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November 26, 2004

Mr. John Zych  
Secretary  
Ontario Energy Board  
P.O. Box 2319  
2300 Yonge Street, 26th Floor  
Toronto, Ontario  
M4P 1E4

**Re: Smart Meter Implementation Plan, File RP-2004-0196**

Dear Mr. Zych,

Thank you for the opportunity to comment on the Ontario Energy Board (OEB)'s Smart Meter Implementation Plan. Following are Measurement Canada's comments relative to any statutory prescriptions under the federal *Electricity and Gas Inspection Act (Act)* and *Electricity and Gas Inspection Regulations (Regulations)*, as applicable to the Smart Metering Implementation Plan.

**General - Use of Telemetry Devices (includes automatic meter reading (AMR) devices)**

Under the proposed smart metering recommendations, it is noted that telemetry devices are a key component of what is being considered as smart meter systems. At this time, under the federal legislation, telemetry devices must be approved, verified, and sealed as directed by Measurement Canada (MC) (note: for more information contact the local MC District offices or the Electricity Specialist in Ontario:

<http://strategis.ic.gc.ca/epic/internet/inmc-mc.nsf/en/lm01665e.html>). However, MC is proposing to introduce new changes relative to the regulation of telemetry devices, as follows:

1. Where telemetry devices are used to transmit electricity or gas measurement data from an approved meter which incorporates a single or multiple energy register(s), and this information is used for the purpose of allocating a unit cost to a specific measured quantity (i.e., time-of-use, real-time pricing rate application, etc.), MC proposes to consider that this practice can be deemed to fall outside of the Agency's mandate and, as such, will not be subject to metrological control.
2. For telemetry devices which are used by the contractor as a means to acquire and transmit measurement data that is already established by the source meter, MC will pursue an

exemption from the provisions of the Act, subject to the following minimum conditions:

- (a) the source meter must have an approved register which can be either:
  - an on-board mechanical display (note: the meter is permitted to also have ancillary display capability); or
  - a remote mechanical display, where the approved register is physically separated from the remote meter; or
  - an internal electronic register used in conjunction with some form of ancillary display which reads the approved meter's internal register.
- (b) in case of disagreement, the source meter would be deemed to be correct (as is the current practice with gasoline fuel dispensers).
3. The exemption from the provisions of the Act will not apply to telemetering devices which are also used as the fundamental means for establishing the time-related demand legal units of measure for the sale of electricity (i.e. pulse generators and recorders).
4. In principle, the meter readings provided by telemetering devices will be considered by MC as a sound representation of consumption for the purposes of billing. In the future, should there be evidence of problems arising directly from measurement readings obtained through the use of telemetering devices, MC will review its position and consider the establishment of new regulations to specifically address a meter's indications, the manner in which the meter readings wherefrom are obtained, or the manner in which the basis of a charge for electricity or gas is established from those readings.
5. The implementation of the exemption from the Act for telemetering devices will require the development of recommendations and supporting documents for the establishment and approval of an amendment to section 3 of the Regulations by the Governor-in-Council. The process time for the above work is approximately between one to two years.

**In the interim that the above proposed policy and regulatory changes are approved and promulgated, telemetering devices will continue to be subject to regulation (i.e., initial verification and reverification) in accordance with MC directives.**

## Ontario Smart Meter Implementation Plan

### Section 2.7 Key Success Factors

#### Ensure Timely Decision-making

It is suggested that a steering committee of stakeholders be assembled including MC representatives. MC would support this proposal in principle but would like to have the opportunity to review and discuss the terms of reference before making any decisions or commitments regarding participation.

### Section 3. Smart Meter Costs

#### 3.3 Stranded Costs

The Draft Report states that "*The Ontario meters are also equipped with a test dial, a*

*requirement unique to Canada that might make them less attractive to foreign jurisdictions.” We wish to advise that such a requirement is not specific to the Canadian marketplace and is currently recognized and prescribed in other international and national standards such as the *Organization Internationale de la Métrologie Légale* (OIML) and the *American National Standards Institute* (ANSI).*

#### Secton 4. Smart Meter System Minimum Requirements

##### 4.2 Meter Specifications

To further clarify the legislative requirements, MC approves meter functions to measure legal units of measure prescribed under section 3 of the Act for energy (i.e. kWh, kvarh, kVAh, and joule) and those legal units prescribed for time related demand in section 5 of the Regulations (i.e. W, VA, or var). Once a meter’s measurement function is approved, a notice of approval is published and posted on MC’s website and the meter can then be used in the Canadian market for the purpose of obtaining the basis of charge for electricity supplied by the distributor.

The Draft Report states that there may not be enough currently approved meters by MC to guarantee competitive bidding. MC advises that the OEB will need to determine if the meters currently approved by MC using telemetering technology meet the provinces prescribed smart meter system minimum requirements. It should be noted that MC does not specifically approve a meter as a “Smart Meter” per se as a number of the requirements for smart metering systems will be outside of MC’s responsibility for approval (eg., the mechanism used for switching registers in a multi-register meter).

##### 4.6.2 Access to Historical Data

The Draft Report has prescribed several periods for the retention of historical data. MC wishes to advise that under the Act, meter owners and contractors must retain meter billing data obtained during the entire life of the meter, and that this information must be kept in records for a period up to one year after the meter ceases to be used. MC plans to introduce important changes to record keeping requirements so that they will align with the requirements of other Federal agencies. These changes will require that the Regulations be amended. The process time for the above work is approximately one to two years.

#### Appendix B.7: Preliminary Analysis of Distributors Impacts Meter Shops-Business Process Impacts

With regard to sampling mentioned in the business process impacts on meter shops, MC advises that the Agency is presently changing the requirements for sampling of electricity meters for both acceptance and compliance sampling. Meter manufacturers, Canadian utilities, and service organizations that are accredited by MC to perform meter inspections may now apply to the Agency to perform acceptance sampling of electronic meters using the draft requirements that have been issued for consultation. Once the consultation is completed, the requirements will be finalized and issued (for more information on acceptance and compliance sampling requirements by MC, please contact the local MC District Office in Ontario: <http://strategis.ic.gc.ca/epic/internet/inmc-mc.nsf/en/lm01665e.html>.)

## Appendix C-2: Data Management

In terms of the cost estimates indicated in the table, MC advises that these should be further reviewed in light of the information provided in 4.6.2 above regarding the record keeping requirements of the Regulations.

### Appendix C-2: Smart Metering Costs

#### 5. Meter Regulation Costs -

##### item 2) Time stamping of demand in meter; and

MC advises that the Act currently does not recognize the establishment of time-related demand for electricity outside of an approved meter. MC will be establishing a workgroup to develop a recommendation for proposed amendments to the Regulations which could permit the establishment of time-related demand in this manner, subject to the following minimum conditions:

- the determination of energy consumption must be done in an approved meter;
- the time stamping of energy measurement data for the purpose of deriving demand units of measurement must be done in an approved device.

With regard to the use of a meter's interval or load profile metering functions in association with telemetering devices or smart metering systems in electricity measurement for the purpose of establishing a legal unit of measure outside and approved meter, such functions must be processed and recorded in approved devices. This may require that devices such as regional collectors (which work as intermediate devices between the meter and billing system), be approved by MC if they are used for establishment of demand legal units of measurement

#### 5. Meter Regulation Costs -

##### item 5 MC policy requires demand display

For meters which establish demand legal units of measurement, MC advises at this time that the demand measurement values must be recorded and stored in an approved meter's internal mechanical or electronic register (as required under current approval specifications). There is one exception to this policy with regards to meters which incorporate functions that time stamp energy for the purposes of demand measurement, or for devices which record energy pulses from a meter and time stamp this information for the purposes of demand measurement. Such devices have traditionally not been required to provide a display of the demand values which are generated from the time stamped energy. Although this policy currently remains in effect, the Agency will be proposing new type approval requirements with regards to meter displays which will permit meters to be designed without incorporating an on-board customer display under the following conditions:

- (a) (i) energy and demand measurement values established by an approved meter must be recorded and stored in a meter's internal mechanical or electronic register (this is a precept of current approval specifications); or
- (ii) where the source meter does not establish the LUM, energy and demand measurement values must be recorded in an approved external ancillary device capable of indicating, printing, or storing the energy consumption; and

(b) provisions must be made available to permit direct retrieval of measurement data at the location of the meter or approved external device.

In addition, in cases where a metering system incorporates a telemetering device, the proposed policies presented in the general section of this letter would also be applicable.

MC expects to issue the new draft type approval requirements for consultation in January 2005 with final implementation to occur in April 2005.

Appendix D-1: Exceptions to Customer Categories  
2.5 element meters

In consideration of the use of 2.5 element meters or 2 element meters with a delta connection at the test block, please refer to the following MC documents:

Bulletin E-24: *Policy on Approval and Use of 2½ Element Metering*:  
<http://strategis.ic.gc.ca/epic/internet/inmc-mc.nsf/en/lm02506e.html>

PS-E-08: *Provisional Specifications for the Installation and Use of 2-Element Electricity Meters*:  
<http://strategis.ic.gc.ca/epic/internet/inmc-mc.nsf/en/lm02514e.html>

Appendix D-2: Minimum Functionality Specification for Meters  
Security of Meter Data

At this time, access to meter firmware and metrological functions must be controlled under a hard seal, other non metrological functions of a meter can be re-programmed with or without passwords. MC is revising its sealing requirements with the establishment and authorization of event logger specifications. For more information please refer to the following MC document:  
<http://strategis.ic.gc.ca/epic/internet/inmc-mc.nsf/en/lm03106e.html>

Appendix D-7: Interval Consumption Meters and Hourly Profile Systems

Please refer to MC comments provided above for Appendix C-2: Smart Metering Costs, 5. Meter Regulation Costs - item 2) Time stamping of demand in meter.

In closing I wish to again thank you for the opportunity to provide comment on the Ontario Energy Board's metering initiative. If any further information is required regarding MC policies or requirements please contact the undersigned at 613-969-4092 or [flieler.dave@ic.gc.ca](mailto:flieler.dave@ic.gc.ca). Alternately more information on Measurement Canada programs may be obtained from the Agency's website at <http://mc.ic.gc.ca>

Sincerely,

David Flieler, Senior Program Officer  
Utility Metering Division