Ontario Energy Board

G-2011-0001

Guideline

Smart Meter Funding and Cost Recovery – Final Disposition

December 15, 2011

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1. Purpose

This guideline sets out the Board's filing instructions in relation to the funding of and the recovery of costs associated with smart meter activities conducted by Ontario electricity distributors. It reflects amendments to a number of smart metering regulations that were enacted on June 25, 2008 as well as the direction provided by the Board in its combined proceeding on smart meter costs (proceeding EB-2007-0063) and in the previous *Guideline G-2008-0002: Smart Meter Funding and Cost Recovery*. It also includes a synthesis of the Board's policy and practices that have emerged from decisions of the Board from 2007 to present pertaining to the funding and cost recovery related to smart meter deployment.

This guideline supersedes *Guideline G-2008-0002: Smart Meter Funding and Cost Recovery*, issued October 22, 2008.

This updated guideline is intended to provide the Board's general policy and practice, and the underlying principles and rationale with respect to smart meter funding and cost recovery as smart meter deployment is approaching completion for the vast majority of Ontario electricity distributors. While providing guidance to distributors on how to apply for smart meter cost recovery beginning with the 2012 rate year, this document is a guideline and is therefore not determinative of how the Board may decide in any case. The onus is on an applicant to make and support its application in light of its own specific circumstances.

2. Background

2.1 Regulations Enacted June 25, 2008

On June 25, 2008, the Government of Ontario enacted regulations under the *Electricity Act, 1998* (O. Reg. 233/08 and O. Reg. 235/08) and the *Ontario Energy Board Act, 1998* (O. Reg. 234/08) with respect to smart meter activities. These regulations amended pre-existing regulations pertaining to smart metering. With these amended regulations, most Ontario electricity distributors have become authorized for smart meter activities, and have been active in the procurement and deployment of smart meters. Further, completion of smart meter deployment is necessary for the implementation of Time-of-Use ("TOU") rates.

The following table provides a summary of the main regulations pertaining to smart meters.

Table 1: Smart Meter Regulations[1]

Regulation	Description
O.Reg. 393/07	"SMART METERING ENTITY". Defines the IESO as the Smart Metering Entity and defines the activities that are the exclusive responsibility of the SME.
O.Reg. 425/06	"CRITERIA AND REQUIREMENTS FOR METERS AND METERING EQUIPMENT, SYSTEMS AND TECHNOLOGY". With the attachment "Functional Specification for Advanced Metering Infrastructure – Version 2" dated July 5, 2007, provides the technical specifications that smart meters for residential and small general service customers must meet.
O.Reg. 426/06	"SMART METERS: COST RECOVERY". This regulation gives direction to utilities and the Board with respect to eligibility of costs for recovery. This deals with: a) costs that meet minimum functionality per O. Reg. 425/06; b) costs beyond minimum functionality are recoverable only if approved by the Board; c) costs for MDM/R functions that are the responsibility of the Smart Metering Entity are not recoverable, except for priority installations or for supporting the IESO with testing/finalizing the MDM/R requirements and interfacing with the Smart Metering Entity, while MDM/R costs that are the distributor's responsibility are recoverable subject to prudence; and d) distributors will not be financially disadvantaged with respect to the costs for replaced conventional

[1] This table provides a summary of the applicable regulations. Readers should refer to the actual regulations, available at http://www.e-laws.gov.on.ca/index.html, for completeness.

	meters owned before, on or after January 1, 2006 if replaced by a smart meter and not in contravention of section 53.18 of the *Electricity Act*.
O.Reg. 427/06	"SMART METERS: DISCRETIONARY METERING ACTIVITY AND PROCUREMENT PRINCIPLES". This is the main regulation specifying how a utility becomes authorized to procure and deploy smart meters. There are primarily two approaches. First, seven named distributors involved in priority installations (Hydro One Networks, Inc., Enersource Corporation, Powerstream Inc., Hydro Ottawa Limited, Horizon Utilities Corporation, Toronto Hydro-Electric System Limited and Veridian Connections Inc.) were authorized; distributors (primarily affiliated distributors) who had smart meters procured under the processes authorized for these named distributors were also authorized. O.Reg. 428/06 also added a number of other named distributors as authorized for priority installations. For other distributors, authorization for smart meter activities if smart meter procurement is 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.
O.Reg. 428/06	"PRIORITY INSTALLATIONS". The regulation named five additional distributors (Chatham-Kent Hydro Inc., Middlesex Power Distribution Corporation, Milton Hydro Distribution Inc., Newmarket Hydro Ltd., and Tay Hydro Electric Distribution Company Inc.) as authorized for smart meter activities under O.Reg. 427/06 as priority installations. Newmarket Hydro and Tay Hydro have since amalgamated as Newmarket-Tay Hydro.

2.2 The EB-2007-0063 Combined Proceeding on Smart Meters

In mid-2007, the Board conducted a combined proceeding in relation to smart meter costs (the "Combined Proceeding", under Board File No. EB-2007-0063) for the 13 distributors that were at that time authorized by regulation to conduct smart meter activities. In its Decision with Reasons, issued on August 8, 2007, the Board addressed the following issues:

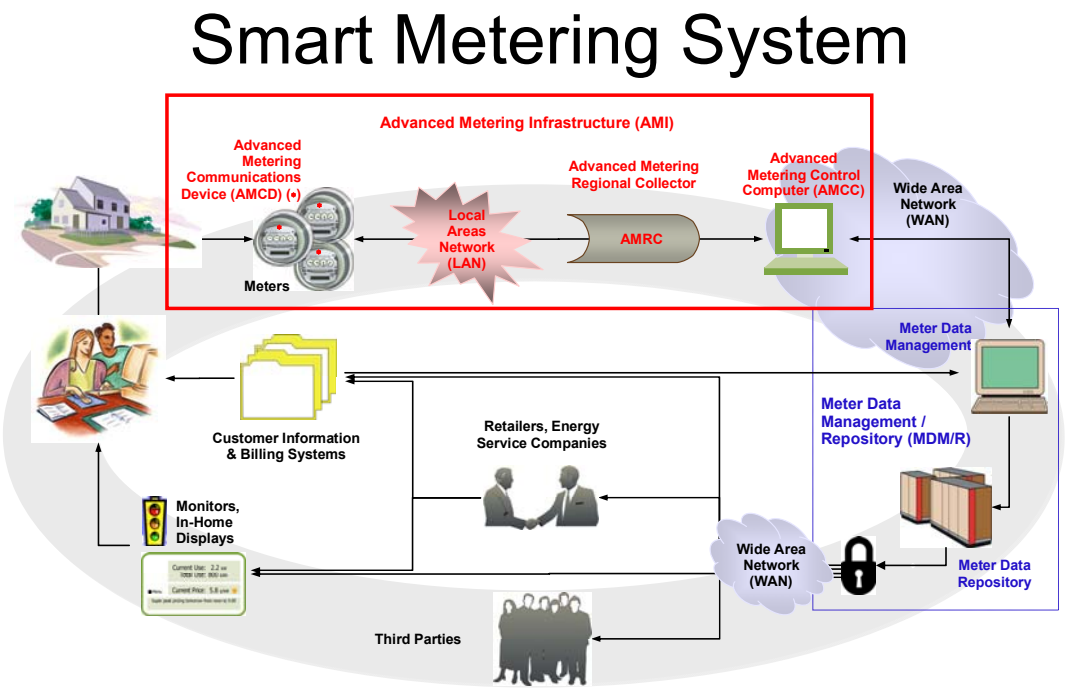
- the interpretation of minimum functionality;
- the smart meter procurement process;
- smart meter costs;
- dealing with stranded meter costs;
- accounting procedures related to smart meter costs; and
- the methodology for recovery of smart meter costs through rates.

These are discussed in further detail below.

Minimum Functionality

The minimum functionality for advanced metering infrastructure for residential and small general service customers is set out in O. Reg. 425/06, *Criteria and Requirements for Meters and Metering Equipment, Systems and Technology* and the associated document *Functional Specification for an Advanced Metering Infrastructure, Version 2*, issued July 5, 2007 (the "Functional Specification").

In the Combined Proceeding, the Board defined minimum functionality as shown in the "Advanced Metering Infrastructure (AMI)" area in the diagram below. It includes an advanced metering communication device, a local area network, an advanced regional collector, and an advanced metering central computer.



Procurement Process

In terms of the procurement process, the Board noted that its assessment of prudence relates to both the price paid for goods and services and the procurement process itself. In its review during the Combined Proceeding, the Board noted that the procurement process with respect to the original 13

distributors authorized to undertake smart metering activities was unique, and that the Government had been extensively involved. The Board was satisfied that, at a high level, the evidence demonstrated that the distributors acted in a professional manner, exercised the necessary due diligence and maximized buying economies through buying groups.

With the amended regulations enacted in the summer of 2008, most distributors have subsequently become authorized to procure and deploy smart meters under O.Reg. 427/08 and pursuant to the London Hydro RFP process. Under the London Hydro RFP process, there was a selection process to match each participating distributor, or group of distributors, to vendors from a group pre-selected through the London Hydro RFP process. Based on the characteristics and requirements of the distributor(s) and the vendors, pre-selected vendors were ranked from one to three for a particular distributor or distributor group. It was then up to the distributor to enter into a contractual agreement with one of these three vendors, starting with the highest ranked, to determine pricing arrangements, technical specifications and schedules for delivery and installation. The selection process was overseen by a Fairness Commissioner. Any deviations from this process required approval from the Ministry.

Smart Meter Costs

In its decision to the Combined Proceeding, the Board identified the categories of capital and operation, maintenance and administration costs that relate to smart meter minimum functionality.

The Board accepted that different situations can affect the costs. Installation costs in rural areas may be more expensive than in urban areas. Installation costs may also be more expensive in areas characterized by older construction as opposed to newer construction. Other factors that can also affect costs include the number of meters installed and the degree to which costs are incurred up front.

Treatment of costs associated with the repair and replacement of customer-owned equipment were also considered in the proceeding. The Board determined that all labour and associated costs incurred, with the exception of material and parts costs for customer-owned equipment, should be capitalized

and tracked in a sub-account of the Smart Meter Capital and Recovery Offset Variance Account 1555. The actual costs for materials and parts to repair or replace any customer-owned equipment should be expensed and also tracked separately in a different sub-account of the Smart Meter OM&A Variance Account 1556 until disposition is ordered by the Board following a review for prudence of the smart meter costs. As the meter base remains the property of the customer, the Board determined that it would not be appropriate to have it form part of the distributor's rate base.

Stranded Costs, Accounting Procedures and Methodology for Cost Recovery in Rates

Although the decision in the Combined Proceeding provided some direction in relation to stranded meters, accounting procedures and cost recovery through rates, the Board's view on these matters has evolved over time as reflected in more recent accounting documents and rate decisions, and the revisions to O.Reg. 426/06. Distributors should therefore be guided by the sections later in this guideline with respect to these matters.

2.3 2011 Smart Meter Applications and Board Decisions

Subsequent to the Combined Proceeding, the Board has considered smart meter funding and cost recovery through individual applications.

The following summarizes key findings from decisions that were issued by the Board during the course of the 2011 electricity distribution rate ("EDR") process.

(i) Smart Meter Funding Adder

In many 2011 EDR rate applications, whether incentive regulation mechanism ("IRM") or cost of service, the Board determined that the existing or proposed Smart Meter Funding Adder ("SMFA") would cease on April 30, 2012. The Board noted that the SMFA is a tool designed to provide advance funding for smart meter procurement and deployment, and to mitigate the anticipated rate impact of smart meter costs when recovery of those costs is approved by the Board. The Board also 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.

Since the deployment of smart meters on a province-wide basis is now nearing completion, the Board stated its expectation that distributors would file for a final review for prudence and disposition of smart meter costs at the earliest possible opportunity following the availability of audited costs. The Board indicated that, for those distributors that are scheduled to file a cost of service application for 2012 distribution rates, the Board expects that they will apply for the disposition of smart meter costs and subsequent inclusion in rate base. For those distributors that are scheduled to remain on IRM, the Board expects these distributors to file a stand-alone application with the Board seeking final approval for smart meter related costs.

(ii) Treatment of Stranded Meter Costs

The Board's *Guideline G-2008-0002: Smart Meters Funding and Cost Recovery* provided two options regarding the accounting treatment of stranded meters. The first option was to leave the stranded meter costs in rate base (i.e. Account 1860) while the second option was to record these costs in "Sub-account Stranded Meter Costs" of Account 1555: Smart Meter Capital and Recovery Offset Variance Account.

In some decisions with respect to 2011 rate applications, the Board indicated that the time to address the recovery of stranded meters is optimal in the 2011 or subsequent cost of service applications, as most distributors have completed or have nearly completed their installation of smart meters. The Board found that the net book value of the stranded meters should be removed from rate base and would be allowed for recovery by means of separate rate riders for the applicable customer classes, rather than by leaving the stranded assets in rate base. The stranded meter costs, for recovery purposes, would be comprised of the gross costs of the stranded meters, less any capital contributions, accumulated depreciation and any net proceeds received from the disposition of the replaced meters. Further guidance is provided in section 3.7 below.

3. Smart Meter Funding and Cost Recovery

3.1 Background

Due to the uncertainty of the technology (for meters, communications infrastructure and data processing and storage), regulatory requirements and responsibilities, and the corresponding capital and operating costs associated with smart meters more than five years ago, the Board adopted a regulatory process whereby smart meter costs are tracked in variance accounts 1555 and 1556.[2] Accounts 1555 and 1556 track smart meter related capital and operating costs respectively.

Revenues generated from the SMFA are recorded separately in a sub-account of account 1555. These funding adder revenues, with simple interest, serve as an offset for the deferred revenue requirement and interest on OM&A and amortization/depreciation expenses, to be recovered when the costs are subsequently reviewed and approved for disposition.

The following table provides a summary of the three mechanisms for smart meter funding and cost recovery that the Board has established.[3]

Table 2: Smart Meter Funding and Cost Recovery Rate Adders and Rate Riders

Title	Acronym	Description
Smart Meter Funding Adder	SMFA	• Mechanism to provide funding before and during smart meter deployment and acts to smooth the rate increases due to smart meter implementation. • First implemented in rates for May 1, 2006. • Initially established at a level of about $0.26/month per metered customer for most distributors; some utilities have had unique SMFA rates due to initial Smart Meter Implementation Plans. Distributors could subsequently apply for a standard SMFA of $1.00 per metered customer per month or a utility-specific SMFA.

[2] Generic Proceeding, 2006 EDR, RP-2005-0020/EB-2005-0529
[3] This conceptualization of the three mechanisms for funding and cost recovery was first documented in Board staff's submission in PowerStream Inc.'s application for Smart Meter disposition [EB-2010-0209], filed on October 1, 2010.

		• SMFA revenues are tracked in a sub-account of Account 1555. Upon disposition, the SMFA revenues and simple interest are used to offset the deferred historical revenue requirement of installed smart meters plus interest on the OM&A and amortization/depreciation expenses, with the variance recovered or refunded through the SMDR. • In many 2011 EDR applications, the Board capped the SMFA at $2.50/month per metered customer. Further, the Board indicated that the SMFA would cease by April 30, 2012.
Smart Meter Disposition Rider	SMDR	• The SMDR recovers, over a specified time period, the variance between: 1) the deferred revenue requirement for the installed smart meters up to the time of disposition; and 2) the SMFA revenues collected and associated interest. • The SMDR should be calculated as a fixed monthly charge. The capital (smart meter, AMI, systems hardware and software) and operating expenses are largely fixed costs and invariant to a customer's demand, and hence should be recovered largely through fixed charges. • In earlier cases the SMDR has been recovered on an equal basis from all metered customer classes, although more recent decisions have dealt with class-specific disposition riders.[4] The distributor should determine and support its proposed allocation, based on principles of cost causality and practicality.
Smart Meter Incremental Revenue Requirement Rate Rider	SMIRR	• When smart meter disposition occurs in a stand-alone application, a SMIRR is calculated as the proxy for the incremental change in the distribution rates that would have occurred if the assets and operating expenses were incorporated into the rate base and the revenue requirement. • The SMIRR is calculated as the annualized revenue requirement for the test year for the capital and operating costs for smart meters. • The SMIRR should be calculated as a fixed monthly charge, similar to the SMDR. • The allocation for the SMIRR should generally be the same as for the SMDR. • The SMIRR ceases at the time of the utility's next cost of service application when smart meter capital and operating costs are explicitly incorporated into the rate base and revenue requirement.

[4] Decision and Order (corrected), [EB-2010-0209], PowerStream Inc., issued November 19, 2010 and Decision and Order, [EB-2011-0128], PowerStream Inc., issued November 21, 2011.

3.2 Smart Meter Funding

The level of the SMFA has varied over the years for each distributor depending on its circumstances. However, generally speaking, the SMFA has taken three forms. For many distributors, the first SMFA was for $0.26/month per metered customer. As distributors began their actual deployments in 2008, many received approval for a standard SMFA of $1.00 per metered customer per month if they demonstrated that they received confirmation from the Fairness Commissioner that they followed the appropriate procurement process. Finally, as distributors began nearing completion of their deployments, many requested and received approval for a distributor-specific SMFA which was calculated using an Excel model that took into account actual costs for deployments and revenues. For most distributors requesting increased SMFAs, the approved SMFA varied from $1.00 to approximately $2.50 per metered customer per month.

Smart Meter Funding Adder, beyond 2011

In decisions for 2011 distribution rates, the Board generally established a sunset date of April 30, 2012 for the termination of the SMFA. Given that all distributors are expected to have completed their smart meter deployment by the end of 2011 or shortly thereafter, the Board considered that further advance funding was no longer warranted. The Board stated its expectation that distributors would file for a final review for the prudence of their smart meter costs at the earliest possible opportunity following the availability of audited costs.

A distributor that wishes to continue the SMFA after April 30, 2012 may apply to do so, but will have to 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.

Approval of a smart meter funding adder does not constitute regulatory approval of any costs actually incurred to conduct smart meter activities. The prudence of such costs will be examined, and the costs will be approved (or denied), at the time the distributor applies to recover these costs.

3.3 Final Smart Meter Cost Recovery

Cost of Service Applications

The recovery of smart meter capital and operating costs is normally approved (or denied) following a review for prudence and disposition in a cost of service proceeding. A smart meter disposition rate rider ("SMDR") is used to recover the residual revenue requirement that is made up of smart meter costs up to the time of disposition plus interest on the deferred OM&A and amortization/depreciation expenses, less amounts collected through the SMFA and associated interest.[5] The approved gross book value and accumulated depreciation of installed smart meters are then added to rate base, and the test period operating expenses are added to OM&A. This ensures the recovery of the incremental revenue requirement on a going-forward basis through base rates. Further, smart meter capital and operating costs should be reflected in the cost allocation study to ensure an appropriate allocation of costs to the various customer classes.[6]

If a distributor seeks approval for costs related to 100% smart meter deployment, any capital and operating costs for smart meters that are installed beyond the (2012) test year (i.e. for new customers) should not be recorded in Accounts 1555 and 1556.[7]

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

[5] This methodology is documented in an Accounting Procedures Handbook FAQ (Frequently Asked Question) issued in August 2008. Specifically, FAQ # 8 shows an example of this approach. The FAQ was also reproduced in Appendix C: Accounting Procedures Handbook – Excerpt of Frequently Asked Questions August 2008 in *Guideline G-2008-0002*.
[6] See Section 2.10 – Cost Allocation of Chapter 2 of the *Filing Requirements for Transmission and Distribution Applications*, issued June 22, 2011. In particular, section 2.10.3 – Revenue-to-Cost Ratios notes that Smart Meter costs still being recorded (or proposed to being recorded) in Accounts 1555 and 1556 should be excluded from the Cost Allocation analysis. Where a utility is applying for disposition in a Cost of Service application, the Smart Meter capital and operating costs should be included in the cost allocation study, with the costs for the stranded meters being removed from rate base and excluded from the Cost Allocation.
[7] However, account 1555 is still used for tracking the costs of and recovery of the costs related to stranded (conventional) meters. See section 3.6.

akin to other normal distribution assets and costs.

Stand-alone Applications

When rates are adjusted in a stand-alone application, there is no re-evaluation of rate base or of the revenue requirement for the purpose of setting distribution rates. Where the Board approves smart meter capital and operating costs outside of a cost of service proceeding, a SMDR is still required. In addition, a smart meter incremental revenue requirement rate rider ("SMIRR") is established to recover the prospective annualized incremental revenue requirement for the approved smart meters, until the distributor's next cost of service application. The SMIRR continues until the effective date of the distributor's next cost of service rate order, at which time assets and costs are incorporated into the rate base and revenue requirement and recovered on a going-forward basis through base rates.

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

3.4 Costs Beyond Minimum Functionality

While authorized smart meter deployment must meet the requirements for minimum functionality, a distributor may incur costs that are beyond the minimum functionality as defined in O.Reg. 425/06. To date, the Board has reviewed three types of costs that are beyond minimum functionality:

- Costs for technical capabilities in the smart meters or related communications infrastructure that exceed those specified in O.Reg 425/06;
- Costs for deployment of smart meters to customers other than residential and small general service (i.e. Residential and GS < 50 kW customers); and

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

  Further comments on each of these are provided below.

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

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

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

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

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

A distributor may, as part of its smart meter deployment program, decide to install smart meters for these customers. This could be on the basis that these customers will have higher demand than will typical residential and GS < 50 kW

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

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

> The Board is explicitly not finding that the costs associated with these meters fall into the minimum functionality costs. The Board approval of these costs is ancillary to the smart meter decision.[8]

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

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

[8] Decision and Order, [EB-2007-0063], August 8, 2007, pg. 20

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

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

All costs beyond minimum functionality should be clearly identified and supported. Costs that are for meter data functions that will be the responsibility of the Smart Metering Entity will not be recoverable, unless already allowed for per O.Reg. 426/06.[9] Costs for other matters such as CIS changes or TOU bill presentment may be recoverable, but the distributor will have to support these costs and will have to demonstrate how they are required for the smart meter deployment program and that they are incremental to the distributor's normal operating costs.

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

[9] Per O.Regs. 393/07 and 426/06, certain utilities that may be working with the SME to test the MDM/R data interface and data validation may have costs for duplicative or overlapping functions for the purposes of testing the MDM/R interface and operations. Such costs will be allowed, subject to a review for the prudence of such costs.

3.5 Evidence to be Filed in Support of Smart Meter Cost Recovery in a Cost of Service Application

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

At a minimum, the following information should be provided:

- a report on the status of implementation of smart meters (i.e., how many have been installed and when 100% completion is expected);
- a copy of the letter from the Fairness Commissioner, if applicable, as support that the distributor is authorized for smart metering activities. A general description of contractual arrangements with the selected vendors should be provided.
- capital and operating unit cost per installed smart meter and in total for:
    - procurement and installation of the components of the AMI system;
    - customer information system;
    - incremental operating and maintenance activities;
    - changes to ancillary systems; and
    - stranded meters;
- if applicable, a variance analysis comparing actual costs to previously approved costs;
- identification of and justification for any smart meter or AMI costs incurred to support functionality that exceeds the minimum functionality adopted in O. Reg. 425/06, as discussed in section 3.4 above;
- for any costs incurred that are associated with functions for which the SME has the exclusive authority to carry out pursuant to O. Reg. 393/07,

the basis on which recovery of those costs is allowed under applicable law; and

- a calculation of the SMDR, including the proposed cost allocation methodology.

The onus is on the distributor to support its case, and the distributor should provide any additional information necessary to understand the distributor's costs in light of its circumstances. In considering the recovery of smart meter costs, the Board also expects that a distributor will provide evidence on any operational efficiencies and cost savings that result from smart meter implementation.[10] As an example, meter reading expenses may be reduced with the activation of remote meter reading through the AMI network for residential and small general service customers.

The SMFA was calculated and applied as a uniform monthly charge collected from all metered customers. In early decisions, the SMDR and, if applicable, the SMIRR, were calculated similarly on a uniform basis. However, more recently, the issue of differential costs for smart meters by classes of customers has arisen. While the Board notes that utilities have not been specifically directed to record all costs on a class-specific basis, in some cases there may be class-specific information available.

In the Board's decision with respect to PowerStream's 2011 Smart Meter Disposition Application (EB-2011-0128), the Board approved an allocation methodology based on a class-specific revenue requirement, offset by class-specific revenues. The Board noted that this approach may not be appropriate or feasible for all distributors as the necessary data may not be readily available[11].

The Board views that, where practical and where the data is available, class-specific SMDRs should be calculated based on full cost causality. The methodology approved by the Board in EB-2011-0128 should serve as a suitable guide. A uniform SMDR would be suitable only where adequate data is not

[10] This was first highlighted in the Board's Decision, issued March 3, 2011, with respect to an application by Horizon Utilities Corporation for an increase to its SMFA for 2011, considered under Board File No. EB-2010-0292. Approval of smart meter costs was not sought in the application, but was considered in the concurrent Cost of Service application [EB-2010-0131].
[11] Decision and Order [EB-2011-0128], November 21, 2011, pp. 12-13.

available.

Recognizing that SMFA revenues have been collected from all metered customers since May 1, 2006, the Board's decision in EB-2011-0128 also addressed the treatment of smart meter adder amounts collected from customer classes for which smart meter costs were not incurred, as it related to PowerStream's smart meter deployment program. The Board directed PowerStream to allocate the smart meter adder amounts collected from the GS > 50 kW and Large Use customer classes evenly to the Residential and GS < 50 kW classes when calculating the true-up for the SMDR. The Board concluded that this approach was appropriate because the amounts involved were not significant enough to warrant a more precise allocation.[12] However, for all customer classes for which smart meter costs have been directly incurred, the SMFA revenues plus carrying costs should be directly used as an offset to the incremental revenue requirement to determine the SMDR for that class.

The distributor should also make a proposal for treatment and recovery of stranded meter costs, as discussed in section 3.7.

3.6 Additional Evidence to be Filed when Cost Recovery is Requested in a Stand-Alone Application

When a distributor applies for the disposition of the smart meter variance accounts in a stand-alone application, the distributor should propose both a SMDR and a SMIRR. The SMIRR is assumed to be compensatory during the IRM plan term.[13]

A distributor will need to file the following information in addition to the information listed in section 3.5 above:

[12] Decision and Order [EB-2011-0128], November 21, 2011, pp. 12-13.
[13] The incremental revenue requirement would actually change over time, due to amortization/depreciation of the assets, and also due to inflation less productivity impacts on operating costs, changes in the Cost of Capital and possibly tax rates. However, it is assumed that the differences are immaterial for the few years until the distributor's next rebasing. As such, the SMIRR will be held constant until rebasing. Upon rebasing, assets and costs will be explicitly reflected in the rate base and revenue requirement, and the SMIRR will no longer be needed.

- calculation of the SMIRR, including the cost allocation methodology. In general, the cost allocation methodology should be the same for both the SMDR and the SMIRR.

A distributor can rely on the order obtained in a stand-alone proceeding in (a) subsequent rate proceeding(s) as evidence that the Board has reviewed and approved the underlying costs. In its next cost of service application, the distributor should include the approved smart meter capital (and associated accumulated depreciation) and annual operating costs in its application, and seek to include the above in its rate base and revenue requirement.

3.7 Stranded Meter Rate Rider ("SMRR")

The regulations provide that distributors be held whole with respect to the cost recovery of stranded meters (i.e. conventional meters replaced as part of the smart meter initiative).

Requirement for Distributors to File Requests for Stranded Meter Costs Recovery

The Board made findings on the treatment and cost recovery for stranded meters in recent decisions[14] which form the basis for the following guidance for distributors seeking recovery of stranded meter costs in future applications. In its EB-2010-0132 Decision and Order on Hydro One Brampton's 2011 cost of service application, the Board stated, among other things, that the time to address the recovery of stranded meters is optimal starting in the 2011 cost of service applications process since most distributors have completed or nearly completed their installation of smart meters and have included a significant portion of these costs in rate base.

Consequently, starting in the 2012 EDR process, distributors seeking recovery of stranded meter costs should bring forward these requests in a cost of service application. It is preferable for the Board to review concurrently a distributor's smart meter and stranded meter costs in the same application where all the required adjustments to the rate base and the revenue requirement are reflected

[14] Hydro One Brampton Networks Inc. (EB-2010-0132) *Decision and Order* of April 4, 2011 and Kenora Hydro Electric Corporation (EB-2010-0135) *Decision and Order* of May 25, 2011

in rates at the same time. Requests for the recovery of stranded meter costs should be in accordance with the guidance provided in this section of the guideline and the cost of service filing requirements previously issued by the Board. Also, the stranded meter costs should be removed from any Cost Allocation run.

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

Determination of when to use Actual or Estimated Stranded Meter Costs

A few distributors fully completed their installation of smart meters in 2010 and all other distributors are expected to complete their installations in 2011. A distributor that files a 2012 cost of service application but who has not completed its smart meter deployment should forecast the stranded meter net book value ("NBV") to the end of 2011 (with appropriate adjustments for depreciation expenses, etc.) to establish the amount requested for recovery. In this situation, if the forecast amount is approved, the distributor would need to true-up this amount as discussed below in Appendix A-1: *Accounting Treatment on Approval of Stranded Meters.*

For a distributor filing a cost of service application after 2012, the requested recovery of stranded meter costs should be on an actual basis as smart meter deployment is expected to be completed by most distributors no later than the end of 2011.

Allocation of Costs, Proposed Recovery Period and Rate Rider

It is expected that a distributor, as part of its application for the disposition of smart meter costs in a cost of service application, will propose (a) rate rider(s) to recover the NBV of the stranded meters.

The recovery period should generally be accelerated (i.e. shorter than the average remaining life of the stranded meters). As a general rule of thumb, the Board expects that the recovery of stranded meter costs should be achievable in a period no longer than four years. The distributor can propose a shorter recovery period, but should take into account rate impacts on its affected customers, and may make proposals to mitigate potential material and adverse impacts. A distributor should provide an explanation for a recovery period longer than four years since the stranded meters are no longer used and useful and the proposed recovery period should, ideally, not go beyond the distributor's next cost of service rate application.

The distributor should determine and support its proposed allocation, based on the principles of cost causality and practicality. The stranded meter NBV should be recovered through rate riders for applicable customer classes. A distributor must outline the manner in which it intends to allocate the stranded meter costs to the applicable customer rate classes and the rationale for the selected approach. If a distributor has recorded the NBV of the stranded meters by customer class, it should propose class-specific rate riders for each applicable class (Residential, GS < 50 kW and any other classes approved by the Board for smart meter deployment). If the NBV is not known on a class-specific basis, a distributor should propose an allocation between the affected metered customer classes and support its proposal.

The charge determinant for the SMRR should be the number of customers, as the stranded meter costs are invariant to a customer's demand or consumption. Thus, the stranded meter rate rider should be a monthly charge applicable for a period of time, and may differ between customer rate classes.

Further information is also provided on stranded meters in Appendix 2-R – Stranded Meter Treatment of Chapter 2 of the *Filing Requirements for Transmission and Distribution Applications*, issued June 22, 2011.

4. Smart Meter Model

The Board has made available on its website an updated Smart Meter Model designed for calculating the SMDR and SMIRR. If applicable, the model can also be a vehicle for calculating the SMFA. The updated Smart Meter model is also designed to assist distributors in documenting their smart meter costs.

The model does not deal with allocations between customer rate classes. As noted in section 3.5 above, the Board views that where practical and where the data is available, class-specific SMDRs should be calculated based on cost causality. An allocation on the basis of all metered customers resulting in one uniform rate rider for all metered customer classes would be suitable only where adequate data is not available for the more specific allocation.

If a distributor proposes class-specific SMDRs in its application; it will have to adjust it to its own circumstances.[15]

Whichever method is adopted, the Board is of the view that any cost allocation approach should be consistent between the SMDR and the SMIRR when disposition is sought in a stand-alone application.

Stranded meter costs are dealt with separately. In particular, Appendix 2-R of Chapter 2 of the *Filing Requirements for Transmission and Distribution Applications*, updated June 22, 2011, is used for documenting stranded meter costs. The distributor will have to provide its own calculations for the derivation of the stranded meter rate rider(s) as a monthly charge to recover the net book value of stranded meters over the proposed time interval and for the applicable metered customer classes for which there are stranded meter costs, typically from one to four years in duration.

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

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

review of an application. The onus remains on the applicant to ensure the accuracy of the data and the results.

Appendices

Applicants seeking recovery of smart meter costs, whether through a cost of service or a stand-alone application, should complete Appendices 2-Q and 2-R from Chapter 2 of the *Filing Requirements for Transmission and Distribution Rate Applications*, issued June 22, 2011, and the Smart Meter Model, Version 2.17 issued December 15, 2011, along with this Guideline. The documents and model are found at the following links.

http://www.ontarioenergyboard.ca/OEB/_Documents/Regulatory/Filing_Requirements_Chapter2_Appendices%20-%20Excel.xls

http://www.ontarioenergyboard.ca/OEB/_Documents/2012EDR/2012_smart_meter_model.xls

These spreadsheets and models may be updated from time to time to reflect the most current Board policies and practices with respect to smart meter and stranded meter cost recovery.

Appendix A-1: *Accounting Treatment for Approved Stranded Meter Costs*

Background

There are two accounting treatment options for stranded meters related to the installation of smart meters:

(1) leave them recorded in Account 1860, Meters; or
(2) record them in "Sub-account Stranded Meter Costs" of Account 1555.

In either of these two scenarios, the stranded meter assets are still included in rate base unless the distributor has received approval to remove them from rate base and adjust its revenue requirement accordingly.

These treatment options arose from the Board's letter of January 17, 2007, in which distributors authorized to conduct smart metering activities at the time were directed to record stranded meter costs in "Sub-account Stranded Meter Costs" of Account 1555. Subsequently, in its August 8, 2007 decision in the Combined Proceeding the Board agreed that the stranded meter costs for these distributors should remain in rate base (i.e. Account 1860 – Meters).

The recovery of the stranded meter costs are permitted regardless of which account the stranded meter costs are recorded as indicated in the accounting guidance in the December 2010 Accounting Procedures Handbook FAQs (Q and A #15). However, the distributor may need to make necessary accounting adjustments to conform to the Board-approved methodology for the recovery of stranded meters outlined in this guideline.

Determination of Stranded Meters Net Book Value Eligible for Recovery

The stranded meter NBV eligible for recovery purposes comprise the gross costs of the stranded meters, net of any capital contributions, less the associated accumulated depreciation and any net sale proceeds from the disposition of the stranded meters.

Accounting Treatment of Stranded Meters for 2012 and Beyond

For a distributor that has not previously sought recovery of stranded meter costs, the distributor continues to receive a return on the stranded meter assets included in rate base and continues to recover the meter depreciation expenses in distribution rates. Thus, the recording of depreciation expenses should continue to reduce the NBV of the stranded meters through accumulated depreciation until the end of the fiscal year before the distributor brings forward stranded meter costs for recovery in a cost of service application. For example, if a distributor completed its smart meter deployment in the 2010 fiscal year and then seeks recovery of stranded meter costs in a 2012 application, the depreciation expenses should be recorded up to end of 2011 to reduce the NBV of the stranded meters through the accumulated depreciation as of the end of 2011.

Distributors should make the appropriate adjustments to reflect depreciation expenses and accumulated depreciation for the stranded meters recorded in Account 1860 or 1555 (as applicable) up to the end of the applicable year prior to a request for recovery cited above.

Upon approval of the final rate order, the total stranded costs should be tracked in "Sub-account Stranded Meter Costs" of Account 1555. If the approved amounts are recorded in Account 1860, they should be transferred to this sub-account. The associated recoveries collected from the separate stranded meter rate riders should be recorded in this sub-account to draw down the balance in the sub-account (i.e., the recoveries should not be recorded in Account 1595, Disposition and Recovery of Regulatory Balances Control Account). No interest carrying charges should apply to the sub-account balance prior to the effective date of the rate order approving stranded meter recoveries in rates. Effective on the date of the rate order, interest carrying charges should be calculated on the monthly opening principal balance in the sub-account at the Board prescribed interest rates and recorded separately in the sub-account of Account 1555 (i.e., "Approved Stranded Meter Costs Carrying Charges").

If the distributor has received approval of a forecasted amount for stranded meter costs recovery, the distributor will need to true-up to the actual stranded meter

costs when the installation of all smart meters is completed. An adjusting entry should be recorded for this adjustment in the sub-account.

The residual balance (net of recoveries) in "Sub-account Stranded Meter Costs" and the balance in "Approved Stranded Meter Costs Carrying Charges" of Account 1555 should be submitted for review and finalization as part of the distributor's next cost of service application.

Distributors should maintain records to substantiate the stranded meter costs recovered. Records of items that should be kept include the type and number of each meter type and by customer class, accumulated depreciation, capital contributions and net sale proceeds (if any), to support the stranded meter costs to be recovered.