



2007 EDR SMART METER RATE CALCULATION MODEL MANAGER'S SUMMARY

EB-2007-0547
FEBRUARY 9, 2007

- Janice Robertson
- Manager of Finance
& Regulatory Affairs
- jrobertson@kenora.ca
- Phone (807) 467-2014
- Fax (807) 467-2068



SUBMISSION

Kenora Hydro submits the 2007 Smart Meter Rate Calculation Model including:

- One CD – containing the Manager’s Summary, and the 2007 Smart Meter Rate Calculation Model.
- Three paper copies of the Manager’s Summary and the 2007 Smart Meter Rate Calculation Model.

GENERAL COMMENTS

- Kenora Hydro did not use any alternative principles or mechanisms for this Smart Meter Rate Calculation model, it is filed as presented as instructed by the Report of the Board, January 29, 2007.
- The Board has grouped Kenora Hydro into the “Inactive Distributor” classification. Although it is intended that 20% of the residential meters will be converted to smart meters in 2007, the associated technology to allow Kenora Hydro to interrogate these meters will not be in place until 2008 or beyond.
- Kenora Hydro’s current approved 2006 rates include a \$.26 per month charge for all Residential and General Service customers for Smart Meters.
- The results of this model indicate \$.73 per metered customer is required for 2007.



SHEET 2

Smart Meter Unit Cost

- Kenora Hydro has estimated a capital cost of \$100 per installed meter.

AMI Capital Cost

- It is estimated that in 2008, \$20,000 will be spent on capital infrastructure to enable the communication with and interrogation of the smart meters.

AMI Computer Software Cost

- In 2009, the associated billing software upgrades will be purchased at an estimated cost of \$10,000

Other Computer Software Costs

- Kenora has budgeted \$10,000 in 2007 to allow for a propagation study.

Incremental AMI O&M Expenses

- 2007 has \$3,600 budgeted for meter interrogation of 1,000 meters at \$.30/meter/month
- 2008 has \$7,920 for interrogation of 2,200 meters at \$.30/meter/month
- 2009 has \$12,240 for interrogation of 3,400 meters at \$.30/meter/month
- 2010 has \$20,880 for interrogation of 5,800 meters at \$.30/meter/month

Incremental AMI Admin Expenses

- \$10,000 has been included in 2007 to cover staff travel and training.

Incremental Other O&M Operational Expenses

- An estimate for O&M admin at \$.20/meter/month and an allowance for meter re-verification over the life of the meters has been provided for the following:
 - ~ 2007 \$2,400 O&M admin and \$25,000 meter re-verification
 - ~ 2008 \$5,280 O&M admin and \$30,000 meter re-verification
 - ~ 2009 \$8,160 O&M admin and \$30,000 meter re-verification
 - ~ 2010 \$13,920 O&M admin and \$60,000 meter re-verification



SHEET 3

From the 2006 EDR Sheets, the following data is submitted:

- 50% Deemed Debt
- 50% Deemed Equity
- 6.5% Weighted Debt Rate
- 9.0% proposed ROE
- 7.75% Weighted Average Cost of Capital
- 5,831 metered customers
- 18.62% PILs tax rate for 2007 year

The amortization rates presented in the model of 15 years for smart meters, 5 years for computer hardware and 3 years for software is the policy for Kenora Hydro.

SHEET 4

The inputs as provided by Kenora Hydro result in a Smart Meter rate adder of \$.73.



Conclusion:

Kenora Hydro customers will have a smart meter adder of \$.73/meter/month for the 2007 rate year.

It is to be understood that the figures used in this filing, as were initially presented in the Smart Meter Program filing of December 15, 2006 to the OEB, are preliminary estimates only, and could vary materially from the actual capital and operating expenditures incurred over the life of this smart meter program.

This filing has been completed with the most current and accurate information at the time of filing. Best efforts were made to ensure this filing was accurate and complete as instructed in the “Report of the Board” of January 29, 2007.

Respectfully Submitted

Janice Robertson
for:
David Sinclair, President and CEO
Kenora Hydro



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: Kenora Hydro Electric Corporation Ltd.

Licence Number: ED-2003-0030

Smart Meter Grouping: Inactive

IRM 2007 EB Number: EB-2007-0547

EDR 2006 RP Number: RP-2005-0020

EDR 2006 EB Number: EB-2005-0384

Date of Submission: February 9, 2007

Revision: 0

Version: 1.0

Contact Information

Name: JANICE ROBERTSON

Title: MANAGER OF FINANCE & REGULATORY AFFAIRS

Phone Number: 807-467-2014

E-Mail Address: JROBERTSON@KENORA.CA

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

Kenora Hydro Electric Corporation Ltd.

EB-2007-0547

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	-	1,000	1,200	1,200	1,600	5,000
Planned number of General Service Less Than 50 kW smart meters	-	-	-	-	800	800
Planned Meter Installation (Residential and Less Than 50 kW only)	-	1,000	1,200	1,200	2,400	5,800
Planned Meter Installation Completed before January 1, 2008		1,000				

Smart Meter Unit Cost

Smart Meter Unit Cost

Enter the invoiced cost per smart meter purchased

Please provide details in Manager's Summary

Per Unit	
\$ 100.00	A

Smart Meter Other Unit Cost

Enter the invoiced other costs per smart meter unit purchased

Please provide details in Manager's Summary

	B
--	---

Smart Meter Installation Cost per Unit

Enter the time and material cost per smart meter unit installed

Please provide details in Manager's Summary

	C
--	---

Smart Meter Other Cost per Unit

Enter the other cost per smart meter unit installed

Please provide details in Manager's Summary

	D
--	---

Total Unit cost per Smart Meter

\$ 100.00	E = A + B + C + D
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3. LDC Assumptions and Data

AMI Capital Cost

AMI Computer Hardware Costs

Enter the estimated capital costs for AMI related Computer Hardware

Please provide details in Manager's Summary

2006	2007	2008	2009	2010	Total	
		\$ 20,000	\$ -	\$ -	\$ 20,000	F

3. LDC Assumptions and Data

AMI Computer Software Costs

Enter the estimated capital costs for AMI related Computer Software

Please provide details in Manager's Summary

2006	2007	2008	2009	2010	Total	
		\$ 10,000			\$ 10,000	G

3. LDC Assumptions and Data

Total AMI Capital Cost

\$ -	\$ -	\$ 20,000	\$ 10,000	\$ -	\$ 30,000	H = F + G
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Other Capital Cost

Other Computer Hardware Costs

Enter the estimated capital costs for other related Computer Hardware

Please provide details in Manager's Summary

2006	2007	2008	2009	2010	Total	
					\$ -	I

3. LDC Assumptions and Data

Other Computer Software Costs

Enter the estimated capital costs for other related Computer Software

Please provide details in Manager's Summary

2006	2007	2008	2009	2010	Total	
	\$ 10,000				\$ 10,000	J

3. LDC Assumptions and Data

Total Other Capital Cost

\$ -	\$ 10,000	\$ -	\$ -	\$ -	\$ 10,000	K = I + J
------	-----------	------	------	------	-----------	-----------

Incremental AMI Operational Expenses

Incremental AMI O&M Expenses

Enter the estimated incremental AMI related O&M expenses

Please provide details in Manager's Summary

2006	2007	2008	2009	2010	Total	
\$ -	\$ 3,600	\$ 7,920	\$ 12,240	\$ 20,880	\$ 44,640	L

3. LDC Assumptions and Data

Incremental AMI Admin Expenses

Enter the estimated incremental AMI related Admin expenses

Please provide details in Manager's Summary

2006	2007	2008	2009	2010	Total	
	\$ 10,000				\$ 10,000	M

3. LDC Assumptions and Data

Total Incremental AMI Operation Expenses

\$ -	\$ 13,600	\$ 7,920	\$ 12,240	\$ 20,880	\$ 54,640	N = L + M
------	-----------	----------	-----------	-----------	-----------	-----------

Incremental Other Operational Expenses

Incremental Other O&M Expenses

Enter the estimated incremental Other related O&M expenses

Please provide details in Manager's Summary

2006	2007	2008	2009	2010	Total	
	\$ 27,400	\$ 35,280	\$ 38,160	\$ 73,920	\$ 174,760	O

3. LDC Assumptions and Data

Incremental Other Admin Expenses

Enter the estimated incremental Other related Admin expenses

Please provide details in Manager's Summary

2006	2007	2008	2009	2010	Total	
					\$ -	P

3. LDC Assumptions and Data

Total Incremental Other Operation Expenses

\$ -	\$ 27,400	\$ 35,280	\$ 38,160	\$ 73,920	\$ 174,760	Q = O + P
------	-----------	-----------	-----------	-----------	------------	-----------

AMI - Advanced Metering Infrastructure

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



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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

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

2006 EDR Tax Rate

Corporate Income Tax Rate

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

Capital Data:

Smart meter including installation (\$100 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)*

LDC Amortization Policy:

Smart Meter Amortization Rate *Enter Amortization Policy*

Computer Hardware Amortization Rate *Enter Amortization Policy*

Computer Software Amortization Rate *Enter Amortization Policy*

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)*

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

50% 4. *Smart Meter Rate Calc*

50% 4. *Smart Meter Rate Calc*

6.50% 4. *Smart Meter Rate Calc*

9.00% 4. *Smart Meter Rate Calc*

7.75%

5,831 4. *Smart Meter Rate Calc*

18.62% 5. *PILs*

	2006	2007	2008	2009	2010	Total
\$	-	\$ 100,000	\$ 120,000	\$ 120,000	\$ 240,000	\$ 580,000
\$	-	\$ -	\$ 20,000	\$ -	\$ -	\$ 20,000
\$	-	\$ 10,000	\$ -	\$ 10,000	\$ -	\$ 20,000
\$	-	\$ 110,000	\$ 140,000	\$ 130,000	\$ 240,000	\$ 620,000

6. *SM Avg Net Fixed Assets &UCC*

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*

	2006	2007	2008	2009	2010	Total
\$	-	\$ 31,000	\$ 43,200	\$ 50,400	\$ 94,800	\$ 219,400
\$	-	\$ 10,000	\$ -	\$ -	\$ -	\$ 10,000
\$	-	\$ 41,000	\$ 43,200	\$ 50,400	\$ 94,800	\$ 229,400

4. *Smart Meter Rate Calc*

	Per Meter	Installed	Investment	% of Invest
\$	100.00	5,800	\$ 580,000	68%
\$	3.45	5,800	\$ 20,000	0%
\$	3.45	5,800	\$ 20,000	0%
\$	39.55	5,800	\$ 229,400	0%
\$	146.45		\$ 849,400	68%



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Sheet 4. Smart Meter Rate Calc

Smart Meter Rate Calculation

Average Asset Values

Net Fixed Assets Smart Meters (6. SM Avg Net Fixed Assets & UCC)
Net Fixed Assets Computer Hardware (6. SM Avg Net Fixed Assets & UCC)
Net Fixed Assets Computer Software (6. SM Avg Net Fixed Assets & UCC)
Total Net Fixed Assets

2007	
\$	48,333
\$	
\$	4,167
\$	52,500

A

Working Capital

Operation Expense
15 % Working Capital

\$	41,000	
\$	6,150	\$ 6,150

B

Smart Meters included in Rate Base

\$	58,650
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C = A + B

Return on Rate Base

Deemed Debt (3. LDC Assumptions and Data)
Deemed Equity (3. LDC Assumptions and Data)

50.0%	\$	29,325
50.0%	\$	29,325
	\$	58,650

D = C * Deemed Debt
E = C * Deemed Equity

Weighted Debt Rate (3. LDC Assumptions and Data)
Proposed ROE (3. LDC Assumptions and Data)

6.5%	\$	1,906
9.0%	\$	2,639
	\$	4,545

F = D * Weighted Debt Rate
G = E * Proposed ROE
H = F + G

Return on Rate Base

\$	4,545	\$ 4,545
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Operating Expenses

Incremental Operating Expenses (3. LDC Assumptions and Data)

\$	41,000
----	--------

I

Amortization Expenses

Amortization Expenses - Smart Meters (6. SM Avg Net Fixed Assets & UCC)
Amortization Expenses - Computer Hardware (6. SM Avg Net Fixed Assets & UCC)
Amortization Expenses - Computer Software (6. SM Avg Net Fixed Assets & UCC)

\$	3,333
\$	-
\$	1,667

Total Amortization Expenses

\$	5,000
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5. PILs

J

Revenue Requirement Before PILs

\$	50,545
----	--------

K = H + I + J

Calculation of Taxable Income

Incremental Operating Expenses
Depreciation Expenses
Interest Expense

-\$	41,000
-\$	5,000
-\$	1,906

I
J
F

Taxable Income For PILs

\$	2,639
----	-------

5. PILs

L = K - I - J - F

Grossed up PILs (5. PILs)

\$	633
----	-----

M

Revenue Requirement Before PILs
Grossed up PILs (5. PILs)

\$	50,545
\$	633

K
M

Revenue Requirement for Smart Meters

\$	51,178
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N = K + M

2007 Smart Meter Rate Adder

Revenue Requirement for Smart Meters
2006 EDR Total Metered Customers (3. LDC Assumptions and Data)
Annualized amount required per metered customer
Number of months in year

\$	51,178
	5,831
\$	8.78
	12

O = 2006 EDR Total Metered Customers
P = N / O
Q
R = P / Q

2007 Smart Meter Rate Adder

\$	0.73
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Enter this amount in the 2007 IRM Model sheet "4. 2006 Smart Meter Information" in cells F 17 thru F 32 (as required)



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Sheet 5. PILs

PILs Calculation

INCOME TAX

Net Income (4. Smart Meter Rate Calc)	\$ 2,639
Amortization (4. Smart Meter Rate Calc)	\$ 5,000
CCA - Class 47 (8%) Smart Meters (6. SM Avg Net Fixed Assets &UCC)	-\$ 4,000
CCA - Class 45 (45%) Computers (6. SM Avg Net Fixed Assets &UCC)	-\$ 2,250
Change in taxable income	\$ 1,389
Tax Rate (3. LDC Assumptions and Data)	18.62%
Income Taxes Payable	\$ 259

ONTARIO CAPITAL TAX

Smart Meters (6. SM Avg Net Fixed Assets &UCC)	\$ 96,667
Computer Hardware (6. SM Avg Net Fixed Assets &UCC)	\$ -
Computer Software (6. SM Avg Net Fixed Assets &UCC)	\$ 8,333
Rate Base	\$ 105,000
Less: Exemption	\$ -
Deemed Taxable Capital	\$ 105,000
Ontario Capital Tax Rate	0.300%
Net Amount (Taxable Capital x Rate)	\$ 315

Gross Up

	PILs Payable	Gross Up	Grossed Up PILs	
Change in Income Taxes Payable	\$ 259	18.62%	\$ 318	
Change in OCT	\$ 315		\$ 315	
PIL's	\$ 574		\$ 633	4. Smart Meter Rate Calc



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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)		\$ 100,000
Closing Capital Investment	\$ -	\$ 100,000
Opening Accumulated Amortization	\$ -	\$ -
Amortization Year 1 (15 Years Straight Line)	\$ -	\$ -
Amortization Year 2 (15 Years Straight Line)		\$ 3,333
Closing Accumulated Amortization	\$ -	\$ 3,333
Opening Net Fixed Assets	\$ -	\$ -
Closing Net Fixed Assets	\$ -	\$ 96,667 5. PILs
Average Net Fixed Assets	\$ -	\$ 48,333 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	\$ -	\$ - 5. PILs
Average Net Fixed Assets	\$ -	\$ - 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)		\$ 10,000
Closing Capital Investment	\$ -	\$ 10,000
Opening Accumulated Amortization	\$ -	\$ -
Amortization Year 1 (3 Years Straight Line)	\$ -	\$ -
Amortization Year 2 (3 Years Straight Line)		\$ 1,667
Closing Accumulated Amortization	\$ -	\$ 1,667
Opening Net Fixed Assets	\$ -	\$ -
Closing Net Fixed Assets	\$ -	\$ 8,333 5. PILs
Average Net Fixed Assets	\$ -	\$ 4,167 4. Smart Meter Rate Calc



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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	\$ -	\$ -
Capital Additions	\$ -	\$ 100,000
UCC Before Half Year Rule	\$ -	\$ 100,000
Half Year Rule (1/2 Additions - Disposals)	\$ -	\$ 50,000
Reduced UCC	\$ -	\$ 50,000
CCA Rate Class 47	8%	8%
CCA	\$ -	\$ 4,000
Closing UCC	\$ -	\$ 96,000

5. PILs

UCC - Computer Equipment

CCA Class 45 (45%)

	2006	2007
Opening UCC	\$ -	\$ -
Capital Additions Hardware	\$ -	\$ -
Capital Additions Software	\$ -	\$ 10,000
UCC Before Half Year Rule	\$ -	\$ 10,000
Half Year Rule (1/2 Additions - Disposals)	\$ -	\$ 5,000
Reduced UCC	\$ -	\$ 5,000
CCA Rate Class 45	45%	45%
CCA	\$ -	\$ 2,250
Closing UCC	\$ -	\$ 7,750

5. PILs