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BY EMAIL and RESS

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Our File No. 20110123

Ontario Energy Board
2300 Yonge Street
27th Floor
Toronto, Ontario
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Attn: Kirsten Walli, Board Secretary

Dear Ms. Walli:

Re: EB-2011-0123 – Guelph Hydro 2012 Rates

We are counsel for the School Energy Coalition. Pursuant to Procedural Order #2, these are SEC's submissions with respect to the remaining unsettled issues.

Issues 6.1 and 6.2 – Smart Meter Costs

The main issue with respect to smart meters lies in the fact that the Applicant spent \$12.25 per meter [AIC, p. 6] extra to include in those meters functionality in excess of minimum functionality, i.e. the Zigbee chip.

The Board's policy on recovery of the cost of technical capabilities in excess of minimum functionality has recently been restated on December 15, 2011 in the G-2011-0001 document "Smart Meter Funding and Cost Recovery – Final Disposition", where the Board says [p. 15]:

"A. Costs for technical capabilities in the smart meters or related communications infrastructure that exceed those specified in O.Reg. 425/06

O.Reg 425/06 specifies that costs that exceed minimum functionality may be approved by the Board for recovery. In deciding whether technical capabilities of installed smart meters or associated communications or other infrastructure that exceed minimum functionality are recoverable, the Board will consider the benefits of the added technical features and the prudence of those costs. Any distributor



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seeking recovery for these additional capabilities should provide documentation of the additional technical capabilities, the reasons for them and a detailed cost/benefit analysis."

On the first two points, the Applicant has provided ample information on the additional capabilities of the Zigbee chip, and the reasons those capabilities were worth including in the initial smart meter installations. In effect, for a 6.4% increase in cost, the Applicant was able to get, not smart meters, but "smarter" meters, able to for example communicate in a range of ways that normal smart meters cannot.

However, on the third requirement, the "detailed cost/benefit analysis", the Applicant does not fare so well. In response to questions from SEC, the Applicant's Director of Metering and Conservation, Mr. Weninger, described the decision process as follows [Tr. 1:73]:

"We, as well as a number of other LDCs, recognized the disconnect between the smart meter rollout and the last piece of the connection to the customer inside the home, and we had our own internal debates trying to win over the folks that needed to justify the expenditure internally. And it wasn't straightforward, because the chip on its own does not have a business case. It is all the other stuff." [emphasis added]

Thus, not only did they not file a business case, but they admit that, in the "cost/benefit" sense, there wasn't one.

There is a cynical view of engineers that, if you give them a chance, they will always prefer to have all of the "latest new toys". Most engineers would agree that this is a normal (and often useful) engineering inclination, given the reasons people become engineers in the first place.

The "new toys" paradigm is a good reason for the Board to be careful in considering the appropriateness of spending by utilities on new technologies and new "gadgets". The Board should not put itself in the position of authorizing spending on new technologies simply because utility managers think they are interesting.

The problem with resistance to "new toys" spending is that, in some cases, it can have the effect of stifling creativity and innovation, effectively disincenting utilities that are willing to take a leadership role. While it is a fine line, of course, in our submission where utility management has clearly sought to be innovative, and that leadership can benefit their ratepayers (not to mention the ratepayers of other LDCs), the Board should respond favourably.

Such is the case here, in our view.

In our submission, the evidence in this proceeding shows:

1. The cost of the Zigbee chips is small relative to the overall smart meter program (6.4%), and relative to the overall customer bill (\$1.90 per year per customer).



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2. The cost of adding similar functionality later would be significantly higher, perhaps as much as twenty times or more the cost of building it in at the outset, as the Applicant has done.
3. At the time the original decision was made, the Applicant had a general idea of the types of programs that would benefit from this additional technical capability [Tr.1:73-4], but did not have specific programs in mind. In part, this was because the lead on CDM, where most of the benefit would arise, was and still is in the hands of the OPA, and the OPA programs were not yet known at that time. The Applicant's general view included an understanding that the benefits to ratepayers could be many times the cost, but did not and could not include a formal cost/benefit analysis.
4. Now that the technology is in the field, the Applicant is moving rapidly, on a number of fronts, to explore the ways in which it can be used to benefit ratepayers. In fact, they appear to be under scrutiny by their own board of directors and management to do just that [Tr. 1:72].
5. The Applicant has made an unequivocal commitment to share what they learn using this chip with other LDCs, so that the benefits are available to ratepayers throughout the province [Tr.1:79].

The electricity distribution industry is in a state of change, in which new ways of thinking and innovative approaches are of critical importance. The Board cannot, of course, allow utilities to treat that as a licence to be less careful or less prudent in making spending decisions, but in our view it can and should recognize and promote reasonable utility decisions that seek to benefit the ratepayers in innovative ways.

In this case, the Applicant has expended a relatively small amount of incremental capital for a potentially very large benefit to ratepayers. The fact that they were sufficiently ahead of the curve that they were not able to do a formal business case at the time should not, in our view, prevent them from recovering the small incremental cost from ratepayers.

Issue 12.1 – Green Energy Plan

Of the five projects in the Basic GEA Plan, three are based in whole or in part on the additional technical capabilities of the Zigbee chip: In-Home Messaging, Electric Vehicle Pilot, and Smart Grid-Smart Home. The remaining two are the connection of renewable generation, and the high school education project.

We note that the GEA Plan budget also includes \$696,000 of OM&A under the heading "Additional Technical Staffing Resources", which in response to SEC questions was described as being essentially the incremental personnel costs for the other five projects [Tr.1:76]. Thus it is not a separate project, but a disaggregated part of the cost of the other five projects.

It is submitted that the Basic GEA Plan should be approved as filed.

We have the following specific comments on the five projects:



1. **Renewable Generator Connection Upgrades.** No submissions.
2. **In-Home Display Messaging Project.** This is the logical next step after the installation of the Zigbee chip. In our submission, the benefits will clearly outweigh the costs. We agree with Board Staff that a key question is the extent to which this evolves into an OPA-funded CDM program. We comment on that in the next section.

We do also note Staff's concern [Staff Submissions, p. 18-9] that the Board's policy on behind-the-meter services, and the extent to which they are competitive, is still being formulated. Staff's proposed solution is to delay the in-home display project.

We agree with Staff that approval of this project should not amount to implicit approval for the Applicant to enter the behind-the-meter services business as a regulated activity. We disagree with Staff, however, on the solution. In our submission, it is important that LDCs start – as soon as possible - to promote the capabilities that come with greater information on energy use. To allow the Applicant to do so, we propose that the Board a) set a limit of 5% of residential customers that can have utility-supplied in-home displays under this project, and b) require the Applicant to actively engage the private sector as partners in the delivery of services under the project.

3. **Electric Vehicle Pilot.** A number of LDCs are looking at this issue right now, and the Board has had to consider proposals from some already. For example, in the Toronto 2011 case (EB-2010-0142), the Board declined to approve most of the proposed spending on a pilot directed at understanding charging infrastructure [Partial Decision with Reasons, July 7, 2011, p. 13-15]. The part that was approved was research into the impact of electric vehicle charging on the distribution system.

In the case of Guelph Hydro, by contrast, the pilot is outward-focused, and has at least two components of particular value. First, the addition of a cube van, so that fleet owners can assess the value of switching to electric vehicles, should provide useful information both to the utility and to those customers. Second, to our knowledge no-one else is looking at "smart recharging", where vehicle owners can program charging parameters into their system so that it can be done more efficiently. As the programmable thermostat did for heating and cooling, so this pilot explores whether the same efficiency gains can be achieved in electric vehicle fueling. The Applicant is in a position to do this, when other LDCs are not, because it has already installed Zigbee chips.

Therefore, in our submission the Applicant has shown both uniqueness and value, and the proposed spending on this program should be approved.

4. **Smart Grid High School Education Program.** Progressive gas and electric utilities have been partnering with local school boards for decades to raise awareness on conservation, safety, and other issues. For the same reasons that the Board has consistently supported those programs in the past, it should do so for this smart grid education program.



We note Staff's argument that the Distribution System Plan Filing Requirements limit education and training to activities that improve the distributor's knowledge, rather than education of those outside of the distributor. As a result, Staff take the position that this program is ineligible [Staff Submissions, p. 24].

Under the strict wording of the Filing Requirements, the engagement of high school students in smart grid activities and learning probably does comply anyway, in the sense that a) helping the distributor understand consumer response to the new technology, and b) creating a potentially knowledgeable and motivated pool of workers, are exactly the sort of education and training that is worthwhile and anticipated by the Filing Requirements.

However, the main reason for proceeding with programs such as this is outreach and consumer education. We note that the DSP Filing Requirements were released March, 2010, at a time when no-one had really pursued the potential for the smart grid yet. The Applicant is now much further advanced along the smart grid path, and has shown itself to be ready to engage its community. The fact that the Filing Requirements, almost two years old, do not specify community education projects of this type should not be a barrier to approval of this small budget.

Indeed, we note that the Filing Requirements contemplate that individual Board panels will exercise their discretion to consider plans that go beyond the minimum, saying [at p. 1]:

"The Filing Requirements set out the minimum requirements for distribution system plans, and do not pre-empt the Board's discretion to make any order or give any direction as it considers necessary concerning any matters raised in relation to those plans."

Our understanding of Staff's position is that they don't question whether the education project is a good idea. They only question whether it is eligible under the Board's policy. In our submission, the Board should approve it because in substance it is a good project.

5. **Demonstration "Smart Grid-Smart Home".** The Applicant, located as it is in the centre of an area of very rapid growth, is well situated to set up a demonstration home that showcases emerging changes in how Ontarians control and manage their energy use. Partnership with a local builder means there are zero capital costs, and the OM&A budget is fairly modest. The ability to try out various uses of the Zigbee chip is an added benefit.

For these reasons, it is submitted that this Basic GEA Plan should be approved.

Future Interaction with CDM Programs

Our one concern with respect to both the GEA spending, and the costs associated with the Zigbee chip, is that there is a likelihood that some of those costs will ultimately feed CDM programs offered by the OPA. Much of the benefit of the Zigbee chip is likely to come from those programs, and the In-Home Messaging and Smart Grid-Smart Home projects, at least, appear to be early steps in what would normally be considered CDM activities.



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The issue therefore arises whether it is appropriate for those costs to be funded through rates, rather than by the OPA and thus through the global adjustment. This is particularly important since OPA programs generally have a predetermined cost reimbursement component. If the Applicant participates in such programs, but has already been allowed recovery for some of the program costs through rates, the potential arises that those costs would be recovered twice.

A specific instance may be the use of the communicating chip. If other LDCs have to add that capability to participate in certain OPA programs, the OPA funding for those programs may be structured to compensate those LDCs for that incremental cost.

In our view it is premature for the Board to reach any conclusions as to whether over-recovery is likely, and if so the implications of that over-recovery. The OPA programs that would use this functionality, or build on the Guelph GEA Plan programs, have not yet been developed.

On the other hand, we do not agree with Staff's proposed solution, i.e. that these projects themselves be treated as premature. It appears to be common ground that these activities are a good idea, and should be pursued. They should not be delayed because we don't have the categories clearly defined as yet. Categorization can be done later. The activities need to be started now.

To balance the need to proceed with the concerns expressed by Staff, SEC submits that the Board, while approving the recovery of this spending from ratepayers, should require the Applicant to report to the Board on the use of the Zigbee chip, or the use of the work on the proposed Smart Grid programs, in any future OPA CDM programs. That report should include the cost and recovery implications, if any.

Conclusion and Costs

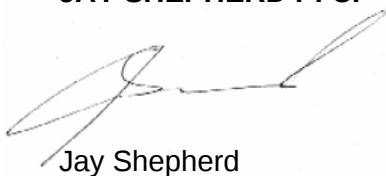
It is therefore submitted that the smart meter spending, and the spending on the Basic GEA Plan, should be approved as filed.

SEC submits that it has participated in this proceeding in a responsible manner with a view to maximizing its assistance to the Board. It therefore requests that the Board order payment of its reasonably incurred costs of participation.

All of which is respectfully submitted.

Yours very truly,

JAY SHEPHERD P. C.



Jay Shepherd

cc: Wayne McNally, SEC (email)
Interested Parties