

Hydro One Brampton Networks Inc.

Issuance of Addendum for Smart Metering Rates

To The 2007 Distribution Rate Adjustments

ED-2003-0038

EB-2005-0377/ EB-2007-0541

Summary of Application

February 9th, 2007

1 On January 26th, 2007 Hydro One Brampton Networks Inc. (Hydro One Brampton)
2 filed with the Ontario Energy Board (the "Board"), pursuant to section 78 of the
3 *Ontario Energy Board Act, 1998*, for an Order or Orders approving the revenue
4 requirement and customer rates for the distribution of electricity, to be implemented
5 on May 1, 2007.

6
7 As part of this application, Hydro One Brampton requested the Board to approve a
8 smart metering rate rider of \$0.52 per metered customer to be implemented on May
9 1, 2007.

10
11 On January 29th, 2007, the Board issued an Addendum to its Report of the Board on
12 Cost of Capital and 2nd Generation Incentive Regulation for Ontario's Electricity
13 Distributors. This addendum noted that the Board would advise parties of the
14 approval process related to additional smart meter funding. This Addendum provided
15 direction for distributors' recovery of costs associated with smart metering
16 investments in electricity distribution rates and on filing requirements for 2007 EDR
17 smart metering rate adders.

18
19 Based on the directions associated with this addendum, Hydro One Brampton has
20 calculated a revised smart metering rate rider that is different from the original rate
21 requested in its application of January 26th, 2007.

22
23 Hydro One Brampton is withdrawing its request for approval of a smart metering rate
24 rider of \$0.52 per metered customer and is now requesting approval from the Board
25 for a smart metering rate rider of \$0.67 per metered customer to be implemented on
26 May 1, 2007.

27
28 Hydro One Brampton utilized the standard 2007 EDR Smart Meter Rate Calculation
29 Model as provided by the Board to determine the smart metering rate rider. The

1 following gives a brief explanation of the values used to populate the 2007 EDR
2 Smart Meter Rate Calculation Model.

3

4 **From Tab 2 Smart Meter Data**

5 **Smart Meter Unit Cost**

6

7 **1) Smart Meter Unit Cost**

8 The smart meter unit cost submitted in the application is based on our current
9 invoiced smart metering costs. These costs include the material cost of the meter and
10 the communication module under glass. It does not include any customer equipment
11 costs or any required socket adaptors.

12

13 **2) Smart Meter Other Unit Cost**

14 The costs associated with this data input include the costs of an optional extended
15 outage detection capability. Hydro One Brampton believes there are real customer
16 benefits associated with this function and is building this capability into its ongoing
17 AMI deployment.

18

19 **3) Smart Meter Installation Cost per Unit**

20 The smart meter installation costs per unit submitted in the application are based on
21 our contractor's current pricing structure.

22

23 **4) Smart Meter Other Cost Per Unit**

24 Costs in this section include costs associated with meter equipment required to
25 complete this installation of the smart meter such as meter seals and meter rings,
26 licensing and maintenance support per meter. In addition, these costs include the
27 additional cost of a collector on a per meter basis.

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29

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1 **AMI Capital Cost**

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3 **5) AMI Computer Hardware Costs**

4 AMI computer hardware includes the costs of computer servers required to facilitate
5 AMI.

6

7 **6) AMI Computer Software Costs**

8 AMI computer software includes the costs for software license fees, attending
9 professional services and one time telecom activation fees required to facilitate AMI.

10

11 **Other Capital Cost**

12

13 **7) Other Computer Hardware Costs**

14 Hydro One Brampton has not included any costs in this section.

15

16 **8) Other Computer Software Costs**

17 Hydro One Brampton has not included any costs in this section.

18

19 **Incremental AMI Operational Expenses**

20

21 **9) Incremental AMI O&M Expenses**

22 Hydro One Brampton has not included any costs in this section.

23

24 **10) Incremental AM&I Admin Expenses**

25 Incremental other operating expenses consist of costs for day to day program
26 management; and project communication and change management.

27

28

29

30

1 **Incremental Other Operational Expenses**

2

3 **11) Incremental Other O&M Expenses**

4 Hydro One Brampton has not included any costs in this section.

5

6 **12) Incremental Other Operational Expenses**

7 Hydro One Brampton has not included any costs in this section.

8

9

10 **From Tab 3 LDC Assumptions and Data**

11

12 **Hydro One Brampton Has applied the defaulted amortization rates as supplied**
13 **in model.**

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1 **Contact Information:**

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5 Brampton, Ontario L7A 1E8

6 Tel (905) 452-5504

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8 smiller@hydroonebrampton.com

9

10 DATED at Brampton, Ontario, this 9th day of February, 2007.

11

12 HYDRO ONE BRAMPTON NETWORKS INC.

13

14

15

16

17

Scott Miller



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.

Name of LDC:

Licence Number: Smart Meter Grouping:

IRM 2007 EB Number:

EDR 2006 RP Number: EDR 2006 EB Number:

Date of Submission: Revision:

Version: 1.0

Contact Information

Name:

Title:

Phone Number:

E-Mail Address:

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.

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2007 EDR Smart Meter Rate Calculation Model

Hydro One Brampton Networks Inc.

EB-2007-0541

09-Feb,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	5,000	30,000	35,000	35,000	27,000	132,000
Planned number of General Service Less Than 50 kW smart meters	-	-	-	-	-	-
Planned Meter Installation (Residential and Less Than 50 kW only)	5,000	30,000	35,000	35,000	27,000	132,000
Planned Meter Installation Completed before January 1, 2008		35,000				

Smart Meter Unit Cost

	Per Unit	
Smart Meter Unit Cost	\$ 91.80	A
<i>Enter the invoiced cost per smart meter purchased Please provide details in Manager's Summary</i>		
Smart Meter Other Unit Cost	\$ 16.20	B
<i>Enter the invoiced other costs per smart meter unit purchased Please provide details in Manager's Summary</i>		
Smart Meter Installation Cost per Unit	\$ 12.30	C
<i>Enter the time and material cost per smart meter unit installed Please provide details in Manager's Summary</i>		
Smart Meter Other Cost per Unit	\$ 5.03	D
<i>Enter the other cost per smart meter unit installed Please provide details in Manager's Summary</i>		
Total Unit cost per Smart Meter	\$ 125.33	E = A + B + C + D

3. LDC Assumptions and Data

AMI Capital Cost

	2006	2007	2008	2009	2010	Total	
AMI Computer Hardware Costs	\$ -	\$ 200,000	\$ -	\$ -	\$ -	\$ 200,000	F
<i>Enter the estimated capital costs for AMI related Computer Hardware Please provide details in Manager's Summary</i>							
							3. LDC Assumptions and Data
AMI Computer Software Costs	\$ -	\$ 300,000	\$ -	\$ -	\$ -	\$ 300,000	G
<i>Enter the estimated capital costs for AMI related Computer Software Please provide details in Manager's Summary</i>							
							3. LDC Assumptions and Data
Total AMI Capital Cost	\$ -	\$ 500,000	\$ -	\$ -	\$ -	\$ 500,000	H = F + G

Other Capital Cost

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

Incremental AMI Operational Expenses

	2006	2007	2008	2009	2010	Total	
Incremental AMI O&M Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	L
<i>Enter the estimated incremental AMI related O&M expenses Please provide details in Manager's Summary</i>							
							3. LDC Assumptions and Data
Incremental AMI Admin Expenses	\$ 54,000	\$ 410,000	\$ 670,000	\$ 860,000	\$ 1,050,000	\$ 3,044,000	M
<i>Enter the estimated incremental AMI related Admin expenses Please provide details in Manager's Summary</i>							
							3. LDC Assumptions and Data
Total Incremental AMI Operation Expenses	\$ 54,000	\$ 410,000	\$ 670,000	\$ 860,000	\$ 1,050,000	\$ 3,044,000	N = L + M

Incremental Other Operational Expenses

	2006	2007	2008	2009	2010	Total	
Incremental Other O&M Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	O
<i>Enter the estimated incremental Other related O&M expenses Please provide details in Manager's Summary</i>							
							3. LDC Assumptions and Data
Incremental Other Admin Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	P
<i>Enter the estimated incremental Other related Admin expenses Please provide details in Manager's Summary</i>							
							3. LDC Assumptions and Data
Total Incremental Other Operation Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	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

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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

55% 4. Smart Meter Rate Calc

45% 4. Smart Meter Rate Calc

6.95% 4. Smart Meter Rate Calc

9.00% 4. Smart Meter Rate Calc

7.87%

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

110,437 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 (\$125.33 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
\$	626,650	\$ 3,759,900	\$ 4,386,550	\$ 4,386,550	\$ 3,383,910	\$ 16,543,560
\$	-	\$ 200,000	\$ -	\$ -	\$ -	\$ 200,000
\$	-	\$ 300,000	\$ -	\$ -	\$ -	\$ 300,000
\$	626,650	\$ 4,259,900	\$ 4,386,550	\$ 4,386,550	\$ 3,383,910	\$ 17,043,560

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
\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
\$	54,000	\$ 410,000	\$ 670,000	\$ 860,000	\$ 1,050,000	\$ 3,044,000
\$	54,000	\$ 410,000	\$ 670,000	\$ 860,000	\$ 1,050,000	\$ 3,044,000

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
\$	125.33	132,000	\$ 16,543,560	82%
\$	1.52	132,000	\$ 200,000	0%
\$	2.27	132,000	\$ 300,000	0%
\$	23.06	132,000	\$ 3,044,000	0%
\$	152.18		\$ 20,087,560	82%



2007 EDR Smart Meter Rate Calculation Model

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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)	\$	2,402,158
Net Fixed Assets Computer Hardware (6. SM Avg Net Fixed Assets &UCC)	\$	90,000
Net Fixed Assets Computer Software (6. SM Avg Net Fixed Assets &UCC)	\$	125,000
Total Net Fixed Assets	\$	2,617,158

A

Working Capital

Operation Expense	\$	410,000
15 % Working Capital	\$	61,500
	\$	61,500

B

Smart Meters included in Rate Base

\$ 2,678,658

C = A + B

Return on Rate Base

Deemed Debt (3. LDC Assumptions and Data)	55.0%	\$	1,473,262
Deemed Equity (3. LDC Assumptions and Data)	45.0%	\$	1,205,396
		\$	2,678,658

D = C * Deemed Debt

E = C * Deemed Equity

Weighted Debt Rate (3. LDC Assumptions and Data)

7.0% \$ 102,392

F = D * Weighted Debt Rate

Proposed ROE (3. LDC Assumptions and Data)

9.0% \$ 108,486

G = E * Proposed ROE

Return on Rate Base

\$ 210,877

H = F + G

Operating Expenses

Incremental Operating Expenses (3. LDC Assumptions and Data) \$ 410,000

I

Amortization Expenses

Amortization Expenses - Smart Meters (6. SM Avg Net Fixed Assets &UCC)	\$	167,107
Amortization Expenses - Computer Hardware (6. SM Avg Net Fixed Assets &UCC)	\$	20,000
Amortization Expenses - Computer Software (6. SM Avg Net Fixed Assets &UCC)	\$	50,000

J

Total Amortization Expenses

\$ 237,107 ^{5. PILs}

Revenue Requirement Before PILs

\$ 857,984

K = H + I + J

Calculation of Taxable Income

Incremental Operating Expenses	-\$	410,000
Depreciation Expenses	-\$	237,107
Interest Expense	-\$	102,392

I

J

F

Taxable Income For PILs

\$ 108,486 ^{5. PILs}

L = K - I - J - F

Grossed up PILs (5. PILs)

\$ 33,433

M

Revenue Requirement Before PILs

\$ 857,984

K

Grossed up PILs (5. PILs)

\$ 33,433

M

Revenue Requirement for Smart Meters

\$ 891,417

N = K + M

2007 Smart Meter Rate Adder

Revenue Requirement for Smart Meters	\$	891,417
2006 EDR Total Metered Customers (3. LDC Assumptions and Data)		110,437
Annualized amount required per metered customer	\$	8.07
Number of months in year		12

O = 2006 EDR Total Metered Customers

P = N / O

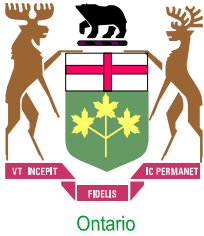
Q

2007 Smart Meter Rate Adder

\$ 0.67

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

Hydro One Brampton Networks Inc.

EB-2007-0541

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Sheet 5. PILs

PILs Calculation

INCOME TAX

Net Income (4. Smart Meter Rate Calc)	\$ 108,486
Amortization (4. Smart Meter Rate Calc)	\$ 237,107
CCA - Class 47 (8%) Smart Meters (6. SM Avg Net Fixed Assets &UCC)	-\$ 198,523
CCA - Class 45 (45%) Computers (6. SM Avg Net Fixed Assets &UCC)	-\$ 112,500
Change in taxable income	<u>\$ 34,570</u>
Tax Rate (3. LDC Assumptions and Data)	<u>36.12%</u>
Income Taxes Payable	<u>\$ 12,487</u>

ONTARIO CAPITAL TAX

Smart Meters (6. SM Avg Net Fixed Assets &UCC)	\$ 4,198,555
Computer Hardware (6. SM Avg Net Fixed Assets &UCC)	\$ 180,000
Computer Software (6. SM Avg Net Fixed Assets &UCC)	<u>\$ 250,000</u>
Rate Base	\$ 4,628,555
Less: Exemption	\$ -
Deemed Taxable Capital	<u>\$ 4,628,555</u>
Ontario Capital Tax Rate	<u>0.300%</u>
Net Amount (Taxable Capital x Rate)	<u>\$ 13,886</u>

Gross Up

	PILs Payable	Gross Up	Grossed Up PILs
Change in Income Taxes Payable	\$ 12,487	36.12%	\$ 19,547
Change in OCT	\$ 13,886		\$ 13,886
PIL's	<u>\$ 26,372</u>		<u>\$ 33,433</u> 4. Smart Meter Rate Calc



2007 EDR Smart Meter Rate Calculation Model

Hydro One Brampton Networks Inc.

EB-2007-0541

09-Feb,2007

Sheet 6. SM Avg Net Fixed Assets &UCC

Smart Meter Average Net Fixed Assets

Net Fixed Assets - Smart Meters

	2006	2007	
Opening Capital Investment	\$ -	\$ 626,650	
Capital Investment Year 1 (3. LDC Assumptions and Data)	\$ 626,650		
Capital Investment Year 2 (3. LDC Assumptions and Data)		\$ 3,759,900	
Closing Capital Investment	\$ 626,650	\$ 4,386,550	
Opening Accumulated Amortization	\$ -	\$ 20,888	
Amortization Year 1 (15 Years Straight Line)	\$ 20,888	\$ 41,777	
Amortization Year 2 (15 Years Straight Line)		\$ 125,330	
Closing Accumulated Amortization	\$ 20,888	\$ 187,995	
Opening Net Fixed Assets	\$ -	\$ 605,762	
Closing Net Fixed Assets	\$ 605,762	\$ 4,198,555	5. PILs
Average Net Fixed Assets	\$ 302,881	\$ 2,402,158	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)		\$ 200,000	
Closing Capital Investment	\$ -	\$ 200,000	
Opening Accumulated Amortization	\$ -	\$ -	
Amortization Year 1 (5 Years Straight Line)	\$ -	\$ -	
Amortization Year 2 (5 Years Straight Line)		\$ 20,000	
Closing Accumulated Amortization	\$ -	\$ 20,000	
Opening Net Fixed Assets	\$ -	\$ -	
Closing Net Fixed Assets	\$ -	\$ 180,000	5. PILs
Average Net Fixed Assets	\$ -	\$ 90,000	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)		\$ 300,000	
Closing Capital Investment	\$ -	\$ 300,000	
Opening Accumulated Amortization	\$ -	\$ -	
Amortization Year 1 (3 Years Straight Line)	\$ -	\$ -	
Amortization Year 2 (3 Years Straight Line)		\$ 50,000	
Closing Accumulated Amortization	\$ -	\$ 50,000	
Opening Net Fixed Assets	\$ -	\$ -	
Closing Net Fixed Assets	\$ -	\$ 250,000	5. PILs
Average Net Fixed Assets	\$ -	\$ 125,000	4. Smart Meter Rate Calc



2007 EDR Smart Meter Rate Calculation Model

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Sheet 6. SM Avg Net Fixed Assets &UCC

For PILs Calculation

UCC - Smart Meters

CCA Class 47 (8%)	2006	2007
Opening UCC	\$ -	\$ 601,584
Capital Additions	\$ 626,650	\$ 3,759,900
UCC Before Half Year Rule	\$ 626,650	\$ 4,361,484
Half Year Rule (1/2 Additions - Disposals)	\$ 313,325	\$ 1,879,950
Reduced UCC	\$ 313,325	\$ 2,481,534
CCA Rate Class 47	8%	8%
CCA	\$ 25,066	\$ 198,523 ^{5. PILs}
Closing UCC	\$ 601,584	\$ 4,162,961

UCC - Computer Equipment

CCA Class 45 (45%)	2006	2007
Opening UCC	\$ -	\$ -
Capital Additions Hardware	\$ -	\$ 200,000
Capital Additions Software	\$ -	\$ 300,000
UCC Before Half Year Rule	\$ -	\$ 500,000
Half Year Rule (1/2 Additions - Disposals)	\$ -	\$ 250,000
Reduced UCC	\$ -	\$ 250,000
CCA Rate Class 45	45%	45%
CCA	\$ -	\$ 112,500 ^{5. PILs}
Closing UCC	\$ -	\$ 387,500