



## **W.B.CROSS CO.**

Limited

Box 34, Nobleton, Ontario, L0G 1N0

Telephone (800) 765-EASY (3279)

(905) 939-9050

Fax (905) 939-9066

Email : [dcross @ wbcross.com](mailto:dcross@wbcross.com)

Web: [www.wbcross.com](http://www.wbcross.com)

January 7, 2005

Re: Board File # RP-2004-0196  
Smart Initiative-Further consultations

Mr. Peter O'Dell,  
Assistant Board Secretary  
Smart Meter Implementation Plan,  
2300 Yonge Street, 26<sup>th</sup> Floor,  
Toronto, Ontario,  
M4P 1E4

Dear Sir,

Answers to the questions asked by the Board will be addressed later in this letter however before doing so, we want to make some comments so we do not loose focus on our objective.

The primary purpose of "Smart Meters" is to encourage the homeowner to either reduce energy usage during peak demand times or shift energy usage from peak demand times to low demand times. Next day information does not allow the homeowner to be proactive. In order for the homeowner to be proactive they need to:

1. Be able to read the meter in real time
2. Be able to know the current hydro rate in real time
3. Peak demand usually occurs during the middle of the day to late afternoon when the homeowner is at work. **TO BE MOST EFFECTIVE** the homeowner needs to have this happen automatically by having a home automation system or a smart thermostat or some other device read the meter and obtain the current hydro rate. When the rate climbs to a high level according to the home owner's wishes the system turns off the air conditioning or turns the set point higher, turns off the pool pump and pool heater and shifts the clothes dryer and dishwasher to operate at a time (during the night) when the rate is low.

Only when the homeowner has the proper information and has the ability to do something with it will they reduce their hydro usage or shift it to off peak time periods. In order for the homeowner to have the right information they need two-way communication. It should not be an option as it is absolutely essential for the system to work. Any issues with two-way communication need to be resolved at this stage. One-way communication is not an option as the objective of having the homeowner reduce or shift energy usage during peak demand times will not be accomplished with one-way communication.

As part of the two-way communication discussion, we see three “ issues “ that the Board needs to address.

1. Permission for the homeowner or 3<sup>rd</sup> party products to read the meter in real time.
2. A method for 3<sup>rd</sup> party products to read the meter either using low voltage wiring or by radio frequency.
3. An easy method for 3<sup>rd</sup> party products to obtain in real times the current hydro rate.

### **Questions And Response**

1. What are the benefits and drawbacks of mandating a two-way communication network?

Benefits:

As discussed above, two-way communication is absolutely essential for the primary objectives of the Smart Meter program to be obtained. It is neither an option nor luxury.

Drawbacks:

1. Security of information: which can be resolved with the implementation of encryption devices. The homeowner and the utility want only authorized people or devices to have access to the hydro meter information.
2. Cost: Two- way communication is more expensive than one way however if you are going ahead with the program it needs to be two-way.

2. In the event of Province-wide two-way communication, should electricity distributors be responsible for operating the communication network?

Benefits:

There would be a Province-wide single standard.

Drawbacks:

1. A single province wide single standard will not work. Each utility has different requirements. Each utility has different options for implementing two-way communication. What works for a large city utility would not necessarily be appropriate for a rural utility.
2. The cost and the time it would take to implement a province wide standard would delay implementation of the program and significantly increase the cost.

3. If not, how should a communication operator be selected?

The primary objective in implementing a two-way communication network is to set up a system that

1. Works
2. Is cost effective

Therefore

1. Each utility should be allowed to choose the method of communication that is appropriate for them.
  - i. Existing networks should be used (i.e. Telephone, cable, Radio or cellular) in order to save the cost of implementing a new network.

Using existing networks would also decrease the implementation time.

ii. Cost savings may be obtained if utilities decide to work together.

4. How would rates for the communication operators be set and/ or collected

Each utility should negotiate the best price for the best option that works for them. The cost of the two-way communication should be included in the hydro rate probably as a separate line item on the hydro bill.

5. If there is a two-way communication network, would an open data protocol aid the development and availability of end-devices and services

The primary purpose of “Smart Meters” is to encourage the homeowner to either reduce energy usage during peak demand times or shift energy usage from peak demand times to low demand times. Most homeowners will probably use some sort of automated device to do this. (Smart communicating thermostat, home automation system load control for hot water heater etc.) An open data protocol makes the most sense:

1. Third party companies are encouraged to develop such devices (Meter Reader, Smart Dishwasher, Washer, Dryer, Thermostat, Water Heater Relay)
2. It makes it much easier to develop devices that can communicate with each other.
3. It makes it much easier to install the devices so they work.

An open protocol incorporates a standard which is available to everyone. It allows companies to develop products and get them to market quickly.

**The Ontario Energy Board should decide on a standard protocol for Ontario.**

If I can be of any assistance, I would be happy to volunteer my time to help with the process so that we can design a system that will make Ontario a leader in energy conservation and energy management.

Thank you for the opportunity to provide some feed back.



W.T.David Cross  
President