006 as the account was not authorized for use at that time.

The Board’s direction to the 13 authorized distributors in its Decision with Reasons (EB-2007-0063) was to leave the older meters in rate base and to continue to track the costs associated with the stranded meters. The Board deferred a decision on stranded meter costs for several reasons, but noted that distributors can if they choose, bring forward applications for the recovery of stranded meter costs in their rates.

Table 7 - Stranded Meter Costs (Sub-account 1555)

	Year 2006 \$	Year 2007 \$	Year 2008 \$	As of Sept. 30, 2009 \$	TOTAL
Stranded Meter Costs	-	17,896,418	11,065,015	2,601,330	31,532,763

8. Part 2 - General Observations Based on Smart Meter Questionnaire

Regulatory Audit noted the following general observations that were made based on Smart Meter Questionnaire and compilation of the data that was obtained from distributors who participated in the survey for the period of January 1, 2006 to September 30, 2009:

1. Smart Meter Transactions Related to account 1555 were Incorrectly Recorded

- a) Some smart meter transactions related to account 1555 (e.g. smart meter capital expenditures, Board approved funding received, and related carrying costs), were not recorded in various sub-accounts of account 1555, segregated by type of cost.

For example, smart meter capital expenditures were incorrectly recorded in either account 1860 (Meters) or account 1556.

Some smart meter transactions related to account 1555 were recorded in accounts other than Board established accounts in the general ledger. These accounts may not have been mapped and recorded to the correct USoA account (account 1555) in RRR filing 2.1.1 and RRR filing 2.1.7, e.g. account “1554” was used to record funding adders and related carrying charges in the general ledger.

Carrying charges applicable to smart meter transactions related to account 1555 were incorrectly recorded in account 1556 or account 1590 (Recovery of Regulatory Asset Balances).

- b) There were also some distributors which did not record any smart meter transactions related to account 1555, e.g. funding adder, in sub-accounts of account 1555.

2. Smart Meter Transactions Related to Account 1556 were Incorrectly Recorded

- a) Carrying charges related to smart meter OM&A expenses were incorrectly recorded in account 1590 (Recovery of Regulatory Asset Balances).
- b) There were also some distributors which did not record any smart meter transactions related to account 1556.

9. Conclusion

Regulatory Audit conducted a review related to distributors' smart meter regulatory accounting treatment for the period of January 1, 2006 to September 30, 2009 through a questionnaire that was issued in November 2009.

Regulatory Audit relied on the information that was provided by the distributors through the survey and compiled the details related to the smart meter accounts 1555 and 1556.

The Audit Review report tabulates the detailed information related to the smart meter accounts 1555 and 1556 including CAPEX and OM&A investments, funding dollars received by the distributors, and recorded stranded meter costs. The report also provides the figures for the numbers of the smart meters that were installed by the distributors in the review period.

Regulatory Audit noted and documented a number of general observations that were made based on analysis of the questionnaire data. Most observations are related to the non-conformity with the APH or accounting guidance related to the accounting treatment of the smart metering initiative. These observations will provide useful information to the Regulatory Audit in order to provide further accounting guidance to assist electricity distributors in recording and reporting of the account balances in smart meter accounts 1555 and 1556.

Appendix 1

EB-2007–0063 Board Decision, Appendix A, provides 14 categories of capital expenditures and OM&A expenses:

1. Smart Meter
2. Installation Cost
3. Workforce Automation
4. Collectors
5. Repeaters
6. Installation
7. Computer Hardware
8. Computer Software
9. Computer Software License & Installation
10. Activation Fees
11. AMI Interface to CIS
12. Professional Fees
13. Integration
14. Program Management