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December 14, 2011

Delivered by Email and Courier

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, Ontario
M4P 1E4

Dear Ms. Walli:

**Re: Guelph Hydro Electric Systems Inc. 2011 Cost of Service Electricity
Distribution Rate Application – Board File No. EB-2011-0123**

We are counsel to Guelph Hydro Electric Systems Inc. (“Guelph Hydro”) in the above captioned matter. Accompanying this letter is Guelph Hydro’s Argument-in-Chief dated December 14, 2011.

Should you have any questions or require further information, please do not hesitate to contact me.

**Yours very truly,
BORDEN LADNER GERVAIS LLP**

Original signed by James C. Sidlofsky

James C. Sidlofsky
JCS

cc:
Birgit Armstrong, Ontario Energy Board
Ian Miles, Guelph Hydro Electric Systems Inc.
Cristina Birceanu, Guelph Hydro Electric Systems Inc.

TOR01: 4800154: v1

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.

ARGUMENT-IN-CHIEF OF GUELPH HYDRO ELECTRIC SYSTEMS INC.

DELIVERED DECEMBER 14, 2011

A. INTRODUCTION

1. Guelph Hydro Electric Systems Inc. (“Guelph Hydro”) owns and operates the electricity distribution systems located in the City of Guelph and the Village of Rockwood.
2. Guelph Hydro filed an application (the “Application”) with the Ontario Energy Board (the “Board”) on June 30, 2011 under section 78 of the *Ontario Energy Board Act*, 1998, S.O. 1998, c. 15, (Schedule B), seeking approval for changes to the rates that Guelph Hydro charges for electricity distribution, to be effective January 1, 2012. The Board assigned the application File Number EB-2011- 0123.
3. Three parties requested and were granted intervenor status: the Energy Probe Research Foundation (“Energy Probe”), the Vulnerable Energy Consumers’ Coalition (“VECC”), and the School Energy Coalition (“SEC”).
4. In Procedural Order No. 1, issued on August 5, 2011, the Board approved the intervenors in this proceeding; set dates for interrogatories and interrogatory responses; and made its determination regarding the cost eligibility of intervenors and issued a Draft Issues List for comment. Comments on the Draft Issues List were due August 18, 2011. No parties submitted comments.

5. On September 15, 2011, Guelph Hydro filed a letter stating that it would not be able to file its interrogatory responses in accordance with the deadline established in Procedural Order No. 1 due to the volume and complexity of the interrogatories received.
6. On September 20, 2011, the Board granted an extension until September 30, 2011. Guelph Hydro filed partial responses on September 30, 2011. Guelph Hydro filed the remainder of the interrogatory responses on October 11, 2011.
7. On October 12, 2011, the Board issued Procedural Order No. 2 and determined the next steps in this proceeding. Procedural Order No. 2 included the Final Issues List.
8. In its Procedural Order No. 2, the Board considered it appropriate to deem issues pertaining to the *Green Energy and Green Economy Act, 2009* (“GEA”) Plan ineligible for settlement. The Board determined that 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, is not eligible for settlement. The Board also determined that Issues 6.1 and 6.2 are not eligible for settlement, as the issue of the smart meter deployment beyond minimum functionality relates to Smart Grid development.
9. In accordance with Procedural Order No. 2, Guelph Hydro received Technical Conference Questions by October 21, 2011, and responded partially in writing on October 26, 2011. The Technical Conference was held on October 27, 2011. Guelph Hydro provided its responses to the 32 undertakings given at the Technical Conference between November 8 and November 14, 2011.
10. The evidence in this proceeding (referred to here as the “Evidence”) consists of the Application including the updates to the Application, and Guelph Hydro’s responses to the initial interrogatories, the questions provided to Guelph Hydro prior to and during the Technical Conference, and its responses to Undertakings given during the Technical Conference. The Appendices to the Settlement Agreement (the “Agreement”) are also included in the Evidence. The Settlement Conference was duly convened in accordance with Procedural Order No. 2, with Mr. Chris Haussmann as facilitator. The Settlement

Conference commenced on November 15 and concluded on November 16, 2011. Guelph Hydro and the Intervenors participated in the Settlement Conference.

11. 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. Accordingly, this submission will deal only with those issues.
12. Guelph Hydro notes that in paragraph 7 of Procedural Order No. 2, the Board directed Guelph Hydro to “file an Argument-in-Chief or similar document with the Board and deliver it to intervenors by December 14, 2011. This document should summarize Guelph Hydro Electric Systems Inc.’s application as of that date and highlight the revisions to the application that have occurred as a result of the interrogatory processes.”
13. Appendix A to the Settlement Agreement filed on December 2, 2011 and approved by the Board on December 5, 2011 contains a summary of the significant items adjusted as a result of the Settlement Agreement. A copy of that summary accompanies this Argument-in-Chief as Appendix A. As the Settlement Agreement has been approved by the Board, Guelph Hydro trusts that this will be sufficient for the purposes of Procedural Order No. 2 with respect to the settled items.
14. With respect to the three issues that went to the oral hearing, Guelph Hydro has prepared a table that sets out the revisions to the Application as it relates to Smart Meters and/or the GEA Plan. That table accompanies this Argument-in-Chief as Appendix B.

B. UNSETTLED MATTERS:

15. The following issues were ineligible for settlement and are addressed below:

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?

16. For the reasons set out below, Guelph Hydro submits that the answer to each of these questions is "yes", and respectfully requests that the Board approve the Smart Meter- and GEA-related portions of its Application.

C. SMART METERS:

Issue 6.1: Guelph Hydro's proposed inclusion of the smart meter costs in the 2012 revenue requirement is appropriate.

17. The Board's Guideline G-2008-0002 (the "Guideline") sets out the Board's requirements with respect to the recovery of smart meter costs, including the evidence to be filed in support of an application for recovery of those costs. In the Guideline, the Board notes that "Smart meter capital and operating costs are normally approved (or denied) in the process of adjusting a distributor's rate base or revenue requirement, respectively, during a cost of service proceeding to set rates."¹ As Guelph Hydro reported at Exhibit 9, Tab 3, Schedule 1, page 1, Guelph Hydro achieved 100% penetration of smart meters within its service area on April 13 2011. Smart meters would continue to be installed for new customers in 2011. The timing of Guelph Hydro's Smart Meter application is therefore appropriate.
18. The Guideline sets out² the evidence required in support of the Smart Meter application as follows:
- a report on the status of implementation of smart meters (i.e., how many have been installed and when 100% completion is expected)
 - a copy of the agreement(s) under which the smart meter assets have been procured
 - calculation of the revenue requirement related to smart meter costs
 - capital and operating unit cost per installed smart meter and in total for:
 - procurement and installation of the components of the AMI system
 - customer information system

¹ Guideline G-2008-0002, at p.11

² *Ibid.*, at pp.11-12

- incremental operating and maintenance activities
- changes to ancillary systems
- stranded meters
- a variance analysis comparing actual costs to previously filed costs
- justification for any smart meter or AMI costs incurred to support functionality that exceeds the minimum functionality adopted in O. Reg. 425/06
- for any costs incurred that are associated with functions for which the SME has the exclusive authority to carry out pursuant to O. Reg. 393/07, the basis on which recovery of those costs is allowed under applicable law

19. The Guelph Hydro Smart Meter application (at Exhibit 9, Tab 3), together with Guelph Hydro's responses to applicable interrogatories, Technical Conference questions, responses to the questions asked during the oral hearing on December 5, 2011 and responses to undertakings given during the hearing, contains all of those required elements.³ Accordingly, the content of Guelph Hydro's Smart Meter application is appropriate.
20. Guelph Hydro's smart meters and associated back office systems comply with the minimum specifications set out in O.Reg. 425/06. Guelph Hydro understands that what rendered its GEA Plan ineligible for settlement and made it and the related Smart Meter issues the subject of the oral hearing was Guelph Hydro's inclusion of a communications chip based on the "Zigbee standard" (referred to in this submission as the "Zigbee chip") in all of its smart meters. Guelph Hydro described this matter in the following way in its Application⁴:

"Guelph Hydro's smart meters and associated back-office systems meet the minimum specifications set out by O. Reg. 425/06. The meters exceed the specification in one specific area with respect to the inclusion of a communications chip based on the Zigbee standard. This communication chip will enable Guelph Hydro, through the smart meter, to communicate with in-home devices such as displays, thermostats, and Zigbee-equipped smart appliances. There are several advanced applications that can be enabled with this wireless technology including real

³ IRR: Board Staff 37, 39, 40, 41, 42, 43, 44, 45, 86, 93; SEC 48; VECC 25, 26
TCQ responses: Board Staff 16, 41, 42, 43, 44, 45, 46, Undertakings JTC1.14, 1.16; Energy Probe TCQ 21; VECC 10
Tr. Vol.TC: p.53 line 1 – p.55 line 16; p.61 line 4 – p.62 line 2; p.63 line 4 – p.64 line 8, p.64 line 25 – p.65 line 24
Tr. Vol.1: p.10 line 26 – p.11 line 4; together with Guelph Hydro responses throughout cross-examination.

⁴ E9/T3/S1/p.6

time price signaling, home area automation, and demand response capability. Inclusion of this technology in the meter will provide a tool to customers to better educate customers on efficient energy use, and better manage their energy consumption, which in turn will help Guelph Hydro achieve its mandated conservation targets.

Guelph Hydro believed that it was prudent to include the communication chip in the smart meters on the basis that the incremental cost to do so was minor (\$12.25/meter) in comparison to the alternative of having to replace large volumes of meters before their end of useful life (15 years). In addition, Guelph Hydro believes that substantial customer and electric system benefits would be missed if the chip was not included.”⁵

21. The chip may also facilitate participation in the OPA-sponsored CDM programs including the “Peaksaver Plus” program. Participation in that program will require an interface between the smart meter and an in-home display. The Zigbee chip provides that functionality now, whereas other utilities intending to participate in that program will need to source and implement new solutions, and the Zigbee chip may be among them.⁶ It is reasonable to anticipate that over the estimated 15-year life of the meters, other programs and initiatives will arise that may make use of the Zigbee chip’s functionality. As Mr. Weninger, Guelph Hydro’s Director of Metering and Conservation, testified during the hearing, smart meters cannot be readily retrofitted with the chip. To do so requires breaking the Measurement Canada seal and disassembling the meter, replacing the network card, and retesting, recertifying and resealing the meter. As Mr. Weninger noted, it is more cost effective to purchase a new meter, and this raises the prospect of scrapping the replaced meters.⁷
22. The overall per meter capital cost of Guelph Hydro’s smart meters is \$190.28 (i.e. capital cost \$9,942,320/49,033 installed smart meters). At \$12.25 per meter, the Zigbee chip represents only 6.4% of that cost. Since it is only the revenue requirement associated with the smart meters that will be recovered, and not the actual cost, it is possible to express this in a different way. The revenue requirement related to the Zigbee chip, on a per Residential customer basis, is \$1.90 per year, or \$0.16 per month (Guelph Hydro also notes that the 2012 proposed aggregate disposition rate rider is a credit to metered customers). When considered in light of the benefits that may be available to customers

⁵ See also Tr. Vol.1, p.11, line 22 – p.15, line 26 and p.22, line 24 – p.29, line 4

⁶ Tr. Vol.1, p.15, lines 19-26

⁷ Tr. Vol.1, p.14, line 17 – p.15, line 4

through the inclusion of this chip, and the impracticality of retrofitting smart non-equipped meters with the chip, Guelph Hydro submits that the cost to customers of the chip is far outweighed by the benefits. For the Board's assistance, Guelph Hydro has run its Smart Meter Revenue Requirement model and the Smart Meter Disposition rate Rider model taking into consideration only the Zigbee chip capital cost (that is, the costs beyond minimum functionality) and provided tables setting out the capital cost, revenue requirement and monthly recovery related to the Zigbee chip investment in Appendix C, below.

23. Guelph Hydro submits that the inclusion of the Zigbee chip was prudent, reasonable and appropriate, and that it is appropriate that Guelph Hydro be permitted to recover the revenue requirement related to its expenditures beyond minimum functionality.

Issue 6.2 The proposed disposition of the balances in variance accounts 1555 and 1556 is appropriate.

24. The Guideline provides that Accounts 1555 and 1556 are used to track smart meter capital and operating costs, respectively. Guelph Hydro has been doing so in compliance with the Guideline and the accounting guidance contained therein, and submits that its calculations are accurate.
25. Guelph Hydro understands that this issue remains outstanding because the costs related to the Zigbee chip have been incorporated into the calculations. As a result, the calculations will require revision in the event that the Board disallows recovery of the revenue requirement related to the chip. The merits and appropriateness of the chip and the recovery of the revenue requirement related to it are discussed in the context of Issues 6.1 and 12.1, and will not be repeated here. However, in the event that the Board disallows recovery in respect of the Zigbee chip, Guelph Hydro will make the necessary adjustments to the calculation of the disposition amounts as part of its Draft Rate Order.
26. Guelph Hydro is not aware of other issues related to these accounts, but will respond to any concerns that may be raised by Board Staff and intervenors in their submissions.

Issue 12.1 Guelph Hydro's Green Energy Act Plan, including the Smart Grid component of the plan, is appropriate.

27. As part of its Application,⁸ Guelph Hydro filed its Basic GEA Plan. The GEA Plan identifies investments that will be necessary to facilitate the connection of renewable generation to its distribution system, and has identified a number of innovative projects that support the development of a Smart Grid.
28. In response to undertakings J1.1 and J1.5 given at the oral hearing, Guelph Hydro provided updates on the numbers of FIT and microFIT projects it anticipates connecting in 2011 and 2012.
29. The Smart Grid-related projects include the following:⁹
- an In-Home Messaging project, which will leverage the investment in smart meters and the related communications infrastructure, as well as the Zigbee chip, to provide a mechanism for consumer behavioural change;
 - an Electric Vehicle project, intended to educate residents on electric vehicles and charging systems, so that when the time comes for them to purchase an electric vehicle, they are informed consumers and will be able to understand the impact of charging at different times of the day and different rate plans. This project includes the use of a customized electric cube van that can serve as a model for fleet owner/operators. As part of this project, Guelph Hydro also hopes to leverage the Zigbee chip by exploring EV charging stations that are also equipped with Zigbee chips, and understanding how these systems could read time-of-use rate buckets and adjust consumption according to consumer-selected criteria;
 - a "Smart Grid – Smart Home" demonstration project that will use a newly constructed "green" home, provided by a local builder, to showcase innovative technologies and bring to life the vision of a smart grid. The main purpose of the project would be educational, and it would showcase technologies that include smart meters; renewable energy; in-home display units; home energy management systems; smart appliances – large and small; electric car charging stations; demand management systems; and automated lighting controls. The Zigbee chip will be a key element in the interaction between the smart meter and the other elements of the smart home; and

⁸ E2/T4/S6/App.D

⁹ IRR: Board Staff 84, 85, 86, 87, 88, 90, 91, 92, 93, 94, Energy Probe 51

TCQ Responses: Board Staff 33, 34, 35, 36, 37, 38, 39, 40, Undertakings JTC1.12, 1.14, 1.16

Tr.Vol.TC: p. 58 line 26 – page 60 line 6

Tr.Vol.1: p.15 line 28 – p.22 line 10; p.42 line 5 – p.48 line 26; p.57 line 18 – p.62 line 3;

- a two-unit Smart Grid High School educational program that will focus on benefits of the Smart Grid and an exploration of careers in the Smart Grid industry.
30. Detailed descriptions of these projects are provided at pages 18-33 of the GEA Plan. Among the key benefits of the GEA projects are the following:
1. Enable Renewable Embedded Generation Connections¹⁰
 - investing in green-energy related initiatives will provide the communities Guelph Hydro serves with the societal/health benefits associated with reducing greenhouse gases; in addition, the local renewable energy generation will contribute to easing supply constraints in Guelph's geographic area.
 2. IHD Messaging Project¹¹
 - will leverage the advanced Zigbee chip communications technology built in to all smart meters deployed in the Guelph community to enhance communication to customers with a goal of driving behavioral changes that will result in a reduction in energy consumption and demand.
 3. Electric Vehicle Pilot¹²
 - will increase consumer awareness regarding electric vehicles and charging systems, provide the opportunity to test various charging system technologies, and provide data on consumer behaviour in relation to electric vehicle charging and rate plans that could benefit the regulator in developing pricing schemes for electric vehicle charging.
 - will assist in lowering air pollution and noise (environmental and health benefits), and will improve the utilization of energy
 4. Smart Grid High School Education project¹³
 - will educate students (future customers) on the technologies and benefits of a Smart Grid, will encourage students to embrace and prepare for Smart Grid careers in energy field.
 5. Smart Grid - Smart Home Demonstration¹⁴
 - will educate consumers, academics, government officials, energy representatives and the general public by showcasing innovative technologies and demonstrating how a smart grid will transform everyday life and benefit society.

¹⁰ Updated GEA Plan (revised November 23, 2011): Section S 1 and 6

¹¹ Updated GEA Plan (revised November 23, 2011): Section 8
Tr. Vol.1, p.42 line 5- p.43 line 10

¹² Updated GEA Plan (revised November 23, 2011): Section 9

¹³ Updated GEA Plan (revised November 23, 2011): Section 10

¹⁴ Updated GEA Plan (revised November 23, 2011): Section 11
Tr. Vol.1, p.47 line 3 - p.49 line 5

31. Guelph Hydro submits that its GEA Plan meets the requirements of the Board as set out in its March 25, 2010 Filing Requirements for Distribution System Plans (the “Filing Requirements”).
32. With respect to the Smart Grid-related components of its GEA Plan, Guelph Hydro submits that the descriptions of, and budgets for, its Smart Grid-related projects, as updated and filed on November 23, 2011, contain the information required by the Board in the Filing Requirements, and that the proposed Smart Grid projects fall within the scope of Smart Grid development activities as contemplated by the Board in the Filing Requirements.¹⁵ The Smart Grid activities set out in the GEA Plan are incremental to activities included in its rates and in the capital budget approved by the Board in approving the Settlement Proposal in the current proceeding.
33. Guelph Hydro also submits that its proposed projects are not duplicative of those of other Ontario distributors. On the contrary, given Guelph Hydro’s deployment of the Zigbee chip in all of its smart meters, Guelph Hydro has an opportunity to assume a unique leadership role in obtaining information on the integration of smart meters with other elements of the Smart Grid. Guelph Hydro believes that this information will be valuable to other distributors and to the Board in the coming years as the Smart Grid develops. The proposed Smart Grid-Smart Home demonstration project will be one of only a few such projects across North America (reference: Oral Hearing transcript page 47 line 5 to page 49 line 19). Guelph Hydro will welcome the opportunity to provide evaluations of the outcomes of its Smart Grid activities to ensure that the benefits of its experience are shared, as contemplated by the Board at page 25 of the Filing Requirements.
34. For all of the foregoing reasons, Guelph Hydro respectfully requests that the Board approve its GEA Plan and the projects proposed therein.

¹⁵ At page 19 of the Filing Requirements, the Board states that “At the present time, smart grid development activities and expenditures should be limited to smart grid demonstration projects, smart grid studies or planning exercises and smart grid education and training.”

ALL OF WHICH IS RESPECTFULLY SUBMITTED THIS 14TH DAY OF DECEMBER, 2011.

Original Signed by James C. Sidlofsky
James C. Sidlofsky
Counsel to Guelph Hydro Electric Systems Inc.

APPENDIX A

Summary of the Significant Items Adjusted as a Result of this Settlement Agreement

Summary Of Significant Items Adjusted			
	Original As per Application (A)	Settlement Submission (B)	Difference (C= B-A)
<u>Rate Base</u>			
Gross Fixed Assets (average)	\$178,018,480	\$177,644,810	(\$373,670)
Accumulated Depreciation (average)	(\$63,313,009)	(\$62,623,827)	\$689,182
<u>Allowance for Working Capital:</u>			
Controllable Expenses	\$15,611,241	\$14,326,000	(\$1,285,241)
Cost of Power	\$143,312,358	\$153,524,605	\$10,212,247
<u>Utility Income</u>			
Operating Revenues:			
Distribution Revenue at Current Rates	\$24,708,000	\$24,763,956	\$55,956
Distribution Revenue at Proposed Rates	\$30,652,117	\$26,383,971	(\$4,268,146)
<u>Other Revenue:</u>			
Specific Service Charges	\$416,655	\$572,666	\$156,011
<u>Operating Expenses:</u>			
OM+A Expenses	\$15,611,241	\$14,326,000	(\$1,285,241)
Depreciation/Amortization	\$6,831,714	\$4,659,567	(\$2,172,147)
Property taxes			
Other expenses			
<u>Taxes/PILs</u>			
Taxable Income:			
Adjustments required to arrive at taxable income	(\$3,255,915)	(\$4,586,542)	(\$1,330,627)
<u>Utility Income Taxes and Rates:</u>			
Income taxes (not grossed up)	\$538,936	\$66,273	(\$472,664)
Income taxes (grossed up)	\$730,761	\$73,246	(\$657,516)
Federal tax (%)	15.00%	5.44%	
Provincial tax (%)	11.25%	4.08%	
<u>Cost of Capital</u>			
Long-term debt Cost Rate (%)	5.26%	5.26%	
Short-term debt Cost Rate (%)	2.46%	2.08%	
Common Equity Cost Rate (%)	9.58%	9.42%	

APPENDIX B

Summary of the Significant Revisions related to Smart Meters and GEA Plan					
Summary of the Significant Revisions related to Smart Meters and GEA Plan					
	Original As per Application (A)	Reference	Updated Evidence (B)	Reference	Difference (C= B-A)
SMART METERS					
<u>Revenue Requirement</u>					
Revenue Requirement - 2009	\$41,609	Application, E9,T3,S1,App.B.p.10	\$43,006	Updated Smart Meter Model submitted November 23, 2011	\$1,397
Revenue Requirement - 2010	\$650,698		\$577,486		(\$73,212)
Revenue Requirement - 2011	\$1,697,954		\$1,715,458		\$17,504
Total 2009-2011 Revenue Requirement	\$2,390,261		\$2,335,950		(\$54,311)
<u>SM Revenue Requirement - 2012</u>		The SM Capital and OM&A were incorporated in the Total proposed 2012 Revenue Requirement of \$32,703,106; reference: original Application, E1,T1,S5,p.1	\$1,610,670	Updated Smart Meter Model submitted November 23, 2011	
<u>2006-2011 Collected Smart Meter Funding Adder</u>					
Principal amount	\$2,340,623	Application, E9,T3,S1,p.3	\$2,352,686	Updated Smart Meter Model submitted November 23, 2011	\$12,063
Interest	\$44,546		\$68,200		\$23,654
<u>Smart meter Disposition/Recovery amount</u>	\$5,092	Application, E9,T3,S1,App.B.p.10	(\$84,936)	Updated Smart Meter Disposition Rate Rider Model submitted November 23, 2011	(\$90,028)
GEA PLAN					
<u>Total 2011-2015 GEA Plan Renewable Connections Capital and OM&A</u>	\$3,365,000	Application, E2,T4,S6,App.D,p.5,Table 3	\$3,138,000	Updated GEA Plan - Table 3, submitted on September 28, 2011	(\$227,000)
Renewable Connections - Capital	\$600,000	Board Staff IRR#85 submitted on September 30, 2011	\$600,000	Updated GEA Renewable Connections Rate Adder model, submitted on November 23, 2011	\$0
Renewable Connections - OM&A	\$570,650		\$343,650		(\$227,000)
Direct Benefits	\$97,539		\$97,539		\$0
Smart Grid - Capital	\$529,000	Application, E2,T4,S6,App.D,p.5,Table 1 (\$1,129,000-\$600,000)	\$529,000	Updated GEA Smart Grid Rate Adder model, submitted on November 24, 2011	\$0
Smart Grid - OM&A	\$1,665,350	Application, E2,T4,S6,App.D,p.5,Table 3 (\$2,236,000-570,650)	\$1,665,350		\$0

APPENDIX C

ZIGBEE CHIP CAPITAL COST, REVENUE REQUIREMENT, MONTHLY RECOVERY

1.6 CAPITAL COSTS BEYOND MINIMUM FUNCTIONALITY

(Please provide a descriptive title and identify nature of beyond minimum functionality costs)

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

1.6.2 Costs for deployment of smart meters to customers other than residential and small general service

1.6.3 Costs for TOU rate implementation, CIS system upgrades, web presentation, integration with the MDM/R, etc.

Total Capital Costs Beyond Minimum Functionality

Total Smart Meter Capital Costs

	Audited Actual	Audited Actual	Audited Actual	Audited Actual 2009	Audited Actual 2010	Audited Actual 2011	Forecast 2012	
Smart Meter				6,027	569,282	25,345		\$ 600,654
								\$ -
								\$ -
	\$ -	\$ -	\$ -	\$ 6,027	\$ 569,282	\$ 25,345	\$ -	\$ 600,654
	\$ -	\$ -	\$ -	\$ 6,027	\$ 569,282	\$ 25,345	\$ -	\$ 600,654

Working Capital						
Operating Expenses (from Sheet 2)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Working Capital Factor (from Sheet 3)	15%	15%	15%	15%	15%	15%
Working Capital Allowance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Incremental Smart Meter Rate Base	\$ -	\$ -	\$ -	\$ 2,913	\$ 280,778	\$ 548,803
Return on Rate Base						
<i>Capital Structure</i>						
Deemed Short Term Debt	\$ -	\$ -	\$ -	\$ 117	\$ 11,231	\$ 21,952
Deemed Long Term Debt	\$ -	\$ -	\$ -	\$ 1,535	\$ 157,236	\$ 307,330
Equity	\$ -	\$ -	\$ -	\$ 1,261	\$ 112,311	\$ 219,521
Preferred Shares	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Capitalization	\$ -	\$ -	\$ -	\$ 2,913	\$ 280,778	\$ 548,803
<i>Return on</i>						
Deemed Short Term Debt	\$ -	\$ -	\$ -	\$ 5	\$ 502	\$ 981
Deemed Long Term Debt	\$ -	\$ -	\$ -	\$ 94	\$ 9,591	\$ 16,166
Equity	\$ -	\$ -	\$ -	\$ 108	\$ 9,625	\$ 18,813
Preferred Shares	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Return on Capital	\$ -	\$ -	\$ -	\$ 207	\$ 19,718	\$ 35,960
Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Amortization Expenses (from Sheet 4)						
Smart Meters	\$ -	\$ -	\$ -	\$ 201	\$ 19,378	\$ 39,199
Computer Hardware	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Computer Software	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Tools & Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Comp Appl Software	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Amortization Expense in Year	\$ -	\$ -	\$ -	\$ 201	\$ 19,378	\$ 39,199
Incremental Revenue Requirement before Taxes/PILs	\$ -	\$ -	\$ -	\$ 408	\$ 39,096	\$ 75,159
Calculation of Taxable Income						
Incremental Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Amortization Expense	\$ -	\$ -	\$ -	\$ 201	\$ 19,378	\$ 39,199
Interest Expense	\$ -	\$ -	\$ -	\$ 99	\$ 10,093	\$ 17,147
Net Income for Taxes/PILs	\$ -	\$ -	\$ -	\$ 108	\$ 9,625	\$ 18,813
Grossed-up Taxes/PILs (from Sheet 7)	\$ -	\$ -	\$ -	\$ 47	\$ 3,009	\$ 5,060
Revenue Requirement, including Grossed-up Taxes/PILs	\$ -	\$ -	\$ -	\$ 454	\$ 42,105	\$ 80,218

GUELPH HYDRO - 2012 COS - EB-2011-0123												
Board Staff TCQ #19 a to f												
	2009	2010	2011	Total 2009 to 2011	Explanation Allocator	ID and Factors	Total	Residential	General Service Less than 50 kW	General Service 50 to 999 kW	General Service Greater 1,000 to 4,999 kW	Large User
Revenue Requirement for the Historical Years	\$454.41	\$42,104.93	\$80,218.47	\$122,777.81								
Total Return on Capital _Board Staff TCQ 19 a	\$206.95	\$19,718.49	\$35,959.80	\$55,885.24	Weighted Meter -Capital	CWMC	100.00%	74.03%	15.38%	9.50%	0.86%	0.23%
Amortization and interest Expense _Board Staff_TCQ 19 a	\$200.90	\$19,377.87	\$39,198.78	\$58,777.54	Weighted Meter -Capital	CWMC	100.00%	74.03%	15.38%	9.50%	0.86%	0.23%
Operating Expenses_Board Staff TCQ 19 a				\$0.00	Number of Smart Meters Installed for each Class		49,033	46,027	3,006	0	0	0
							\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Grossed-up Taxes/PILs_Board Staff TCQ 19 a	\$46.56	\$3,008.57	\$5,059.90	\$8,115.03	Revenue Requirement allocated to each Class before PILs		\$114,662.78	\$84,883.06	\$17,639.92	\$10,892.29	\$987.39	\$260.12
							\$8,115.03	\$6,007.43	\$1,248.43	\$770.88	\$69.88	\$18.41
							Total	Residential	General Service Less than 50 kW	General Service 50 to 999 kW	General Service Greater 1,000 to 4,999 kW	Large User
TOTAL REVENUE REQUIREMENT _Board Staff TCQ 19 b				\$122,777.81			\$122,777.81	\$90,890.49	\$18,888.35	\$11,663.17	\$1,057.27	\$278.53
				Percentage of costs allocated to customer classes_Board Staff TCQ 19 b			100.00%	74.03%	15.38%	9.50%	0.86%	0.23%
Revenue Generated from Smart Meter Funding Adder												
Net Deferred Revenue Requirement _Board Staff TCQ 19 c				\$122,777.81								
				Allocated per Class_Board Staff TCQ 19 d				\$90,890.49	\$18,888.35	\$11,663.17	\$1,057.27	\$278.53
				Number of Metered Customers				47,848	3,788	569	44	4
				Smart Meter Disposition Rate Rider _Board Staff TCQ 19 e				\$0.16	\$0.42	\$1.71	\$2.02	\$5.80
							per Residential per Year	\$1.90				