



February 8, 2007

Ontario Energy Board  
P.O. Box 2319  
27<sup>th</sup> Floor  
2300 Yonge Street  
Toronto, Ontario  
M4P 1E4

Attention: Kirsten Walli  
Board Secretary

Dear Ms. Walli

Re: Board File Number EB-2007-0513  
Addendum for Smart Metering Rate Adder  
Cambridge and North Dumfries Hydro Inc. – OEB License ED-2002-0574

Please find attached our Application for Amendment seeking a smart metering rate adder for Cambridge and North Dumfries Hydro Inc. Previously, on January 24, 2007, Cambridge and North Dumfries Hydro Inc. filed an Application for 2007 Incentive Rate Mechanism, in accordance with the Board's December 20, 2006 "Report of the Board on the Cost of Capital and 2<sup>nd</sup> Generation Incentive Regulation for Ontario 's Electricity Distributors".

If you require any additional information or clarification with respect to any of the information contained in our application, please contact David Smelsky at (519) 621-3530 ext. 2638 or myself at (519) 621-3530 ext. 2355.

Thank you for your assistance.

Yours very truly,

**Cambridge and North Dumfries Hydro Inc.**

*Original Signed by  
John Grotheer*

John W. Grotheer, CMA  
President & CEO

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

**AND IN THE MATTER OF** an Application by Cambridge and North Dumfries Hydro Inc. for an Order or Orders approving amendment seeking a smart metering rate adder, in accordance with the Addendum to the “Report of the Board on Cost of Capital and 2<sup>nd</sup> Generation Incentive Regulation for Ontario’s Electricity Distributors”.

Applicant Name: Cambridge and North Dumfries Hydro Inc.

Applicant Address: 1500 Bishop Street  
P. O. Box 1060  
Cambridge, Ontario  
N1R 5X6

Case Number: **EB-2007- 0513**  
**ADDENDUM for Smart Metering Rates**

License Number: **ED-2002-0574**

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

**AND IN THE MATTER OF** an Application by Cambridge and North Dumfries Hydro Inc. for an Order or Orders approving amendment seeking a smart metering rate adder, in accordance with the Addendum to the “Report of the Board on Cost of Capital and 2<sup>nd</sup> Generation Incentive Regulation for Ontario’s Electricity Distributors”.

## **APPLICATION**

### **1. Introduction**

- 1.1 Cambridge and North Dumfries Hydro Inc., (the “Applicant”) hereby applies to the Ontario Energy Board (the “Board”) for an amendment seeking a smart meter rate adder, as outlined in the Report of the Board “Report of the Board on 2<sup>nd</sup> Generation Incentive Regulation for Ontario’s Electricity Distributors – Addendum for Smart Metering Rates” dated January 29, 2007 (the “Addendum”).
- 1.2 The Applicant has a plan to install smart meters in 2007. Details of the Smart Meter Investment Plan, EB-2006-0246 were filed with the Board on December 15, 2006.
- 1.3 The Applicant previously filed, on January 24, 2007, an electricity distribution rate application (“2007 Incentive Rate Mechanism Application”), utilizing the IRM Model and following the methodology set out in Appendix D: Filing Requirements for 2007 Rate Adjustments included in the Report of the Board dated December 20, 2006.

## 2. **Distributor Profile Summary**

### 2.1 Description of the Distributor:

Cambridge & North Dumfries Hydro Inc., (License Number: **ED-2002-0574**), services a total area of 303 Sq.Km, as defined by the municipalities of The City of Cambridge and The Township of North Dumfries, in the Regional Municipality of Waterloo. Seventy percent of the total service area is Rural with the balance (90 Sq.Km) urban, as defined by the Municipality.

Cambridge and North Dumfries Hydro Inc. does not have any special conditions in its license, nor is Cambridge and North Dumfries Hydro Inc. exempt from any conditions of its license.

The Applicant is embedded at one service point with Hydro One Networks Inc. and is a Host Distributor to Waterloo North Hydro Inc. and Hydro One Networks Inc. The adjacent Distributors are:

- (a) Kitchener – Wilmot Hydro Inc.
- (b) Waterloo North Hydro Inc.
- (c) Hydro One Networks Inc.

At December 31, 2006, the Applicant had 48,611 Customers comprised of the following classes:

|  | <u>2006</u>   | <u>2005</u>   | <u>2004</u>   |
|--|---------------|---------------|---------------|
| Residential Class                      | 43,373        | 42,188        | 41,372        |
| General Service Class < 50kW           | 4,535         | 4,491         | 4,403         |
| General Service Class 50 to 999kW      | 671           | 635           | 654           |
| General Service Class 1,000 to 4,999kW | 29            | 29            | 27            |
| Large User Class                       | <u>3</u>      | <u>3</u>      | <u>3</u>      |
| <b>TOTAL</b>                           | <u>48,611</u> | <u>47,346</u> | <u>46,459</u> |
| Street Light Connections               | <u>12,201</u> | <u>12,089</u> | <u>11,889</u> |

The key contact information is:

Cambridge and North Dumfries Hydro Inc.  
1500 Bishop Street, P.O. Box 1060  
Cambridge, Ontario  
N1R 5X6

John W. Grotheer, CMA  
President and CEO  
e-mail: [jgrotheer@camhydro.com](mailto:jgrotheer@camhydro.com)  
(519) 621-3530 extension 2355  
(519) 621-0383 (Facsimile)

### 3. **2007 Smart Metering Rate Adder Model**

#### 3.1 Utility Information Sheet (Sheet 1)

The Applicant wishes to bring to the attention of the Board, on Sheet 1 “Utility Information Sheet”, cell F16, Smart Metering Grouping is “Inactive”. The Applicant is pursuing smart metering activities in 2007. For the purposes of this Addendum, the Applicant requests the Board to deem the Applicant to be an “Active Distributor” within the Smart Meter Grouping.

The Applicant has been involved in smart metering activities since early 2005, including active participation in Ontario Utility Smart Meter (OUSM) working group, the IESO’s SMSIP Working Group, AMRA and other forums. During 2006, the Applicant began piloting smart meter technology by implementing 500 smart meters. The selected pilot program meets the criteria specified in the “Functional Specification for Advanced Metering Infrastructure” and the technology is identified as one of the five “vendors of record” from the RFP/Q issued on behalf of the Coalition of Large Distributors and the Ministry of Energy.

The Applicant is satisfied that the pilot technology meets the requirements of the government’s smart meter initiative, and is suitable to its service territory and topography.

The Applicant will undertake full-scale smart meter deployment over the 2007 – 2010 period, beginning with modest number of smart meter installations in 2007 while focusing on information technology systems and integration.

#### 3.2 Smart Meter Capital Costs and Operational Expense Data (Sheet 2)

##### 3.2.1 Smart Meter Unit Installation Plan:

The Smart Meter Unit Installation Plan consists 51,065 smart meters (46,382 Residential and 4,683 GS<50 kW).

##### 3.2.2 Smart Meter Unit Cost:

The Total Unit Cost per smart meter is estimated to be \$161.19, based on the following assumptions:

(i) Smart Meter Unit Cost A = \$140.19 is based on:

Residential     \$102.55 X 46,382= \$4,756,255

GS<50kW       \$513.00 X 4,683= \$2,402,550

51,065     \$7,158,805

(ii) Smart Meter Installation cost C = \$15.00 represents the estimated labour time and material cost per meter installed.

(iii) Smart Meter Other Cost per unit D = \$6.00 represents the estimated cost to repair broken meter bases, assuming a 2.0% occurrence for broken meter bases.

3.2.3 AMI Capital Costs (2007):

The Applicant's Vendor of choice will host all computer hardware and software, with costs reflected in Incremental AMI Operational Expenses.

3.2.4 Other Capital Costs(2007):

Other capital computer software costs consist of:

|   |                 |
|---|-----------------|
| (i) Work Order Management System                  | \$100,000       |
| (ii) Billing System enhancement for AMI Interface | \$ 50,000       |
| (iii)Installation hand tools                      | <u>\$ 5,000</u> |
|   | \$155,000       |

3.2.5 Incremental AMI Operational Expenses (2007):

(i)Incremental AMI O&M Expenses \$56,100 include the cost for "Meter Hosting" based on \$0.14 per meter/month plus \$3,600 per month per Tower Site, Minimum monthly fee \$9,350.00 per Tower.

(ii)Incremental AMI Admin Expenses \$40,500 reflect estimated recovery of MDM/R fees for services provided. As a proxy, the estimate is based on the current fees paid to EnerConnect \$6,750 per month.

3.2.6 Incremental Other Operational Expenses (2006):

Incremental Other O&M Operational expenses for 2006, \$85,725 is the fixed price cost of the 500 Smart Meter Pilot Project, currently in place.

3.2.7 Incremental Other Admin Expenses (2007):

Incremental other admin expenses consist of:

|                              |                 |
|------------------------------|-----------------|
| (i)Consulting and Legal Fees | \$45,000        |
| (ii)OUSM Membership          | <u>\$ 8,000</u> |
|                              | \$53,000        |

3.3 Smart Meter Rate Calculation (Sheet 4)

The calculated 2007 Smart Meter Rate Adder is \$0.53

#### 4. **Smart Metering Rate Adder Applied For**

##### 4.1 2007 Smart Metering Rate Adder

This application is completed on the basis consistent with the "Report of the Board on 2<sup>nd</sup> Generation Incentive Regulation for Ontario's Electricity Distributors – Addendum for Smart Metering Rates" dated January 29, 2007 (the "Addendum").

The Applicant is requesting the Board to:

- 4.1.1 - Approve The Smart Metering Rate Adder of \$0.53 to be allocated to all metered customers and recovered through the monthly fixed service charges.
- 4.1.2 - Adjust the input, Column F Sheet 4, in the 2007 IRM Model previously filed with the Board on January 24, 2007 to reflect the Smart Meter Rate Adder of \$0.53.

#### 5. **Rate Impact**

After adjusting the 2007 Incentive Rate Mechanism (IRM) Model, to include the 2007 Smart Meter Rate Adder of \$0.53, the following is the impact range on a summer bill (May 1 to Oct 31) before taxes, by customer class:

|  | <u>Impact Range</u> |
|--|---------------------|
| Residential Class                      | +0.24% to +1.85%    |
| General Service Class < 50kW           | +0.12% to +0.42%    |
| General Service Class 50 to 999kW      | +0.06% to +0.16%    |
| General Service Class 1,000 to 4,999kW | +0.07% to +0.20%    |
| Large User Class                       | +0.04% to +0.07%    |

(Assuming current RPP prices, that are subject to change when expected RPP change is released, in mid-April 2007)

Dated at Cambridge, Ontario, this 08 day of February 2007.

*Original Signed by  
John Grotheer*

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Cambridge & North Dumfries Hydro Inc.

John W. Grotheer, CMA  
President and Chief Executive Officer



# Ontario Energy Board

## 2007 EDR SMART METER RATE CALCULATION MODEL

### Sheet 1 Utility Information Sheet

| Legend: | Input Cell         | Pull-Down Menu Option | Output Cell      |
|---------|--------------------|-----------------------|------------------|
|         | From Another Sheet | To The 2007 IRM Model | To Another Sheet |

Please note that this model uses MACROS. Before starting, please ensure that macros have been enabled.

|                            |   |                              |              |
|----------------------------|---|------------------------------|--------------|
| <b>Name of LDC:</b>        | Cambridge and North Dumfries Hydro Inc. |                              |              |
| <b>Licence Number:</b>     | ED-2002-0574                            | <b>Smart Meter Grouping:</b> | Inactive     |
| <b>IRM 2007 EB Number:</b> | EB-2007-0513                            |                              |              |
| <b>EDR 2006 RP Number:</b> | RP-2005-0020                            | <b>EDR 2006 EB Number:</b>   | EB-2005-0343 |
| <b>Date of Submission:</b> | February 9, 2007                        | <b>Revision:</b>             | 0            |
| <b>Version:</b>            | 1.0                                     |                              |              |
| <b>Contact Information</b> |   |                              |              |
| <b>Name:</b>               | David J. Smelsky                        |                              |              |
| <b>Title:</b>              | Controller                              |                              |              |
| <b>Phone Number:</b>       | (519) 621-3530 ext. 2638                |                              |              |
| <b>E-Mail Address:</b>     | dsmelsky@camhydro.com                   |                              |              |

Please Note: In the event of an inconsistency between this model and any element of the January 2007 "Report of the Board on 2nd Generation Incentive Regulation of Ontario's Electricity Distributors - Addendum for Smart Metering Rates", the Report governs.

#### Copyright

This Distribution Rate model is protected by copyright and is being made available to you solely for the purpose of preparing or reviewing an Distribution Rate application. You may use and copy this model for that purpose, and provide a copy of this model to any person that is advising or assisting you in that regard. Except as indicated above, any copying, reproduction, publication, sale, adaptation, translation, modification, reverse engineering or other use or dissemination of this model without the express written consent of the Ontario Energy Board is prohibited. If you provide a copy of this model to a person that is advising or assisting you in preparing or reviewing an Distribution Rate applicaiton, you must ensure that the person understands and agrees to the restrictions noted above.





**2007 EDR SMART METER RATE CALCULATION MODEL**

**Cambridge and North Dumfries Hydro Inc.**

**EB-2007-0513**

**Friday, February 09, 2007**

**Sheet 2. Smart Meter Capital Cost and Operational Expense Data**

**Smart Meter Unit Installation Plan:** (From Smart Meter Plan filed December 15, 2006)

| assume calendar year installation  | 2006 | 2007         | 2008          | 2009          | 2010          | Total         |
|--|------|--------------|---------------|---------------|---------------|---------------|
| Planned number of Residential smart meters to be installed               | -    | 7,998        | 14,393        | 14,394        | 9,597         | 46,382        |
| Planned number of General Service Less Than 50 kW smart meters           | -    | 751          | 1,474         | 1,474         | 984           | 4,683         |
| <b>Planned Meter Installation (Residential and Less Than 50 kW only)</b> | -    | <b>8,749</b> | <b>15,867</b> | <b>15,868</b> | <b>10,581</b> | <b>51,065</b> |
| Planned Meter Installation Completed before January 1, 2008              |      | 8,749        |               |               |               |               |

**Smart Meter Unit Cost**

| Per Unit   |                  |                          |
|--|------------------|--------------------------|
| <b>Smart Meter Unit Cost</b>   | \$ 140.19        | A                        |
| <i>Enter the invoiced cost per smart meter purchased<br/>Please provide details in Manager's Summary</i>               |                  |                          |
| <b>Smart Meter Other Unit Cost</b>   | \$ -             | B                        |
| <i>Enter the invoiced other costs per smart meter unit purchased<br/>Please provide details in Manager's Summary</i>   |                  |                          |
| <b>Smart Meter Installation Cost per Unit</b>  | \$ 15.00         | C                        |
| <i>Enter the time and material cost per smart meter unit installed<br/>Please provide details in Manager's Summary</i> |                  |                          |
| <b>Smart Meter Other Cost per Unit</b>   | \$ 6.00          | D                        |
| <i>Enter the other cost per smart meter unit installed<br/>Please provide details in Manager's Summary</i>             |                  |                          |
| <b>Total Unit cost per Smart Meter</b>   | <b>\$ 161.19</b> | <b>E = A + B + C + D</b> |

3. LDC Assumptions and Data

**AMI Capital Cost**

| AMI Computer Hardware Costs  | 2006 | 2007 | 2008 | 2009 | 2010 | Total |           |
|--|------|------|------|------|------|-------|-----------|
| \$ -   | \$ - | \$ - | \$ - | \$ - | \$ - | \$ -  | F         |
| <i>Enter the estimated capital costs for AMI related Computer Hardware<br/>Please provide details in Manager's Summary</i> |      |      |      |      |      |       |           |
| 3. LDC Assumptions and Data  |      |      |      |      |      |       |           |
| AMI Computer Software Costs  | 2006 | 2007 | 2008 | 2009 | 2010 | Total |           |
| \$ -   | \$ - | \$ - | \$ - | \$ - | \$ - | \$ -  | G         |
| <i>Enter the estimated capital costs for AMI related Computer Software<br/>Please provide details in Manager's Summary</i> |      |      |      |      |      |       |           |
| 3. LDC Assumptions and Data  |      |      |      |      |      |       |           |
| <b>Total AMI Capital Cost</b>  | \$ - | \$ - | \$ - | \$ - | \$ - | \$ -  | H = F + G |

**Other Capital Cost**

| Other Computer Hardware Costs  | 2006       | 2007       | 2008      | 2009     | 2010 | Total      |           |
|--|------------|------------|-----------|----------|------|------------|-----------|
| \$ -   | \$ -       | \$ -       | \$ -      | \$ -     | \$ - | \$ -       | I         |
| <i>Enter the estimated capital costs for other related Computer Hardware<br/>Please provide details in Manager's Summary</i> |            |            |           |          |      |            |           |
| 3. LDC Assumptions and Data  |            |            |           |          |      |            |           |
| Other Computer Software Costs  | 2006       | 2007       | 2008      | 2009     | 2010 | Total      |           |
| \$ -   | \$ 155,000 | \$ 25,000  | \$ 2,500  | \$ -     | \$ - | \$ 182,500 | J         |
| <i>Enter the estimated capital costs for other related Computer Software<br/>Please provide details in Manager's Summary</i> |            |            |           |          |      |            |           |
| 3. LDC Assumptions and Data  |            |            |           |          |      |            |           |
| <b>Total Other Capital Cost</b>  | \$ -       | \$ 155,000 | \$ 25,000 | \$ 2,500 | \$ - | \$ 182,500 | K = I + J |

**Incremental AMI Operational Expenses**

| Incremental AMI O&M Expenses  | 2006      | 2007       | 2008       | 2009       | 2010       | Total      |           |
|---|-----------|------------|------------|------------|------------|------------|-----------|
| \$ -  | \$ 56,100 | \$ 114,427 | \$ 224,400 | \$ 224,400 | \$ -       | \$ 619,327 | L         |
| <i>Enter the estimated incremental AMI related O&amp;M expenses<br/>Please provide details in Manager's Summary</i> |           |            |            |            |            |            |           |
| 3. LDC Assumptions and Data   |           |            |            |            |            |            |           |
| Incremental AMI Admin Expenses  | 2006      | 2007       | 2008       | 2009       | 2010       | Total      |           |
| \$ -  | \$ 40,500 | \$ 81,000  | \$ 81,000  | \$ 81,000  | \$ -       | \$ 283,500 | M         |
| <i>Enter the estimated incremental AMI related Admin expenses<br/>Please provide details in Manager's Summary</i>   |           |            |            |            |            |            |           |
| 3. LDC Assumptions and Data   |           |            |            |            |            |            |           |
| <b>Total Incremental AMI Operation Expenses</b>   | \$ -      | \$ 96,600  | \$ 195,427 | \$ 305,400 | \$ 305,400 | \$ 902,827 | N = L + M |

**Incremental Other Operational Expenses**

| Incremental Other O&M Expenses  | 2006      | 2007      | 2008      | 2009      | 2010     | Total      |           |
|---|-----------|-----------|-----------|-----------|----------|------------|-----------|
| \$ 85,725   | \$ -      | \$ -      | \$ -      | \$ -      | \$ -     | \$ 85,725  | O         |
| <i>Enter the estimated incremental Other related O&amp;M expenses<br/>Please provide details in Manager's Summary</i> |           |           |           |           |          |            |           |
| 3. LDC Assumptions and Data   |           |           |           |           |          |            |           |
| Incremental Other Admin Expenses  | 2006      | 2007      | 2008      | 2009      | 2010     | Total      |           |
| \$ -  | \$ 53,000 | \$ 28,000 | \$ 18,000 | \$ 8,000  | \$ -     | \$ 107,000 | P         |
| <i>Enter the estimated incremental Other related Admin expenses<br/>Please provide details in Manager's Summary</i>   |           |           |           |           |          |            |           |
| 3. LDC Assumptions and Data   |           |           |           |           |          |            |           |
| <b>Total Incremental Other Operation Expenses</b>   | \$ 85,725 | \$ 53,000 | \$ 28,000 | \$ 18,000 | \$ 8,000 | \$ 192,725 | Q = O + P |

AMI - Advanced Metering Infrastructure

Other - Cost or expenses not AMI but does not include stranded assets



## 2007 EDR SMART METER RATE CALCULATION MODEL

### Cambridge and North Dumfries Hydro Inc.

EB-2007-0513

Friday, February 09, 2007

### Sheet 3. LDC Assumptions and Data

#### Assumptions:

1. Planned meter installations occur evenly through the year.
2. Year assumed January to December
3. Amortization is straight line and has half year rule applied in first year

#### 2006 EDR Data Information

**Deemed Debt** (from 2006 EDR Sheet "3-2 COST OF CAPITAL (Input)" Cell C 18)

**Deemed Equity** (from 2006 EDR Sheet "3-2 COST OF CAPITAL (Input)" Cell C 19)

**Weighted Debt Rate** (from 2006 EDR Sheet "3-2 COST OF CAPITAL (Input)" Cell C 25)

**Proposed ROE** (from 2006 EDR Sheet "3-2 COST OF CAPITAL (Input)" Cell E 32)

#### Weighted Average Cost of Capital

50% 4. Smart Meter Rate Calc

50% 4. Smart Meter Rate Calc

6.01% 4. Smart Meter Rate Calc

9.00% 4. Smart Meter Rate Calc

7.51%

#### 2006 EDR Total Metered Customers

**Sum of Residential, General Service, and Large User**

from 2006 EDR Sheet "7-1 ALLOCATION - Base Rev. Req." Cells H16 thru H93

46,459 4. Smart Meter Rate Calc

#### 2006 EDR Tax Rate

**Corporate Income Tax Rate**

(from 2006 PILs Sheet "Test Year PILs, Tax Provision" Cell D 14)

36.12% 5. PILs

#### Capital Data:

Smart meter including installation (\$161.19 times Planned Meters Installed)

Computer Hardware Costs 2. Smart Meter Data; AMI (F) plus Other (I)

Computer Software Costs 2. Smart Meter Data; AMI (G) plus Other (J)

Total Computer Costs 2. Smart Meter Data; AMI (H) plus Other (K)

|    | 2006 | 2007         | 2008         | 2009         | 2010         | Total        |
|----|------|--------------|--------------|--------------|--------------|--------------|
| \$ | -    | \$ 1,410,251 | \$ 2,557,602 | \$ 2,557,763 | \$ 1,705,551 | \$ 8,231,167 |
| \$ | -    | \$ -         | \$ -         | \$ -         | \$ -         | \$ -         |
| \$ | -    | \$ 155,000   | \$ 25,000    | \$ 2,500     | \$ -         | \$ 182,500   |
| \$ | -    | \$ 1,565,251 | \$ 2,582,602 | \$ 2,560,263 | \$ 1,705,551 | \$ 8,413,667 |

6. SM Avg Net Fixed Assets & UCC

#### LDC Amortization Policy:

Smart Meter Amortization Rate Enter Amortization Policy

Computer Hardware Amortization Rate Enter Amortization Policy

Computer Software Amortization Rate Enter Amortization Policy

15 Years 6. SM Avg Net Fixed Assets & UCC

5 Years 6. SM Avg Net Fixed Assets & UCC

3 Years 6. SM Avg Net Fixed Assets & UCC

#### Operating Expense Data:

Incremental O&M Expenses 2. Smart Meter Data; AMI (L) plus Other (O)

Incremental Admin Expenses 2. Smart Meter Data; AMI (M) plus Other (P)

Total Incremental Operating Expense 2. Smart Meter Data; AMI (N) plus Other (Q)

|    | 2006   | 2007       | 2008       | 2009       | 2010       | Total        |
|----|--------|------------|------------|------------|------------|--------------|
| \$ | 85,725 | \$ 56,100  | \$ 114,427 | \$ 224,400 | \$ 224,400 | \$ 705,052   |
| \$ | -      | \$ 93,500  | \$ 109,000 | \$ 99,000  | \$ 89,000  | \$ 390,500   |
| \$ | 85,725 | \$ 149,600 | \$ 223,427 | \$ 323,400 | \$ 313,400 | \$ 1,095,552 |

4. Smart Meter Rate Calc

#### Per Meter Cost Split:

Smart meter including installation

Computer Hardware Costs

Computer Software Costs

Smart meter incremental operating expenses

Total Smart Meter Capital Costs per meter

|    | Per Meter | Installed | Investment   | % of Invest |
|----|-----------|-----------|--------------|-------------|
| \$ | 161.19    | 51,065    | \$ 8,231,167 | 87%         |
| \$ | -         | 51,065    | \$ -         | 0%          |
| \$ | 3.57      | 51,065    | \$ 182,500   | 0%          |
| \$ | 21.45     | 51,065    | \$ 1,095,552 | 0%          |
| \$ | 186.22    |           | \$ 9,509,219 | 87%         |



**2007 EDR SMART METER RATE CALCULATION MODEL**

**Cambridge and North Dumfries Hydro Inc.**

**EB-2007-0513**

**Friday, February 09, 2007**

**Sheet 4. Smart Meter Rate Calc**

**Smart Meter Rate Calculation**

**Average Asset Values**

|  | 2007 |         |
|--|------|---------|
| Net Fixed Assets Smart Meters (6. SM Avg Net Fixed Assets &UCC)      | \$   | 681,621 |
| Net Fixed Assets Computer Hardware (6. SM Avg Net Fixed Assets &UCC) | \$   |         |
| Net Fixed Assets Computer Software (6. SM Avg Net Fixed Assets &UCC) | \$   | 64,583  |
| Total Net Fixed Assets   | \$   | 746,205 |

A

**Working Capital**

|                      |    |         |           |
|----------------------|----|---------|-----------|
| Operation Expense    | \$ | 149,600 |           |
| 15 % Working Capital | \$ | 22,440  | \$ 22,440 |

B

**Smart Meters included in Rate Base**

\$ 768,645

C = A + B

**Return on Rate Base**

|   |       |    |                |
|---|-------|----|----------------|
| Deemed Debt (3. LDC Assumptions and Data)   | 50.0% | \$ | 384,322        |
| Deemed Equity (3. LDC Assumptions and Data) | 50.0% | \$ | 384,322        |
|   |       | \$ | <u>768,645</u> |

D = C \* Deemed Debt

E = C \* Deemed Equity

Weighted Debt Rate (3. LDC Assumptions and Data)

6.0% \$ 23,098

Proposed ROE (3. LDC Assumptions and Data)

9.0% \$ 34,589

F = D \* Weighted Debt Rate

G = E \* Proposed ROE

**Return on Rate Base**

\$ 57,687 \$ 57,687

H = F + G

**Operating Expenses**

Incremental Operating Expenses (3. LDC Assumptions and Data) \$ 149,600

I

**Amortization Expenses**

|   |    |               |
|---|----|---------------|
| Amortization Expenses - Smart Meters (6. SM Avg Net Fixed Assets &UCC)      | \$ | 47,008        |
| Amortization Expenses - Computer Hardware (6. SM Avg Net Fixed Assets &UCC) | \$ | -             |
| Amortization Expenses - Computer Software (6. SM Avg Net Fixed Assets &UCC) | \$ | <u>25,833</u> |

**Total Amortization Expenses**

\$ 72,842 5. PILs

J

**Revenue Requirement Before PILs**

\$ 280,129

K = H + I + J

**Calculation of Taxable Income**

|                                |     |               |
|--------------------------------|-----|---------------|
| Incremental Operating Expenses | -\$ | 149,600       |
| Depreciation Expenses          | -\$ | 72,842        |
| Interest Expense               | -\$ | <u>23,098</u> |

I

J

F

**Taxable Income For PILs**

\$ 34,589 5. PILs

L = K - I - J - F

**Grossed up PILs (5. PILs)**

\$ 13,607

M

Revenue Requirement Before PILs

\$ 280,129

K

Grossed up PILs (5. PILs)

\$ 13,607

M

**Revenue Requirement for Smart Meters**

\$ 293,735

N = K + M

**2007 Smart Meter Rate Adder**

|  |    |               |
|--|----|---------------|
| Revenue Requirement for Smart Meters                           | \$ | 293,735       |
| 2006 EDR Total Metered Customers (3. LDC Assumptions and Data) |    | <u>46,459</u> |
| Annualized amount required per metered customer                | \$ | 6.32          |
| Number of months in year                                       |    | <u>12</u>     |

O = 2006 EDR Total Metered Customers

P = N / O

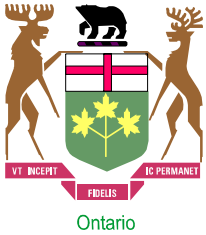
Q

**2007 Smart Meter Rate Adder**

\$ 0.53

R = P / Q

Enter this amount in the 2007 IRM Model sheet "4. 2006 Smart Meter Information" in cells F 17 thru F 32 (as required)



## 2007 EDR SMART METER RATE CALCULATION MODEL

### Cambridge and North Dumfries Hydro Inc.

EB-2007-0513

Friday, February 09, 2007

### Sheet 5. PILs

## PILs Calculation

### INCOME TAX

|  |     |        |
|--|-----|--------|
| Net Income (4. Smart Meter Rate Calc)                              | \$  | 34,589 |
| Amortization (4. Smart Meter Rate Calc)                            | \$  | 72,842 |
| CCA - Class 47 (8%) Smart Meters (6. SM Avg Net Fixed Assets &UCC) | -\$ | 56,410 |
| CCA - Class 45 (45%) Computers (6. SM Avg Net Fixed Assets &UCC)   | -\$ | 34,875 |
| Change in taxable income   | \$  | 16,146 |
| Tax Rate (3. LDC Assumptions and Data)                             |     | 36.12% |
| Income Taxes Payable   | \$  | 5,832  |

### ONTARIO CAPITAL TAX

|   |    |           |
|---|----|-----------|
| Smart Meters (6. SM Avg Net Fixed Assets &UCC)      | \$ | 1,363,243 |
| Computer Hardware (6. SM Avg Net Fixed Assets &UCC) | \$ | -         |
| Computer Software (6. SM Avg Net Fixed Assets &UCC) | \$ | 129,167   |
| Rate Base   | \$ | 1,492,410 |
| Less: Exemption                                     | \$ | -         |
| Deemed Taxable Capital                              | \$ | 1,492,410 |
| Ontario Capital Tax Rate                            |    | 0.300%    |
| Net Amount (Taxable Capital x Rate)                 | \$ | 4,477     |

### Gross Up

|                                | PILs Payable | Gross Up | Grossed Up PILs                           |
|--------------------------------|--------------|----------|---|
| Change in Income Taxes Payable | \$ 5,832     | 36.12%   | \$ 9,129                                  |
| Change in OCT                  | \$ 4,477     |          | \$ 4,477                                  |
| PIL's                          | \$ 10,309    |          | <b>\$ 13,607</b> 4. Smart Meter Rate Calc |



2007 EDR SMART METER RATE CALCULATION MODEL

Cambridge and North Dumfries Hydro Inc.

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Sheet 6. SM Avg Net Fixed Assets & UCC

Smart Meter Average Net Fixed Assets

Net Fixed Assets - Smart Meters

|   | 2006 | 2007         |
|---|------|--------------|
| Opening Capital Investment                              | \$ - | \$ -         |
| Capital Investment Year 1 (3. LDC Assumptions and Data) | \$ - | -            |
| Capital Investment Year 2 (3. LDC Assumptions and Data) | -    | \$ 1,410,251 |
| Closing Capital Investment                              | \$ - | \$ 1,410,251 |
| Opening Accumulated Amortization                        | \$ - | \$ -         |
| Amortization Year 1 (15 Years Straight Line)            | \$ - | \$ -         |
| Amortization Year 2 (15 Years Straight Line)            | -    | \$ 47,008    |
| Closing Accumulated Amortization                        | \$ - | \$ 47,008    |
| Opening Net Fixed Assets                                | \$ - | \$ -         |
| Closing Net Fixed Assets                                | \$ - | \$ 1,363,243 |
| Average Net Fixed Assets                                | \$ - | \$ 681,621   |

5. PILs

4. Smart Meter Rate Calc

Net Fixed Assets - Computer Hardware

|   | 2006 | 2007 |
|---|------|------|
| Opening Capital Investment                              | \$ - | \$ - |
| Capital Investment Year 1 (3. LDC Assumptions and Data) | \$ - | -    |
| Capital Investment Year 2 (3. LDC Assumptions and Data) | -    | \$ - |
| Closing Capital Investment                              | \$ - | \$ - |
| Opening Accumulated Amortization                        | \$ - | \$ - |
| Amortization Year 1 (5 Years Straight Line)             | \$ - | \$ - |
| Amortization Year 2 (5 Years Straight Line)             | -    | \$ - |
| Closing Accumulated Amortization                        | \$ - | \$ - |
| Opening Net Fixed Assets                                | \$ - | \$ - |
| Closing Net Fixed Assets                                | \$ - | \$ - |
| Average Net Fixed Assets                                | \$ - | \$ - |

5. PILs

4. Smart Meter Rate Calc

Net Fixed Assets - Computer Software

|   | 2006 | 2007       |
|---|------|------------|
| Opening Capital Investment                              | \$ - | \$ -       |
| Capital Investment Year 1 (3. LDC Assumptions and Data) | \$ - | -          |
| Capital Investment Year 2 (3. LDC Assumptions and Data) | -    | \$ 155,000 |
| Closing Capital Investment                              | \$ - | \$ 155,000 |
| Opening Accumulated Amortization                        | \$ - | \$ -       |
| Amortization Year 1 (3 Years Straight Line)             | \$ - | \$ -       |
| Amortization Year 2 (3 Years Straight Line)             | -    | \$ 25,833  |
| Closing Accumulated Amortization                        | \$ - | \$ 25,833  |
| Opening Net Fixed Assets                                | \$ - | \$ -       |
| Closing Net Fixed Assets                                | \$ - | \$ 129,167 |
| Average Net Fixed Assets                                | \$ - | \$ 64,583  |

5. PILs

4. Smart Meter Rate Calc



2007 EDR SMART METER RATE CALCULATION MODEL

**Cambridge and North Dumfries Hydro Inc.**

**EB-2007-0513**

**Friday, February 09, 2007**

**Sheet 6. SM Avg Net Fixed Assets &UCC**

**For PILs Calculation**

**UCC - Smart Meters**

| CCA Class 47 (8%)                          | 2006 | 2007                         |
|--|------|------------------------------|
| Opening UCC                                | \$ - | \$ -                         |
| Capital Additions                          | \$ - | \$ 1,410,251                 |
| UCC Before Half Year Rule                  | \$ - | \$ 1,410,251                 |
| Half Year Rule (1/2 Additions - Disposals) | \$ - | \$ 705,126                   |
| Reduced UCC                                | \$ - | \$ 705,126                   |
| CCA Rate Class 47                          | 8%   | 8%                           |
| CCA  | \$ - | \$ 56,410 <sup>5. PILs</sup> |
| Closing UCC                                | \$ - | \$ 1,353,841                 |

**UCC - Computer Equipment**

| CCA Class 45 (45%)                         | 2006 | 2007                         |
|--|------|------------------------------|
| Opening UCC                                | \$ - | \$ -                         |
| Capital Additions Hardware                 | \$ - | \$ -                         |
| Capital Additions Software                 | \$ - | \$ 155,000                   |
| UCC Before Half Year Rule                  | \$ - | \$ 155,000                   |
| Half Year Rule (1/2 Additions - Disposals) | \$ - | \$ 77,500                    |
| Reduced UCC                                | \$ - | \$ 77,500                    |
| CCA Rate Class 45                          | 45%  | 45%                          |
| CCA  | \$ - | \$ 34,875 <sup>5. PILs</sup> |
| Closing UCC                                | \$ - | \$ 120,125                   |