

The Power Workers' Union's Comments on The Ontario Energy Board Staff's Discussion Paper Implementation Plan for Smart Meters in Ontario RP-2004-0196

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By way of a letter dated July 19, 2004 the Ontario Energy Board ("OEB" or "Board") advised stakeholders of its approach to fulfilling the Minister's Smart Metering Directive ("Directive") RP-2004-0196 and invited stakeholder participation.

The Power Workers' Union represents a large portion of the employees working in Ontario's electricity industry and has the utmost interest in initiatives that impact the energy industry and the provision of services to customers.

The PWU supports the Government's policy of installing smart meters "to manage demand for electricity in Ontario in order to make more efficient use of the current supply of electricity and to reduce the province's reliance on external sources". Through its participation the PWU hopes to enhance discussions in a manner that results in the most efficient installation of smart metering while holding the electricity industry and the service quality they provide whole. To this end, the PWU brings technical as well as regulatory expertise to the discussions on a smart meter implementation plan.

Comments on issues raised in the Board Staff discussion paper ("Discussion Paper") are provided in the same order as in the Discussion Paper.

1 OVERVIEW

The Discussion Paper provides a good introduction to the issues concerning the implementation of the Directive. It identifies a broad range of issues and provides a good indication of the scope of the Board's Smart Meter Directive initiative.

It is clear that discussions on smart meter functionality cannot be completed in the absence of a developed Regulated Price Plan ("RPP") for residential and small business consumers. The Discussion Paper indicates that the Board is in the process of developing a RPP and that it is expected to be in place by May 2005. However, the timeline as set out in the Directive has the Board providing a smart meter implementation plan to the Minister by February 15, 2005. The directive requires the Board to identify the mandatory technical requirements in the implementation plan. Given the absence of a RPP design during the development of the implementation plan there may be the urge to speculate on the RPP design. This in turn may influence the development of the RPP. The RPP design is fundamental to the viability of the electricity generation and transmission sectors as well as the electricity bills of consumers on the RPP; intensive discussions and comprehensive analysis are required in the development of the design. Further, the RPP principles as announced by the

Board in its business plan, and referenced in the Discussion Paper, must be the primary drivers in the development of the RPP. That is, the RPP will:

- reflect the true cost of electricity;
- be stable;
- be supportive of demand-response and conservation; and
- not be a barrier to investment.

Therefore, the Board should ensure that the discussions on the implementation of smart metering do not undermine the RPP development process.

2 BACKGROUND

No comment

3 ESSENTIAL ELEMENTS OF AN IMPLEMENTATION PLAN

3.1 Procurement Strategy

Metering is a non-contestable service and the smart metering assets will be assets of the distribution companies and their shareholders. The investment will be in metering systems that may or may not be connected to a remote or automatic meter reading system and that may or may not feed into a feedback system for consumption and spending on a real or close-to-real time basis. The distributors currently have metering systems in place and presumably there are some differences between the metering systems. Any comprehensive or joint procurement strategy therefore, needs to take into account differences in existing metering systems such that the distributors will have the opportunity to retrofit their existing systems in the most efficient manner. If there are system compatibility issues, a comprehensive procurement strategy may not be a reasonable approach. For joint strategies, it may be best left to the distributors to seek each other out for the most efficient joint procurement, just as many distributors do currently in procuring distribution assets.

3.2 Implementation Priorities

3.2.1 3.2.1 All over 50 kW

It is good strategy to implement smart metering first where it has greatest impact, and starting with the group that already has dynamic prices is a logical first step.

3.2.2 New Homes

The installation of smart meters for all new installations is a logical and efficient approach.

3.2.3 Congested areas

Congested areas would be a priority, for the reasons identified by Board staff as well as from a system reliability perspective.

3.2.4 Self-selection

The Distribution System Code (“DSC”) clause that allows for consumer requests for interval metering should stay in place since consumer requests for interval metering will likely depend on the benefits that they can derive from interval metering. However, given the wave of activity expected in the installation of smart meters in meeting the December 31, 2010 target, distributors may have difficulty meeting requests for interval metering outside of their scheduled installations. Distributors in this circumstance should not be penalized for non-compliance with the DSC for their inability to meet the requests during the transition period toward province-wide smart metering.

Designated consumers will not be able to benefit from smart metering unless the distributors offer rates that allow them to benefit from the smart metering. The RPP is expected to have a time-dependent component at some point, and it is at that point that the distributors will be able to offer the RPP in a manner that allows RPP consumers to benefit from smart meters. Assuming that a time differentiated RPP is introduced before December 31, 2010, it would likely be those customers that can benefit from the time differentiated RPP rates that would request smart metering. Customers that cannot take advantage of the time-differentiated RPP are unlikely to request smart meters and as the Discussion Report points out, would be subject to higher energy costs. However, the higher energy costs may be reflective of the costs they would incur when they are eventually provided with smart metering. Alternatively, SSS consumers that do not request smart meters and that experience increasing energy costs may elect to switch to a retail supplier.

A consumer education program explaining the advantage of a collective electricity conservation initiative by non smart-metered RPP consumers during the peak period might help keep costs down for these consumers.

If the number of requests for smart metering is significant, there may be a problem meeting the demand if the metering is procured through a comprehensive procurement strategy. Sourcing their smart metering requirements in groups or individually, may provide distributors with more flexibility and allow competition to develop in the metering industry that would meet demand and allow distributors to accelerate installations and minimize the period in which vulnerable consumers are on the net system load shape.

3.3 Interim Target

A start point in determining interim targets might be the rate at which the metering industry can supply smart meters. Next the distributors would need to be contacted to determine realistic installation schedules.

3.4 Process Driver

Given that the Minister's directive on implementing smart electricity metering is to the OEB, it would be appropriate for the OEB to take on the central role of driving the implementation process. This role could be taken on by the OEB much like it took on the responsibility of the Electricity Retail Market Readiness initiative. Thus the Board could work with a stakeholder task force in putting together a Smart Meter Implementation Plan that sets out technical requirements and realistic timeliness. The distributors would then be required to follow the implementation plan. Self-certification of achievement of key milestones by the distributors could be required to minimize the OEB's compliance activities related to the implementation plan. Through this initiative, the OEB would set technical requirements, set targets, drive the process, coordinate the actions of the distributors and other participants, as well as track progress and apply penalties for non-compliance.

Similar to the Electricity Retail Market Readiness initiative, this approach provides the distributors with latitude in the metering systems they install while ensuring that their systems meet the technical requirements determined by the OEB's Smart Meter Implementation Task Force. In addition, the implementation plan will provide the distributors with a road map to an efficient and orderly transition to smart metering.

4 COST RECOVERY

The Government's policy for the comprehensive installation of smart meters and the Minister's directive to the OEB for a smart meter implementation plan appears to establish smart meters as a standard service in the electricity distribution sector. As such, it is appropriate to recover the cost of smart meter systems through general distribution rates just as rates recover the cost of current meters. The assets therefore should be included in rate base with the distribution companies allowed the opportunity of earning a return on their investment in smart metering with such costs recovered from distribution ratepayers through general rates.

4.1 Meter Charge

Board staff correctly identifies the use of a distinct meter charge as a step toward contestability of meter services. Until discussions and a decision on the contestability of metering has been made, it would be better to leave metering in general distribution services rates since unbundling metering services prematurely would confuse consumers.

4.2 Third Tranche

Whether smart metering is eligible for the DSM funds available to distributors from the third instalment of their allowable market-based rate of return ("MBRR") on equity beginning March 1, 2005 or not, it will still be at the cost of the distributors' ratepayers. However if the third MBRR instalment were used to fund smart meters, ratepayers would avoid a rate impact incremental to that resulting from the "third tranche". From the distributors' perspective, if they were allowed to rate base DSM expenses, keeping

the smart meter outside of the DSM funds would allow them to earn an incremental return over and above that provided by the DSM investments. Distributors that were not already at the MBRR level in 1999, will lose the opportunity of earning the “third tranche” of their MBRR as a result of the allocation of these funds to DSM. Allowing the distributors to determine whether to cover the smart metering costs from their “third tranche” will give the distributors the opportunity to make the best decision for their financial health. The financial health of a distributor is fundamental to its ability to obtain financing and maintain service quality to the benefit of its customers.

Early notice of intent to establish an OEB Smart Meter Implementation Task Force and Plan, should the Board decide to take this approach, would signal a coordinated effort in the transition to province-wide smart metering and alert the distributors from making premature investments.

4.3 Combination

As Board staff points out, the Board could combine the cost recovery options. In any case, the Board must ensure that the cost recovery approach does not weaken the financial positions of the distributors. As indicated in section 4.2, preserving the distributors’ financial health is fundamental to maintaining service quality. Smart metering is an operational and technical requirement imposed on the distributors and costs associated with this initiative should keep the distributors harmless.

Given that it is the Government that established the targets for smart meter installations and that it is a Minister’s directive to the Board that requires it to develop and implement a smart meter implementation plan, the requirement for Ministerial permission to apply to the Board for new rate orders should not influence the cost recovery mechanism.

4.4 Third Party Provision

While there may be possibilities for innovative third party funding, in contemplating third party provisions the Board needs to ensure that the net benefits of such funding justifies the direct as well as the indirect costs to the customers and the distributors. Among the indirect costs is the relationship between distributors and their employees. Embodied in collective agreements between the distributors and their employees are clauses for outsourcing. Therefore, rather than unwittingly jeopardizing the distributors’ relationship with their staff through a comprehensive third party provision requirement, the Board should leave decisions on third party provisions to individual distributors.

5 METERING FUNCTIONS

With regard to optional functions that will aggravate the cost of smart metering, the Board, in balancing the benefits and costs, should ensure that what the Board perceives as consumer benefits in fact is valued by consumers by way of consumer opinion surveys. Confirmation of consumer value of potential benefits of smart metering functions through consumer surveys will provide an indication of the expected take up of the functions (e.g. load control) and provide realistic input to any benefit/cost analysis

that the Board undertakes. Given that individual consumers likely place different values on smart metering functions depending on their ability to benefit from them, the Australian regulatory approach of mandating a minimum interval function and letting the additional features be market-based appears to be a reasonable approach.

5.1 Measurement

Consumers currently on the Hourly Ontario Energy Price (HOEP) are those that are sophisticated in their understanding of the IMO-administered market. Such detailed pricing would likely be too complex to interest most residential and small business consumers and could result in the loss of the desired pricing signal. In developing the RPP, the Board would be well advised to obtain input on consumer opinion through consumer surveys to identify the level of detail that would be most effective in delivering the pricing signal.

The Discussion Paper states that RPP may include peak and off-peak pricing. Considering the effort and cost that will be expended in installing smart metering there should be more certainty given to the need for the smart metering technology. This demonstrates the overarching concern raised at the start of this submission that speaks to the lack of synchronization of the timelines for the RPP development and the Directive implementation plan initiatives.

5.2 Reporting

5.2.1 To Billing Entity (Utility)

Once the requirements for smart metering have been identified and a time-differentiated RPP rate has been developed an evaluation of what adaptations need to, and can be made to pre-paid metering to accommodate smart metering requirements can be undertaken. The pre-paid metering option forwards energy conservation by raising consumers' awareness of their energy usage at any given time. Pre-paid metering therefore, can assist in achieving energy efficiency.

An understanding of the RPP pricing structure is required to determine whether time-of-use meters can meet smart metering requirements. What can be developed prior to such determinations is, as Board staff suggests, standardization that ensures system compatibility and considerations of economies of scale.

The reading method for smart metering, walk- or drive-by wireless or automatic reading, is similar to the options available for current meter reading. Unless there is need for utilities to have more frequent data available than it does now for billing purposes, the consideration of meter reading method should remain that of the utility. Presumably the utilities have reading methods in place that are most efficient and effective for their circumstances, or are transitioning to such methods.

5.2.2 To Consumer

The references provided in the Discussion Paper to the research conducted for EA Technology and the research of Ofgem's Smart Metering Working Group suggest that it is not necessary for the metering system to be capable of providing "no less than daily" customer feedback in order to induce reduced consumption. Assuming these findings hold true for Ontario, any benefits of providing all consumers with real-time display would not justify the costs. Perhaps real-time display therefore should be a consideration for a market-based feature that consumers can obtain at their option and at their cost.

5.3 To Customer Designate

Given that the Retail Settlement Code (RSC) does not direct distributors to provide real-time data if available and that it would be a service that the distributor is providing to the customer designate that requires the information for building management and load control, the distributor should be allowed to provide the data and charge the customer designate for the actual cost of the service or an average charge for the service.

5.4 Data Storage

Once again, the benefits of hourly interval meter data storage for all consumers may not justify the costs, in particular if the regulated price plan is not an hourly price. Individual consumers that are interested in hourly interval meter data for load control and energy audits would have the option, at their cost, of requesting hourly interval metering as they do currently.

5.5 Bi-directional communication

If the RPP does not require bi-directional communication then it is unlikely that the benefits of bi-directional communication will justify the costs for RPP consumers that are not on some special load control program. Bi-directional communication may therefore not be practical for all RPP consumers. If some consumers can benefit from bi-directional communication (e.g. through load control) it can be offered as an option to those consumers at a charge that covers the costs of providing the service.

6 OWNERSHIP

While meter contestability may be desirable for sophisticated large volume consumers, it would add complexity and confusion for small volume consumers such as residential and small commercial consumers. According to a study filed with the Public Utilities Board of Manitoba by Centra Gas Manitoba Inc.¹ only 59% of households registered with retailers were able to correctly report that their supplier was a company other than Manitoba Hydro. The remaining 41% of the households purchasing supply from retailers

¹ Manitoba Hydro Primary Gas Customer Study Research Results. Western Opinion Research. March 30, 2004 Report.

reported Manitoba Hydro as their supplier. If such consumer confusion is as rampant in Ontario as it is in Manitoba, the added contestability of metering that has a barrage of metering companies approaching consumers will likely exacerbate the confusion. In particular, introducing metering contestability at a time when smart metering is introduced to accommodate RPP would confuse the consumers as to the provider of RPP.

Therefore, metering contestability should be put on hold until consumer surveys indicate a reasonable majority of consumers understand the electricity retail market design.

7 OTHER CONSIDERATIONS

7.1 Measurement Canada Requirements

The relevant Measurement Canada time-of-use metering requirement policies identified in the first two bullets are likely technical requirements that would have been identified for smart metering through the current initiative. These policies are:

With regard to the use of a meter's interval or load profile metering functions in association with telemetering devices in electricity and gas measurement for the purpose of establishing a legal unit of measure outside of an approved meter, such functions must be processed and recorded in approved devices.

Considerations for interval data include that the combined energy and time stamp information must be retained in an approved meter until it has been downloaded and that the source meter must contain an interval storage register which records cumulative energy consumption.

The remaining policies identified in the third and fourth bullets provide the smart metering working group with flexibility in dealing with the relevant issues. These policies are:

Where telemetering devices are used to transmit electricity or gas measurement data from an approved meter, which incorporates a single energy register, and this information is used for the purpose of allocating a unit cost to a specific measured quantity, Measurement Canada proposes that this practice can be deemed to fall outside of the Agency's mandate.

Regarding the display of multi-rate measurement information for consumer use, the measurement of time alone would not be regulated by Measurement Canada as this is deemed to fall outside its mandate.

7.2 Production and Installation

Smart meter installation schedules can be established through the initiatives of an OEB Smart Meter Implementation Task Force (see section 3.4 Process Driver). All electricity distribution companies currently either have accredited metering shops, or have access to them, and should be able to provide first hand input to the Task Force. Once the smart meter technical and operating requirements have been identified, this Task Force

can put together a realistic Smart Meter Implementation Plan by obtaining input from all electricity distributors and meter suppliers. The Task Force would also be responsible for driving the process towards meeting the targets.