

January 19, 2012
Sent by courier, email, and RESS

Kirsten Walli
Board Secretary
Ontario Energy Board,
2300 Yonge St.
Suite 2700, P.O. Box 2319
Toronto, Ontario
M4P 1E4
Canada

Dear Ms. Walli:

**Re: OEB File No. EB-2011-0123
Guelph Hydro Electric Systems Inc. (Guelph Hydro)
2012 Electricity Distribution Rate Application**

Pursuant to direction provided by the Board's Procedural Order No. 2, please find attached the Reply Submission of Guelph Hydro in respect of the EB-2011-0123 proceeding for consideration by the Board.

Guelph Hydro has prepared its reply submission as an aggregate response to all Parties (i.e. Board Staff, SEC, Energy Probe, and VECC), grouping the comments per issue. Guelph Hydro has attempted to ensure no overlaps took place in its responses to the Parties, and it has not commented on the issues Parties have agreed with Guelph Hydro's application and evidence.

Should you require additional information in this regard, please do not hesitate to contact me.

Respectfully Submitted,



Cristina Birceanu

Manager of Regulatory Affairs
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EB-2011-0123

IN THE MATTER OF the *Ontario Energy Board Act*, 1998,
being Schedule B to the *Energy Competition Act*, 1998, S.O. 1998,
c.15;

AND IN THE MATTER OF an Application by Guelph Hydro
Electric Systems Inc. to the Ontario Energy Board for an Order or
Orders approving or fixing just and reasonable rates and other
service charges for the distribution of electricity as of January 1,
2012.

**GUELPH HYDRO ELECTRIC SYSTEMS INC. REPLAY SUBMISSION
TO BOARD STAFF, SEC, VECC, AND ENERGY PROBE SUBMISSIONS
DELIVERED JANUARY 19, 2012**

A. INTRODUCTION

1. In accordance with the Ontario Energy Board (the “Board”) Procedural Order No. 2 issued on October 12, 2011, Guelph Hydro delivered its Argument-in-Chief in this proceeding on December 14, 2011. This document summarized Guelph Hydro Electric Systems Inc.’s application as of that date and highlighted the revisions to the application that have occurred as a result of the interrogatory processes, and addressed the issues ineligible for settlement:

- Issue 12.1 relating to Guelph Hydro’s Green Energy Act Plan, including the Smart Grid component of the plan, as contained in the Final Issues List,

- Issues 6.1 and 6.2, as the issue of the smart meter deployment beyond minimum functionality relates to Smart Grid development.
2. The Parties reached a complete settlement on the issues in the proceeding that are eligible for settlement, and the Board approved the Settlement Proposal at the commencement of the December 5, 2011 oral hearing on the issues ineligible for settlement.
 3. Following Guelph Hydro's Argument-in-Chief, and in accordance with the Board's Procedural Order No. 2, Board staff provided its written submission on January 4, 2012 and the following parties have also delivered submissions:
 - (1) School Energy Coalition (SEC);
 - (2) Energy Probe Research Foundation (Energy Probe); and
 - (3) Vulnerable Energy Consumers Coalition (VECC)
 4. The Board Staff, SEC, Energy Probe, and VECC (the "Parties") submissions address the following issues:

6. Smart Meters

6.1 Is the proposed inclusion of the smart meter costs in the 2012 revenue requirement appropriate?

6.2 Is the proposed disposition of the balances in variance accounts 1555 and 1556 appropriate?

12. Green Energy Act Plan

12.1 Is Guelph Hydro's Green Energy Act Plan, including the Smart Grid component of the plan appropriate?

5. Guelph Hydro has prepared its submission as an aggregate response to all Parties, grouping the comments per issue. Guelph Hydro has attempted to ensure no overlaps took place in its responses to the Parties, and it has not commented on the issues Parties have agreed with Guelph Hydro's application and evidence.

THE SUBMISSION

Issue 6 - Smart Meters:

1. Smart Meter Cost Recovery

a. Revenue Requirement and Smart Meter Disposition Rider

Board staff invited Guelph Hydro to comment on any impediment to implementing the methodology approved by the Board in the EB-2011-0128 proceeding and to provide the results using this approach.

Guelph Hydro submits that it does not have the details related to the allocation of the smart meter costs per customer classes (i.e. Residential and GS<50 kW), and that applying the cost allocation methodology proposed by VECC in the EB-2011-0128 is not feasible. To accurately complete separate smart meter revenue requirement models for Residential and GS<50 kW customer classes implies to breakdown the historical smart meter capital and OM&A costs. The distributors were not required to keep track of these costs at such level of detail; therefore Guelph Hydro has applied the cost allocation methodology approved by the Board in the EB-2010-0209 (PowerStream), and more recently, in the EB-2011-0073 (Oshawa PUC Networks) proceedings.

The results of using this approach follows:

GUELPH HYDRO - 2012 COS - EB-2011-0123

	2009	2010	2011		Total 2009 to 2011	Explanation Allocator	ID and Factors	Total	Residential	General Service Less than 50 kW
Revenue Requirement for the Historical Years	\$43,005.83	\$577,486.16	\$1,715,457.76		\$2,335,949.75					
Total Return on Capital	\$45,636.20	\$295,708.60	\$490,188.58		\$831,533.38	Weighted Meter - Capital	CWMC	100.00%	74.03%	25.97%
						Allocated per Class		\$831,533.38	\$615,571.14	\$215,962.24
Amortization and interest Expense	\$70,716.06	\$374,965.55	\$682,521.03		\$1,128,202.64	Weighted Meter - Capital	CWMC	100.00%	74.03%	25.97%
						Allocated per Class		\$1,128,202.64	\$835,190.75	\$293,011.89
Operating Expenses (Note 1)	\$0.00	\$84,834.00	\$527,410.00		\$612,244.00	Number of Smart Meters Installed for each Class		49,033	46,027	3,006
						Allocated per Class		\$612,244.00	\$574,709.98	\$37,534.02
Grossed-up Taxes/PILs	-\$73,346.43	-\$178,021.98	\$15,338.15		-\$236,030.27	Revenue Requirement allocated to each Class before PILs		\$2,571,980.01	\$2,025,471.87	\$546,508.15
						Allocated per Class		-\$236,030.27	-\$185,877.29	-\$50,152.98
								Total	Residential	General Service Less than 50 kW
TOTAL REVENUE REQUIREMENT					\$2,335,949.75			\$2,335,949.75	\$1,839,594.58	\$496,355.17
					Percentage of costs allocated to customer classes			100.00%	78.75%	21.25%
Revenue Generated from Smart Meter Funding Adder					\$2,420,885.78					
Net Deferred Revenue Requirement					-\$84,936.03					
					Allocated per Class				-\$66,888.37	-\$18,047.67
					Number of Metered Customers				47,848	3,788
					Smart Meter Disposition Rate Rider				-\$0.12	-\$0.40

Guelph Hydro has used the following methodology to allocate the costs to customer classes:

1. The Weighted Meter Capital (CWMC) allocator/percentage for Residential class was calculated as the total residential meter capital expenses divided by the total meter capital expenses (please see the Cost Allocation Model – tab E2-Allocators, updated on September 30, 2011)
2. The CWMC for GS< 50 kW is the difference between the 100% and the Residential CWMC of 74.03%
3. The Total Return on Capital, Amortization and Interest Expenses were allocated to the customer class using the CWMC allocator
4. The Operating Expenses were allocated based on the number of Smart Meters installed for each class
5. The Gross –up Taxes and PILs were allocated based on the revenue requirement allocated to each class before PILs
6. The revenue generated from Smart meter Funding Adder was allocated to the customer class based on the percentage of costs allocated to customer classes

b. Zigbee Chip - Functionality beyond minimum functionality as per O.Reg. 425/06

Board staff commented that the issue is whether the Zigbee chip costs should be recoverable from ratepayers and if so, whether they should be part of smart meters, or re-categorized as part of smart grid costs.

All parties, including Board staff, are not opposing the recovery of the costs for the Zigbee chips as part of smart meter costs in Guelph Hydro's application.

With respect to the issue of whether the Zigbee chip cost should be classified as smart meter or smart grid related, Board Staff is of the view that Zigbee chip should be considered part of the smart grid cost.

Guelph Hydro believes that the Zigbee chip should be classified as smart meter related as the concept of “smart grid” as embodied in the Green Energy and Economy Act did not exist at the time when the decision was made to include the chip in the smart meters purchased, and was purchased as a chip fully embedded within the meter at the time of meter procurement. Rather, it was felt that the chip added functionality to the meter to enable additional features and potential future services at a reasonable cost, and should be included as a smart meter related expense.

Issue 12 - Green Energy Plan

a. GEA funding adders

Board Staff, SEC, and Energy Probe agrees with Guelph Hydro’s methodology used to calculated the funding GEA rate adders.

In VECC’s view the preferred approach for GEA Plan cost recovery would be a rate rider. VECC also contemplates the use of a variance account to ensure that any over collection of funds vis-à-vis the proposed budget is returned to ratepayers. In VECC’s opinion, the utility should not be able to seek relief for any overspending.

In Guelph Hydro’s view, the appropriate methodology to fund GEA Plan forecasted costs depends upon the Board’s decision on the prudence of Guelph Hydro’s GEA Plan costs.

According to the Filling Requirements (EB-2009-0397), “*a rate rider is a tool to allow recovery of expenditures that have been examined as part of an application, found to be prudent, and approved for recovery by the Board.*”

In contrast, the costs collected through a funding adder are not subjected to a prudence review before the adder is approved. The costs will be subject to a prudence review in the first cost of service application following the implementation of the adder. The Board will require the distributor to refund to ratepayers costs already collected through the adder, but found to be imprudent.”

In addition, the Board's Guidelines (G-2009-0087): Deemed Conditions of Licence: Distribution System Planning, Section III. Funding Adder for Renewable Generation Connection and Smart Grid Development Expenditures, states:

"Distributors who anticipate substantial expenses related to the qualifying renewable connection or smart grid development investments and activities described in section II.A above may apply for a "Renewable Connection/Smart Grid Funding Adder". The Renewable Connection/Smart Grid Funding Adder is a tool to provide advance funding for these qualifying investments and activities and thus also to mitigate the anticipated rate impact of the associated costs.

A distributor that applies for a Renewable Connection/Smart Grid Funding Adder will be expected to support that application with a plan that provides detail regarding the nature of the project(s) or activity(ies) for which funding is sought. While this need not necessarily be a formal 5-year plan that satisfies the requirements set out in section IV below, the plan supporting the application must clearly identify and describe the project(s) and activity(ies) that underlie the request for funding. An application for a Funding Adder should also include the rationale for the dollar amount of the Funding Adder requested and the basis for calculating the Funding Adder. Where applicable, the application should separate any planned expenditures for "renewable enabling improvements" from those for smart grid development."

Guelph Hydro has presented all the above requirements in its evidence during this proceeding. It is our view that, if the Board approved Guelph Hydro's GEA Plan, providing advance funding via a funding adder is appropriate.

In its submission, Board Staff agrees with Guelph Hydro's approach to fund its GEA Plan, including 2012 costs, through a funding adder mechanism. Board Staff submits that a determination on a final approval of the GEA plan is premature.

In Guelph Hydro's view, there are two distinct matters here: one is the GEA plan approval, and the other is the prudence review. In this proceeding, Guelph Hydro is seeking its GEA plan approval (which implies a funding adder approval), and it expects a prudence review at the time of the next cost of service application; any differences between the collected revenues via funding adders and the actual GEA plan costs will be disposed to or recovered from customers based on the Board's decision.

b. Eligibility and quanta of GEA Plan expenditures for approval and recovery:

i. Enabling Renewable Embedded Generation Connection

The Parties have agreed with Guelph Hydro's forecasted capital and OM&A expenses related to enabling renewable embedded generation connections.

Board Staff, Energy Probe and VECC have submitted that the total cost for technical resource No. 1 should be disallowed.

In the GEA Plan submission Guelph Hydro has identified a requirement for technical staffing resources in the form of "Smart Grid Technician #1" and "Smart Grid Technician #2" to support the undertaking of the projects and activities identified in the plan. While both resources were intended to provide project support across the various proposed projects, Smart Grid Technician #1 was intended to primarily support the implementation of the proposed Smart Grid projects for In-Home Messaging, Electric Vehicle Pilot, Smart Grid Education and Demonstration SmartGrid Home, and Smart Grid Technician #2 was intended to primarily support the needs of Renewable Generator Connection Requests.

Guelph Hydro agrees that the need for technical resources to undertake the proposed projects is somewhat contingent on which projects are approved to proceed as a result of this plan review. Guelph Hydro also notes that in its submission and subsequent

interrogatory responses that the In-Home Messaging project submission was designed around the assumption that the In-Home Displays would be funded through an OPA CDM program, and not directly as part of the GEA Plan, and as a result, the cost of the displays was not included as part of the GEA Plan project. Some of the final submissions (SEC, VECC and Energy Probe) propose that the utility supplies in-home displays under the project to a maximum of 5% of residential and/or small commercial customers. Guelph Hydro supports this maximum threshold, as Guelph Hydro believes that this number of end devices is adequate to test the technology and related support infrastructure to prove the technology is viable, as a first step under the project. Utility supplied in-home displays would be the preferred approach to this project, as it is expected that subsequent study results would be more representative of average electricity consumers as the customers participating in the project would not only be those that have participated in an OPA CDM program. Customers participating in this project without the CDM program participation requirement would represent a better cross-section of the LDC's customer base.

ii. In-Home Display Messaging Project

In its submission, Board staff has several issues with respect to the IHD messaging project. Guelph Hydro has summarized and responded to the following:

1. Question of a distributor's role in behind-the-meter services, and whether behind-the-meter services should fall within the regulated monopoly rate base or should be a competitive activity;
2. The project is premature; Guelph Hydro could consider re-submitting this or similar project after further smart grid guidance has been issued by the Board; such a proposal should be accompanied by a full business case
3. There is no clear demarcation point between CDM and Smart Grid programs\

4. Third party messaging services - no third party should have access to the messaging service without a user fee

1. Guelph Hydro would like to clarify that this proposed project is intended to test the technology and related support infrastructure required to support in-home messaging, and confirm that it can support the downstream in-home applications. The proposed project is also intended to determine the viability and consumer interest in the display of real time energy consumption metrics, informational / messaging content, as well as the potential for automated load management services. Guelph Hydro, as a distributor, does not see a role in providing behind the meter services unless there is a direct tie in to its core services of electricity distribution and conservation and demand management. Examples of Guelph Hydro's in-home display services may include:
 - Real time and historic electricity consumption metrics
 - "Bill to date" information
 - Messaging to the home such as conservation tips and suggestions
 - Support for C&DM programs such as the OPA *peaksaver*TM program

Guelph Hydro notes that additional services such as smart appliance management may be enabled by the consumer directly using the in home display and their own Zigbee equipped appliances.

Guelph Hydro's interest in this project at this time is limited to proving that the underlying smart meter infrastructure needed to support this initiative is capable of doing so, understanding how effective the in-home displays are to provide enhanced customer service (communication of billing and consumption information) and as a tool for the customer to help manage and/or reduce their energy costs.

2. Guelph Hydro believes that the next logical step is to undertake the project in a staged approach, as previously discussed, in order to prove the underlying technology and determine consumer interest in the display of real time energy consumption metrics, informational / messaging content, as well as the potential for automated load management services. The exploration and determination of what viable business models may exist for both distributors and other third parties for more advanced “behind the meter services” would be determined after the project is completed. Guelph Hydro is prepared to widely share the results of the project with the Board, distributors, and other interested parties as a key input to future decision making with respect to the regulation of smart grid applications and services.
3. Guelph Hydro agrees that, with respect to in-home displays, there is no clear demarcation between CDM and Smart Grid initiatives. The nature of the technology supports both, and in the opinion of many, Smart Meters and their related support technology is deemed as a “Smart Grid” initiative for those entities that are currently looking at engaging in smart grid projects. In Ontario we note that the earlier mandatory implementation of smart meters has removed the debate around whether smart meters are a smart grid activity, and has well positioned Ontario for future smart grid activities.
4. For the purposes of the in-home display messaging project, Guelph Hydro will control all messaging and not allow any third party access. Guelph Hydro submits that the issue of user fees for accessing the messaging service should be addressed at a future date once more is known about consumer interest in such services.

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Energy Probe's submission supports mainly the Board Staff's submission with one exception:

- In-Home-Display Messaging Project – Energy Probe agrees with SEC that the Board should allow Guelph Hydro to promote the Zigbee capabilities to provide information on energy use; Energy Probe proposes a limit of 5% of Residential and GS<50 kW customers for the IHD messages implementation, and place any collected user fees in a deferral account to be returned to ratepayers at a future date.

As previously noted, Guelph Hydro agrees with the proposed 5% limit and inclusion of small commercial GS<50 kW customers as proposed in Energy Probe's submission and notes that there is no intention to collect user fees for the trial phase of this project.

In addition, Energy Probe submits that Guelph Hydro should make all the info/data/lessons learned from the GEA projects widely available for all LDCs, intervenors and other parties.

Guelph Hydro agrees to share the results of the project in a transparent manner.

In its submission, VECC proposes the addition of IHD initiatives targeted to low-income customers and seniors.

For the In-Home Display Messaging Project Guelph Hydro proposes to include low-income customers and seniors as part of a random sample selection process of identifying Guelph Hydro's customers interested in participating in the program. For customers participating in the project Guelph Hydro envisions the customer providing demographic information, as well as permission to use the data gathered through the program in aggregate format, in order to analyze and understand the impact of various elements of the program.

iii. Electric Vehicle (EV) Project

Board Staff is of the view that Guelph Hydro's EV pilot project is sufficiently different in its learning objectives to justify the capital and operating expenses requested by Guelph Hydro for this project and submits that a report providing collected data from the charging stations should be submitted to the Board annually.

Guelph Hydro understands and agrees with the requirement to submit a report on an annual basis detailing information on data collected from charging stations.

VECC proposes the removal of the EV project and submits that the EV pilot is ill defined. Board Staff also notes that Guelph Hydro failed to produce a clear business case or to demonstrate how it will avoid duplication.

Recognizing that there was no necessity to submit a full-fledged business case for the electric vehicle project, Guelph Hydro respectfully disagrees that the EV project is ill-defined. Our original submission described the situation at the time of writing, outlined pilot project objectives and provided a high level description of the project.

In the intervening period, Guelph Hydro's understanding of this new technology has continued to evolve as have our plans for an EV pilot project. We have continued to research EV developments in other communities and talk to various interested parties to explore how best to design an EV pilot project in Guelph.

As discussed during the Oral Hearing commenced on December 5, 2011, Guelph Hydro's EV market research survey identified the need to help educate fleet operators as to the benefits of EVs. Guelph Hydro would like to take the lead in modeling the use of an electric cube van as part of its fleet.

Also discussed during the Oral Hearing is the fact that Guelph Hydro would be willing to undertake research into different rate plans and their impact on consumer charging behavior if there is a desire on the part of the Board or the province to learn about this topic.

As it relates to avoiding duplication issue, SEC and Energy Probe note that in the case of Guelph Hydro the pilot is outward-focused, and it has at least two components of particular value: first, the addition of a cube van, and second, the “smart recharging” aspect. SEC also notes, and Guelph Hydro agrees, that Guelph Hydro is in a position to implement these two particular values of the pilot, when other LDCs are not, because Guelph Hydro has already installed Zigbee chips.

Guelph Hydro is outlining below how it might approach this project:

- Guelph Hydro would like to engage 30-50 customers within the Guelph Hydro service territory to explore the impact of rate plans designed to encourage off-peak charging of electric vehicles.
- Specifically, we would plan to examine the impact of different rate plans on consumer behavior; evaluate the willingness of electric vehicle owners to charge at night under TOU rates evaluate the necessity of installing stand-alone meters for electric vehicle charging; evaluate the willingness of residents to pay for an upgraded electrical service in order to take advantage of a fast charge; and compare the electricity use and charging patterns of those who use a 110V charger and those who choose to upgrade to 240V service.
- Strong public relations support including an interactive website that will help educate the general public on steps that need to be taken to be “plug-in ready” would be an important part of the pilot program.
- Guelph Hydro would be willing to underwrite the cost to provide separate meters to some customers, connection to the meter base, back-end engineering and meter communications support, billing as well as public relations support to develop a website and other outreach efforts. Guelph Hydro would

coordinate with electric vehicle charging system manufacturers to provide homeowners with an EV charging station.

Guelph Hydro believes there would also be value in conducting research with various charging station manufacturers and the public into various different settlement schemes for EV charging done in public and semi-public spaces – shopping malls, GO stations, parking lots, streets, arenas, theatres, etc. We have had some preliminary discussions on this topic with manufacturers but have delayed outlining the project in detail pending an indicator from the Board or province that there is interest in this type of project.

iv. Smart Grid High School Education Project

Board Staff has submitted that this project is outside the parameters of a smart grid education and training, and therefore its costs should not be eligible for recovery under Smart Grid.

Guelph Hydro respectfully disagrees and suggests that in order to encourage public acceptance of smart grid activities, it is necessary to start educating the public on smart grid technologies. Limiting smart grid education and training to industry staff may be short-sighted and may ultimately do a disservice to the industry.

Considering that the level of funding requested is minimal, Guelph Hydro respectfully suggests that the Board may wish to consider expanding its definition of smart grid education and training and start off with a pilot project of the size proposed in order to evaluate public interest in such training.

SUMMARY COMMENT

Guelph Hydro's approach towards the entire Cost of Service proceeding has been guided by our prime objective -- to provide a safe, reliable and cost-effective supply of electricity to our customers -- and the same set of values we adhere to in serving customers every day: respect, honesty, fairness, integrity, innovative thinking, adaptability and leadership.

Guelph Hydro values the collaboration of all participants in this proceeding and thanks everyone for their efforts to evaluate our submission keeping the best interests of Guelph Hydro customers in mind at all times.