

**RP 2004 -0196**

**ONTARIO ENERGY BOARD**

**Smart Meter Initiative – Further Consultations**

**By**

**Wirebury Connections Inc.**

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After reviewing the submissions of some 93 respondents that were made in response to the Ontario Energy Board's (OEB, the Board) draft implementation plan for smart meters in Ontario, the Board determined that it would like some additional input on two-way communication systems for the transmission of data between customers and utilities. Wirebury Connections Inc. (Wirebury) is pleased to provide the following comments on this additional issue.

Wirebury owns and operates electricity distribution and metering systems within multi-unit buildings. As a standard it uses interval meters to measure the consumption at the suite level.

In its letter, dated December 21, 2004, requesting further information on two-way communication the Board did not identify the objective that two-way communication is expected to satisfy other than it would facilitate the sending of data between customers and the utilities. Since the initial smart meter draft report recommends the use of automatic meter reading, i.e. sending data from the meter to the utility, clearly the additional requirement the Board wishes to examine now is the ability for the utility to send data to the meter and customer. Wirebury sees a difference between the utility communicating with the meter and the utility communicating with the customer through the meter. Since the Board's letter describes communication between the utility and the customer Wirebury has assumed that the two-way communication contemplated by the Board goes beyond the meter.

Inherent in all interval meters is the ability to transmit interval data to the utility on a daily, weekly, or monthly basis. The primary function of any interval meter is accurate measurement of interval data usually in 15 or 30 minute intervals. The interval data is retrieved or sent by the meter through an internal device along a meter vendor preferred AMR system, i.e. phone line, power line carrier or RF network. AMR systems and two-way communication capability that are not part of the standard interval meter package are available as an option at additional cost. Therefore, it is important to understand the

perceived need to ensure that there is a reasonable benefit that accrues for incremental cost.

At section 5.4 of the Board's Draft Implementation Plan the Board indicated that "Bi-directional communication allows the distributor (or others with access to the system) to send messages to the meter in order to change the parameter of the meter (e.g. to change price for prepay systems), to signal the user (e.g. for critical peak pricing or for system emergency conditions), and ultimately for load control."

It seems to Wirebury that these all lead to one objective, to manage load. While the Board does indicate that "bi-directional communication is also a platform for other, non-distribution services: home alarm, home monitoring etc." these are secondary requirements and should not drive the requirement for bi-directional communication in the context of an electricity metering system.

Wirebury's response to this request for further information will therefore focus on two-way communication as a vehicle for load control.

It seems to Wirebury that the desire to control load has, at its root, at least one of three objectives; electricity conservation, commodity price control, and infrastructure management. These are all valid reasons for load control and are driven by current generation (pricing) constraints, transmission system constraints and distribution system constraints.

In making a determination of the mandated need for bi-directional communication with the meter (or any other load control device) the Board needs to assess the best way of facilitating the management of these constraints over the longer term.

Fundamental to this assessment is the need to address the following:

- Does the objective to control consumption necessitate a requirement to have direct control over a customer's use, i.e. the ability to control appliance or restrict consumption or is it simply a need to provide the customer with information?

- Who should control load? Should it be the customer, the LDC or Transmission Company in the case of direct customers, or a third party such as the ISO?
- Does the load control objective present different opportunities and risks in the different market segments?

The response to these questions should assist the Board in determining the preferred method of communication with the customer in order to achieve the load control objectives.

Wirebury believes that load control should always be in the hands of the customer. It expects that all classes of customer will be resistant to providing a third party the ability to control their use of electricity. Consequently, allowing third party control could jeopardize the government's smart meter plan by creating a public backlash as occurred during market opening in 2002.

In Wirebury's view load control will be best achieved and most accepted by the public by providing the information that customers need to make their own informed decisions. For the most part this means pricing information. Customers will respond to price that is provided to them on a timely basis. A timely basis means in sufficient time for the customer to respond to the price. Ideally this would be day ahead pricing, a concept that is currently being reviewed by the ISO. Since Wirebury believes that day ahead pricing is an optimum pricing mechanism it does not believe that sending pricing information through the meter is the most cost effective means of providing price information. With day ahead pricing it is as easy to post pricing on utility, IMO, or any other Web site, publish it in newspapers or on television "info channels" or on dial in recorded telephone messages. All of these are mediums that currently exist and could be activated with minimum cost. Wirebury also recognizes that customers should have access to their historical usage i.e., daily, weekly in order to assess the impact of day ahead pricing. Such data is most practically available to customers through web access.

The Board currently has drafted a proposal for a Regulated Price Plan (RPP) for residential smart meters that contemplates three daily pricing periods that are fixed

seasonally. True up to actual costs of electricity would occur periodically so that customers that participate in the RPP would pay for the actual costs of electricity on a class average basis. Wirebury recognizes that the concept of day ahead pricing is not applicable to the RPP although critical peak pricing would be if it is introduced by the Board. However, it views the RPP as an evolutionary pricing methodology so that any need to control load as a means of managing price under the RPP is a transitional requirement.

Mandating two-way meter communication suggests that every meter or load control device installed would have the capability of receiving data and sending this data to the customer. As noted above, the communication to the customer will come with additional cost. Even if third party load control were viable it is not applicable in many circumstances. Certainly, in the commercial and industrial sectors, any kind of load control which provides the utility the opportunity for shut down of processes or equipment will result in increased liability for the utility. While there certainly are opportunities for load control in these market sectors, such opportunities should be developed on a case by case basis, and be the subject of individual contractual relationships which recognize the value that the customer provides by allowing its use to be curtailed. This is most applicable in managing transmission and distribution constraints. Since the larger commercial and industrial customers are not expected to be participants in the RPP the commodity price signals should be sufficient to affect an appropriate response for managing generation constraints.

For residential customers there are limited opportunities for controlling load by curtailing customer use for specific appliances. Not all residential customers have the electrical appliances that are even amenable to delivering load control. The majority of residential customers use natural gas for water heating and many have air-conditioning which uses plug load which would be more amenable to a stand alone control device. Even if there were control opportunities in the residential sector the utility has the same opportunity for liability as in the commercial and industrial sectors if it exercises such control.

As referred to above, Wirebury distributes to and measures electricity usage for individual suites in the multi-residential sector. It believes that these multi-residential customers should be treated no differently than any other residential customer. However with centralized heating, cooling and water heating systems there are limited opportunities for load control at the suite level. Opportunities for control at the building level should be contracted for on a customer specific basis as recommended for any other commercial customer. Since most have energy management systems, communication with these systems directly would be more beneficial through existing phone lines as the communication device.

In conclusion Wirebury does not believe that two-way communication with the meter is necessary to achieve the Government's objective with respect to load management. Utilities should not be directly controlling customers' use of electricity. Rather communication with customers that provides the correct and timely pricing signals should enable customers to respond to the need to control electricity consumption. This communication need not come through the meter. There are a number of mediums currently available that are accessible by the utilities for communication purposes. These will be enable utilities to maintain their accountability as the primary data communication link to the customer.