



August 12, 2004

Ontario Energy Board
2300 Yonge Street, 26th Floor
P.O. Box 2319
Toronto, ON
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Attention: Mr. Peter H. O'Dell, Acting Board Secretary

Dear Mr. O'Dell:

**RE: RP-2004-0196
Minister's Directive on Implementing Smart Electricity Meters in
Ontario
Comments on Staff Discussion Paper**

We have reviewed the Minister's Directive and the Ontario Energy Board Staff Discussion Paper (the 'Discussion Paper') on this subject and respectfully offer the following comments, observations and suggestions:

Telecommunications Experience is Relevant

When considering the wide-scale deployment of 'smart' meters that will make use of integrated circuit technology for measurement and bi-directional communications, it is essential that the experiences of deregulation in the telephone and telecommunications industry be considered. There is no debate that technological benefits have manifested themselves in terms of new features such as call forward, call waiting, last call recall and broadband capabilities on copper pair communication links to name but some. These have proven to be very beneficial to telecommunication subscribers

It cannot be stressed enough that these benefits came of competition, not joint or pooled purchasing by regulated entities.

Competition Enhances Technical Benefits

Rather than a pooled access to electronic communication switching devices to deploy base technology at lowest cost, the telecommunications industry, through competition found ways to exploit features of new technology that their manufacturer's had not envisioned. In doing so they created demand for continuing development of next-generation technologies. It is this innovation

born of competition that should be an essential component of any smart meter deployment. This will ensure an evolving technology that will bring new possibilities for smart meter capability.

A Third Party Competitive Process Facilitates Deployment

The simplest implementation of smart metering is through competitive third party provision. The distributor simply issues a Request for Proposals (RFP) for the ownership and operation of smart meter assets within its service area. The main elements of the RFP would be:

- Meter changes and verification
- Equipment warranty
- Meter file management
- Meter reading data gathering and storage
- Data ownership

We have evidence that there is at least one company that is prepared to respond to such an RFP and has the capability to fulfill the commitments it requires. This process addresses all of the essential elements of an implementation plan that the discussion paper identifies.

Competitive forces between RFP respondents will drive them to the most economic source of meters. They will naturally form a 'purchase pool' as they are awarded contracts from multiple distributors. The distributor, within their RFP could set terms for implementation priorities as well as a process for changes to them. This also relieves the distributor's need for significant capital expenditures and eliminates their rate base impacts.

The Private Sector Can Mitigate Stranding Risk

Of course, the issue of stranding of the existing meter assets remains – but this is the case regardless of any rapid deployment plan for smart meters. However, there is a case to be made that capital expenditures made by distributors are better made to improve the reliability and efficiency of distribution systems rather than on meter technology and deployment that will rapidly evolve and be continually under threat of stranding. Given there is a will to deploy smart meter technology in Ontario, we need to ensure it is given every opportunity to evolve and maximize the benefit to consumers. The thought of disposable cellular telephones was unheard of even three years ago, and today it is a reality that allows for rapid deployment of the latest in communication technology. Under distributor ownership, the stranding issue will invariably lead to reluctance to deploy new innovations in smart metering going forward.

Third party providers have access to national and international markets. Meter technology that is obsolete in Ontario may well be novel in another market. Thus, unlike regulated distribution companies, third party providers have avenues available to mitigate stranding risk.

Third Parties Can Be Competent and Efficient Meter Managers

An analysis of the current meter assets owned by Newmarket Hydro has been undertaken to determine the current costs of ownership, operation and maintenance in comparison to contracting for these services with a private sector business partner. The analysis is based on:

- the assets would be sold for their current net book value
- the service provider would be allowed to make the same return as the regulated LDC
- pricing schedules for monthly, time of use and interval meter reading data would be presented by the service provider
- the LDC would own all data from the meters

The intent of the analysis is threefold; to determine if there is an economic advantage to the LDC and its customers; to have available an incremental market price reflecting the difference in cost for different meter technologies and reading methods; and to determine if there is a willing service provider in the marketplace.

Preliminary results indicate lower or equal costs for the LDC, market pricing for all types of meters and readings, and a willing partner. Once these results are verified, we expect we will have no interest in continuing with meter ownership, and that our customers would agree.

Capital Better Spent on Distribution System Reliability and Efficiency

The dollars realized from the sale of the existing meters could be used for necessary infrastructure improvements. In particular, rebuilding of underground distribution that is at the end of its useful life. In this way, there is no impact on asset value and the reduced meter costs would result in an efficiency gain for the shareholder and customer.

Smart Metering Will Require Additional Retail Settlement System Architecture

1. Smart Meter Software

With bi-directional communications comes the need for software systems capable of this task. While it can be expected that meter manufacturers will have the software, platforms for operation will be necessary.

2. Meter Data Repository and Validation, Edit, Estimating (VEE) Processes

We anticipate that smart meters will be required to report interval data. In doing so, they will be compatible for all electricity pricing plans including critical period pricing. Data storage requirements will increase dramatically, and algorithms to validate and edit the reading data will need upgrading.

It would seem prudent to consider a data repository that will store all meter reading data, and serve it to VEE, billing, customer information, EBT and consumer reporting systems in the required formats. This will minimize modifications to all systems.

3. Interface to the Consumer

To enable consumer response to pricing signals, metered consumption will need to be available to the consumer on as close to a real-time basis as practical. It will also be essential that the data made available has been subject to the VEE process before presentment to the consumer to minimize billing disputes. This issue is no different from that of the gas pump register reading and the payment kiosk register or the bar code scan price and the marked price.

Also, presentment to the consumer may be problematic in many cases. There is internet presentment, but not all have computers or internet access.

Rapid Deployment Issues Must Be Considered

Deployment of smart meters between 2007 and 2010 means that LDCs will have to change 25% of their residential meter population annually. This will create workloads far in excess of the LDC's capabilities. Contracting will be an option, but here again, there may not be enough trained personnel to perform the work. Given the work is transitory (4 years), we expect most LDCs and many contractors will not want to invest in the people and training required.

Billing and CIS systems have not been adapted to the high volumes of meter changes they will have to manage during this rapid deployment. New methods of data input and change verification will need to be deployed and tested.

We Have Initiated a Third Party Smart Meter Pilot Program

Newmarket Hydro has entered into a Letter of Intent (LOI) with Olameter, a Canadian meter services company to install a pilot of 500 meters with smart capabilities. The LOI contemplates Olameter owning and maintaining the meters. The main thrust of the pilot is to develop the systems and software required to enable their 'smart' capabilities. As such, the smart capabilities will

not be available to the consumer. All of the necessary support infrastructure will be developed during the pilot, including:

- Bi-directional communication system with the meters
- Meter data repository
- VEE system and process
- Meter change-out automation systems
- Consumer data presentment systems; and
- Interfaces to Newmarket Hydro's existing billing, CIS and EBT systems

The pilot will also verify the analysis we are performing on our existing meter assets to determine the financial validity of third party ownership and operation of meter assets.

This pilot has been discussed with Board staff. It is intended to be a developmental and learning exercise and as such, Board staff will be provided with timely updates of the project status and developments.

Yours truly,

Original signed by

P.D. Ferguson, P.Eng.
President