

K-6.11

Exhibit K _____

EB-2007-0681

ONTARIO ENERGY BOARD

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

AND IN THE MATTER OF an application by Hydro One
Networks Inc. for an order approving or fixing just and
reasonable rates and other charges for the distribution
of electricity.

DOCUMENT BRIEF

**BOARD STAFF CROSS-EXAMINATION
PANEL #4
RE: SMART METERS
ISSUE 8**

JULY 18, 2008

Smart Meters

3.0 REVENUE REQUIREMENT – COMPARISON OF YEAR 2006 TO YEAR 2008

Table 2 below compares, by element, the Year 2006 approved Revenue Requirement (as per RP-2005-0020/EB-2005-0378) against the Year 2008 proposed Revenue Requirement.

Table 2
Comparison of Revenue Requirements: 2006 vs. 2008 (\$ Millions)

Line No	Description	Year 2006 OEB Approved	Year 2008	Difference
1	OM&A	423	478	55
2	Depreciation	202	239	37
3	Capital Taxes	10	11	1
4	Income Taxes	69	39	(30)
5	Return	261	300	39
	Total Revenue Requirement	965	1,067	102

There are a number of key operational and financial factors contributing to the increased revenue requirement that have an impact across the cost components in Table 2. The increase in Total Revenue Requirement is largely attributable to the increase in OM&A costs (\$45 million), Smart Meters (\$10 million OM&A, \$12 million rate base) and the net impact of rate base growth (\$63 million) offset by lower cost of debt and lower income tax rates.

Table 3 illustrates the value of the key impacts of the increase in the Revenue Requirement.

1

2

3

Table 3
Components of Change to Revenue Requirement
Previously OEB-Approved (2006) vs. Proposed (2008)

Description	Amount (\$ millions)
Impact of increased rate base	63
Increase in OM&A	45
Impact of Smart Meters	22
Change in Common Equity	8
Impact of lower statutory tax rate	(9)
Decrease in asset removal costs	(9)
Lower ROE as per OEB formula	(8)
Decrease in cost of debt	(6)
Other	(4)
Total Change	102

Ontario Energy Board (Board Staff) INTERROGATORY #3 List 1

Interrogatory

3. Ref: Exhibit D1 Tab 1 Schedule 1 – Capital Expenditures/ Issue 4.1

For each of the years 2002 through 2008, please provide:

- a) A table listing the following, using actual values in years where available, and if not, then using expected or planned or projected, or percent(%):
 - I) Allowed Return on Equity (%) portion of the regulated rate base;
 - II) Actual Return on Equity (%) portion of the regulated rate base;
 - III) Retained Earnings;
 - IV) Dividends to shareholders;
 - V) Sustainment Capital expenditures excluding smart meters;
 - VI) Development Capital Expenditures excluding smart meters;
 - VII) Operations Capital Expenditures;
 - VIII) Smart meters Capital Expenditures;
 - IX) Other Capital Expenditures (identify);
 - X) Total Capital Expenditures including and excluding smart meters;
 - XI) Depreciation;
 - XII) Construction Work in Progress;
 - XIII) Number of customer additions by class;
 - XIV) Rate Base.
- b) For the years 2002 to 2008 inclusive, please complete the following table including actuals, estimated dollars and percent (%) where indicated. Please identify the cost drivers, as indicated in the table. (Examples of cost drivers are: building new facilities, replacement of obsolete poles, and replacement of aging underground cables). Please identify the type and amount of any one-time, unusual expenditure incurred in any particular year that caused the change outside the given threshold, as provided in the table. Please **exclude** smart meter expenditures from the capital expenditures.

	Capital Expenditure (A) (\$)		Capital Expenditure (B) (\$)	Change (AB) (\$)	% Change (A/B)	Cost Drivers for the change (increase or decrease) if the % change is either less than zero or more than 10%
2003		2002				
2004		2003				
2005		2004				
2006 Actual		2005				
2006 Actual		2006 Board Approved				
2007 Bridge Year		2006 Actual				
2008 Test Year		2007 Bridge Year				

Response

a)

in \$M except where noted	2002 Actual	2003 Actual	2004 Actual	2005 Actual	2006 Actual	2007 Bridge	2008 Test ⁽¹⁾
Allowed Return on Equity (%) portion of the regulated rate base (2)	9.44%	9.44%	9.44%	9.44%	8.64%	8.64%	8.64%
Actual Return on Equity (%) portion of the regulated rate base (3)	4.5%	3.6%	12.1%	6.7%	8.5%	5.9%	7.9%
Retained Earnings ⁽⁴⁾	120	161	322	372	451	512	614
Dividends to shareholders	5	5	5	46	47	34	36
Sustainment Capital expenditures excluding smart meters	99.4	116.3	104.9	117.3	172.2	146.9	152.3
Development Capital Expenditures excluding smart meters	100	107.1	138.6	141.7	146.8	154.2	167.7
Operations Capital Expenditures	3.7	11.1	6.3	4.7	2.1	2.0	3.6
Smart meters Capital Expenditures					14.1	76.7	164.8
Other Capital Expenditures (identify)							
Network Line Losses					1.1	5.6	0.0
Transport and Work, and Service Equipment	22.2	36.7	12.0	32.1	33.6	35.7	44.5
Information Technology Capital	24.1	7.3	10.6	19.5	19.3	20.1	15.3
Cornerstone Project						26.6	28.0
Facilities Capital	0.7	1.2	2.8	1.8	2.1	6.4	4.4
Conservation & Demand Management					1.8	2.3	0.0
Other	12.1	0.6	(3.2)	0.1	(0.5)	0.1	(14.4)
Total Other capital expenditures	59.1	45.8	22.2	53.4	57.4	96.7	77.8
Total Distribution Capital (including smart meters)	262.2	280.4	272.0	317.2	392.6	476.6	566.2
Total Distribution Capital (excluding smart meters)	262.2	280.4	272.0	317.2	378.5	399.9	401.4
Depreciation (of fixed assets in service)	120	129	152	155	159	164	197
Construction Work in Progress	68	64	53	80	87	94	65
Number of customer additions by class ⁽⁵⁾							
Retail							
UR		2,150	2,684	1,844	1,529	1,569	1,481
R1		5,854	6,255	4,366	4,873	4,074	3,843
R2		4,160	4,796	3,441	2,880	2,941	2,780
R3		(485)	(285)	293	(10)	(78)	(74)
R4		157	8	587	354	268	253
F1		(841)	(1,305)	(370)	(578)	(585)	(553)
F3		(42)	3	7	(0)	2	2

\$ 44 mill

\$ 22 mill

APPENDIX E
TO THE DECISION WITH REASONS

DATED AUGUST 8, 2007

BOARD FILE NO.

EB-2007-0063

Appendix "E"

Smart Meter Revenue Requirement - Summary

Name of Applicant

Summary of Actual Costs claimed in this application	2006 Actual	2006 Plus	2007 Actual	Total Actual	Perm Adjust
---	-------------	-----------	-------------	--------------	-------------

Capital Costs *(must be installed, and used and useful)*

Smart Meters
 Computer Hardware
 Computer Software
 Tools & Equipment
 Other Equipment *(please specify)*

Total Capital Costs

O M & A

2.1 Advanced metering communication device (AMCD)
 2.2 Advanced metering regional collector (AMRC) (includes LAN)
 2.3 Advanced metering control computer (AMCC)
 2.4 Wide area network (WAN)
 2.5 Other AMI OM&A costs related to minimum functionality

Total O M & A Costs

COMPLETED DATA IN
H-1-20

Summary of Revenue Requirement Calculation	2006 Actual	2006 Plus	2007 Actual	Total Actual	Perm Adjust
--	-------------	-----------	-------------	--------------	-------------

Net Fixed Assets

Net Fixed Assets Beginning of Year
 Net Fixed Assets End of Year

Average Net Fixed Asset Values

Working Capital Allowance

Operation Expense
 Working Capital Allowance XX % *(from approved 2006 EDR application)*

Smart Meters Rate Base

Return on Rate Base *(from approved 2006 EDR application)*

Deemed Debt XX% Times Weighted Debt Rate X.XX%
 Deemed Equity XX% Times ROE X.XX%

Return on Rate Base

Operating Expenses

Incremental Operating Expenses
 Amortization Expenses *(please provide details)*
Total Operating Expenses

2006 Actual	2006 Plus	2007 Actual	Total Actual	Perm Adjust
-------------	-----------	-------------	--------------	-------------

Revenue Requirement Before PILs

Grossed up PILs

Revenue Requirement for Smart Meters Installed

Rate Rider to Clear Actual Expenses to MMM 200X ⁽¹⁾

Revenue Requirement for Smart Meters Installed

Carrying costs The last available Board prescribed interest rate for approved accounts to be applied against deferral accounts is assumed to continue without change for the completion of recovery of actual costs.

Less Smart Meter Adder Recovery

May 2006 to April 2007

May 2007 to October 2007

November 2007 to April 2008 (proposed to clear actual balance)

Rate Adder	Metered Customers per 2006 EDR	No. of Mths	Amount Recovered
------------	--------------------------------	-------------	------------------

Rate Adder for Capital and Operating Exp April 2007 to December 2007 ⁽²⁾

November 2007 to April 2008 (new deferral account)

Rate Adder	Metered Customers per 2006 EDR	No. of Mths	Amount Recovered
------------	--------------------------------	-------------	------------------

Permanent Capital Rate Adjustment ⁽³⁾

May 2008

Rate Adder	Metered Customers per 2006 EDR	No. of Mths	Amount Recovered
------------	--------------------------------	-------------	------------------

1) Actual Cost Recovery Rate Rider
 Calculate the revenue requirement for approved reporting period actual costs incurred including the revenue requirement for prior period capital assets to be recovered in current reporting period (2006 Plus) and the related carrying costs. For this calculation it is assumed that all monies recovered through the applicants' rate adder to date of adjustment will be used to offset the revenue requirement. Upon completion of collection this rate rider will expire and the applicant will close the related deferral account.

2) Future Cost Offset Rate Adder
 Calculate a rate adder for offsetting future costs from the first month after actual cost recovery to the end of 2007. This is similar in nature to the rate adder calculation approved in the April 12, 2007 EDR decision.

3) Permanent Capital Rate Adjustment
 Calculate the revenue requirement for actual capital cost that would be normally added to rate base in a cost of service application. This will be the prior and current reporting period assets to date of approval. This rate adjustment will be a permanent addition to rates and will not expire. This allows the utility to collect the ongoing revenue requirement for the capital assets employed. *(Note this amount does not include any incremental operating costs)*

HYDRO ONE NETWORKS INC.**DISTRIBUTION**

Mapping In-Service Additions to Grouped USofA Accounts for years 2006 - 2008

As at December 31

(\$ Millions)

Line No.	Minimum USofA Grouping	Account Numbers	2006	2007	2008
1	Land and Buildings	1805, 1806, 1808, 1810, 1905, 1906	0.5	0.3	0.3
2	TS Primary Above 50	1815	4.1	4.3	4.3
3	Distribution Station Equipment	1820	18.8	21.8	21.7
4	Poles, Wires	1830, 1835, 1840, 1845	201.6	181.2	169.9
5	Line Transformers	1850	76.9	112.9	107.9
6	Services and Meters	1555, 1855, 1860	4.7	5.9	6.3
7	General Plant	1908, 1910	2.7	4.5	3.8
8	Equipment	1915, 1930, 1935, 1940, 1945, 1950, 1955, 1960	34.0	41.8	47.9
9	IT Assets	1920, 1925	26.8	53.6	117.0
10	Other Distribution Assets	1608, 1615, 1620, 1665, 1675, 1680, 1685, 1970, 1975, 1980, 1990, 2005, 2010, 2050	0.3	2.9	3.9
11	Smart Meters	1565	9.5	84.4	112.8
12	Total In-Service Assets		379.9	513.7	595.9

11

for in this proceeding. The revenue requirement was calculated based on the approach illustrated in Appendix E of the decision for proceeding EB-2007-0063.

Table 5
Distribution
Smart Meter Minimum Functionality Under-Recovery to May 31, 2007
\$ million

Description	Dec 31, 2006	Dec 31, 2007	April 30, 2008
Revenue Requirement	6.1	10.6	11.7
Less: Revenue	(2.5)	(4.8)	(4.8)
Net Revenue Requirement to be Recovered	3.6	5.8	6.9

2.4 Smart Metering Expenditures Exceeding Minimum Functionality

The Smart Metering Expenditures Exceeding Minimum Functionality primarily includes TOU capability as well as some costs for outage detection capability as described below:

Meter Outage Detection Capability

Super capacitors are being installed in the meters so they have the power to communicate outage event information after loss of electrical supply. In cases where meters can notify Hydro One of "nested" outages, this will enable Hydro One to become aware of outages in our rural areas in a timely manner, resulting in increased customer satisfaction and efficiency. Currently Hydro One has to rely on customer calls to be made aware of initial and remaining power outages.

Collector Outage Detections Capability

Battery backup for the collectors is included to ensure the meter outage events can be communicated through the collectors even when power supply to them has been interrupted. This capability is important as it ensures that the outage capability in the meter described above follows through to our central control offices.

TOU (Time of Use) Capability and Integration

The ultimate benefit of smart meters is to provide proper price signals to customers based on when they use electricity. TOU functionality is therefore an imperative element of the smart meter program. The TOU functionality will be provided through the communication network work as discussed in Exhibit C1, Tab 2, Schedule 2 and Exhibit D1, Tab 3, Schedule 2. This will integrate the meter information into the format needed for the IESO to use in the meter data management and meter data repository (MDMR).

The review of these costs were not part of the Combined Smart Metering Hearing (EB-2007-0063) since the proceeding only reviewed costs associated with minimum functionality.

The \$70,000 of costs for repairing or replacing meter bases incurred to date were initially included in minimum functionality. The Board in their decision for EB-2007-0063 directed that these costs be separated out and tracked in a variance account. These costs and future repair costs through April 2008 are included in the table below and are being split between OM&A and capital as requested in the decision in EB-2007-0063.

The Hydro One Smart Meter revenue requirement associated with these elements is summarized in Table 6 below:

Table 6
Distribution
Smart Meter Exceeding Minimum Functionality Under-Recovery
\$ million

Description	Dec 31, 2006	Dec 31, 2007	April 30, 2008
Revenue Requirement	0.6	3.4	5.7

Ontario Energy Board (Board Staff) INTERROGATORY #120 List 1

Interrogatory

Ref: ExF1/Tab1/Sch1/ Issue 6.1

Tables 5, 6 and 7 at Exhibit F1/Tab 1/Schedule 1 relate to "Net Revenue Requirement to be Recovered".

- a. Please provide in one consolidated table the Net Revenue Requirement to be Recovered for minimum functionality covered in table 5 and 7 in accordance with Appendix E of the EB-2007-0063 Decision on Smart Meters. Please also include in this table the smart metering capital that the return on equity and interest expense is being calculated from as well as the capital structure being relied on in these calculations.
- b. Is Hydro One currently using accounts 1555 and 1556?
- c. Please identify any deviations from the Board's guidance with respect to these accounts.
- d. Is Hydro One planning to continue these accounts after April 30th, 2008?
- e. Is Hydro One planning on continuing to charge the rate rider associated with Smart Metering. If so, why?
- f. Please provide a detailed calculation of revenue requirement for Table 6, Smart Meter Exceeding Minimum Functionality Under-Recovery

Response

- a. The attached (Attachment A) spreadsheet provides the calculation of net revenue requirement for each of the three smart meter regulatory assets, consistent with the amounts shown in Tables 5, 6, and 7 in Exhibit F1, Tab 1, Schedule 1. The spreadsheet contains the calculation of forecast annual rate base, annual revenue requirement, and cumulative net revenue requirement as at year-end 2006, year-end 2007, and April 30, 2008 for each of the smart meter regulatory assets.
- b. Yes
- c. Hydro One is in compliance with Board guidance for use of these accounts.
- d. Yes, except that we are not expecting to use the interim recoveries account after the date of implementation of the 2008 Distribution rate change.
- e. No, Hydro One will stop recovery of the rate rider related to recovery of interim smart meter costs effective the date of the implementation of the 2008 Distribution rate change.
- f. See response to part a.

**Calculation of Smart Meter Under-Recovery (to April 30, 2008)
Minimum Functionality - up to May 31, 2007**

17
Filed: April 4, 2008
EB-2007-0681
Exhibit H-1-120
Attachment A
Page 1 of 6

(\$ millions)	2006	2007	Jan-Apr 2008	Comments
Return on rate base				
Opening fixed assets:				
Gross assets	0.0	2.2	21.1	
Less: Accumulated depreciation	0.0	(0.1)	(0.9)	
Net fixed assets	0.0	2.1	20.3	
Closing fixed assets:				
Gross assets	2.2	21.1	21.1	
Less: Accumulated depreciation	(0.1)	(0.9)	(1.3)	
Net fixed assets	2.1	20.3	19.8	
Average fixed assets	1.1	11.2	20.0	
Working capital	0.9	0.4	0.0	
Total rate base	1.9	11.6	20.0	
Cost of debt	0.1	0.4	0.2	Pro-rated for number of months in period
Return on equity	0.1	0.4	0.2	Pro-rated for number of months in period
Return on rate base	0.1	0.8	0.5	
Revenue requirement before PILs				
OM&A	5.8	2.6	0.0	Pro-rated for number of months in period
Depreciation	0.1	0.8	0.5	Pro-rated for number of months in period
Return on rate base	0.1	0.8	0.5	
Revenue requirement before PILs	6.0	4.1	0.9	
PILs				
Revenue requirement before PILs	6.0	4.1	0.9	
Less: OM&A	(5.8)	(2.6)	0.0	
Less: Depreciation	(0.1)	(0.8)	(0.5)	
Less: Interest	(0.1)	(0.4)	(0.2)	
Income for PILs purposes	0.1	0.4	0.2	
Add depreciation	0.1	0.8	0.5	
Deduct CCA	(0.1)	(0.9)	(0.5)	Pro-rated for number of months in period
Taxable income for PILs purposes	0.1	0.3	0.2	
PILs before gross up	0.0	0.1	0.1	
Grossed up PILs	0.0	0.1	0.1	
Revenue requirement				
Revenue requirement before PILs	6.0	4.1	0.9	
Grossed up PILs	0.0	0.1	0.1	
Revenue requirement	6.0	4.3	1.0	
Under-recovery				
Revenue requirement	6.0	4.3	1.0	
Less: Revenue earned	(2.5)	(2.3)	0.0	
	3.6	2.0	1.0	
Carrying charge	0.1	0.2	0.1	Pro-rated for number of months in period
Under-recovery	3.6	2.2	1.1	
Cumulative balance	3.6	5.8	6.9	

(\$ millions)	2006	2007	Jan-Apr 2008	Comments
Inputs				
OM&A	5.8	2.6	0.0	Per OEB decision (August 8, 2007)
Capital (I/S additions)	2.2	18.9	0.0	Per OEB decision (August 8, 2007)
Interim revenue	2.5	2.3	0.0	
Number of months in period	12	12	4	
Working capital (% of OM&A)	15%	15%	15%	
Depreciation life (years)	15	15	15	
CCA rate (%)	8%	8%	8%	
Cost of debt (%)	5.93%	5.93%	5.93%	Weighted average cost of debt per 2006 Dx filing
Cost of equity (%)	8.65%	8.65%	8.65%	Weighted average cost of equity per 2006 Dx filing
Deemed equity (%)	40%	40%	40%	Per 2006 Dx filing
Tax rate (%)	36.12%	36.12%	34.50%	
Interest rate on reg assets	4.59%	4.64%	4.74%	

Detailed calculations

Depreciation

Opening gross fixed assets	0.0	2.2	21.1
Closing gross fixed assets	2.2	21.1	21.1
Average gross fixed assets	1.1	11.7	21.1
Depreciation	0.1	0.8	1.4

CCA

Opening UCC	0.0	2.1	20.1
Plus: Additions	2.2	18.9	0.0
Less: CCA	(0.1)	(0.9)	(1.6)
Closing UCC	2.1	20.1	18.5
UCC for CCA	1.1	11.6	20.1
CCA	0.1	0.9	1.6

Calculation of Smart Meter Under-Recovery (to April 30, 2008)

Minimum Functionality - post May 31, 2007

Filed: April 4, 2008

EB-2007-0681

Exhibit H-1-120

Attachment A

Page 3 of 6

(\$ millions)

2006

2007

Jan-Apr
2008

Comments

Return on rate base

Opening fixed assets:

Gross assets	0.0	0.3	77.5
Less: Accumulated depreciation	0.0	(0.0)	(2.6)
Net fixed assets	0.0	0.3	74.9

Closing fixed assets:

Gross assets	0.3	77.5	209.3
Less: Accumulated depreciation	(0.0)	(2.6)	(5.8)
Net fixed assets	0.3	74.9	203.5

Average fixed assets

Working capital	0.0	0.8	1.3
Total rate base	0.1	38.4	140.5

Cost of debt	0.0	1.4	1.7
Return on equity	0.0	1.3	1.6
Return on rate base	0.0	2.7	3.3

These assets
Minimum functionality
up to May 31/07
1/
Post May 31/07
In excess of minimum
functionality

Pro-rated for number of months in period
Pro-rated for number of months in period

Revenue requirement before PILs

OM&A	0.0	5.5	2.9
Depreciation	0.0	2.6	3.2
Return on rate base	0.0	2.7	3.3
Revenue requirement before PILs	0.0	10.7	9.4

Pro-rated for number of months in period
Pro-rated for number of months in period

PILs

Revenue requirement before PILs	0.0	10.7	9.4
Less: OM&A	0.0	(5.5)	(2.9)
Less: Depreciation	(0.0)	(2.6)	(3.2)
Less: Interest	(0.0)	(1.4)	(1.7)
Income for PILs purposes	0.0	1.3	1.6
Add depreciation	0.0	2.6	3.2
Deduct COA	(0.0)	(3.1)	(3.7)
Taxable income for PILs purposes	0.0	0.8	1.1

Pro-rated for number of months in period

PILs before gross up	0.0	0.3	0.4
Grossed up PILs	0.0	0.5	0.6

Revenue requirement

Revenue requirement before PILs	0.0	10.7	9.4
Grossed up PILs	0.0	0.5	0.6
Revenue requirement	0.0	11.2	10.0

Under-recovery

Revenue requirement	0.0	11.2	10.0
Less: Revenue earned	0.0	(7.6)	(4.4)
	0.0	3.6	5.6
Carrying charge	0.0	0.1	0.1
Under-recovery	0.0	3.7	5.7
Cumulative balance	0.0	3.7	9.4

Pro-rated for number of months in period

(\$ millions)

	2006	2007	Jan-Apr 2008	Comments
--	------	------	-----------------	----------

Inputs

OM&A	0.0	5.5	8.8	
Capital (I/S additions)	0.3	77.2	131.8	
Interim revenue	0.0	7.6	4.4	
Number of months in period	12	12	4	
Working capital (% of OM&A)	15%	15%	15%	
Depreciation life (years)	15	15	15	
CCA rate (%)	8%	8%	8%	
Cost of debt (%)	5.93%	5.93%	5.93%	
Cost of equity (%)	8.65%	8.65%	8.65%	
Deemed equity (%)	40%	40%	40%	
Tax rate (%)	36.12%	36.12%	34.50%	
Interest rate on reg assets	4.59%	4.64%	4.74%	

Weighted average cost of debt per 2006 Dx filing
Weighted average cost of equity per 2006 Dx filing
Per 2006 Dx filing

Detailed calculationsDepreciation

Opening gross fixed assets	0.0	0.3	77.5
Closing gross fixed assets	0.3	77.5	209.3
Average gross fixed assets	0.2	38.9	143.4
Depreciation	0.0	2.6	9.6

CCA

Opening UCC	0.0	0.3	74.3
Plus: Additions	0.3	77.2	131.8
Less: CCA	(0.0)	(3.1)	(11.2)
Closing UCC	0.3	74.3	194.9
UCC for CCA	0.2	38.9	140.3
CCA	0.0	3.1	11.2

~~\$ 120.11~~
~~OPENING IN 2008~~
~~120.11~~
~~11.2~~
~~108.9~~
~~11.2~~
~~97.7~~

**Calculation of Smart Meter Under-Recovery (to April 30, 2008)
Exceed Minimum Functionality**

Filed: April 4, 2008
EB-2007-0681
Exhibit H-1-120
Attachment A
Page 5 of 6

(\$ millions)

2006 2007 Jan-Apr
2008

Comments

Return on rate base

Opening fixed assets:

Gross assets	0.0	0.6	24.6
Less: Accumulated depreciation	0.0	(0.0)	(0.9)
Net fixed assets	0.0	0.6	23.8

Closing fixed assets:

Gross assets	0.6	24.6	57.6
Less: Accumulated depreciation	(0.0)	(0.9)	(1.8)
Net fixed assets	0.6	23.8	55.8

Average fixed assets

Working capital	0.1	0.1	0.1
Total rate base	0.4	12.3	39.9

Cost of debt	0.0	0.4	0.5
Return on equity	0.0	0.4	0.5
Return on rate base	0.0	0.9	0.9

Pro-rated for number of months in period
Pro-rated for number of months in period

Revenue requirement before PILs

OM&A	0.6	0.8	0.3
Depreciation	0.0	0.8	0.9
Return on rate base	0.0	0.9	0.9
Revenue requirement before PILs	0.6	2.5	2.1

Pro-rated for number of months in period
Pro-rated for number of months in period

PILs

Revenue requirement before PILs	0.6	2.5	2.1
Less: OM&A	(0.6)	(0.8)	(0.3)
Less: Depreciation	(0.0)	(0.8)	(0.9)
Less: Interest	(0.0)	(0.4)	(0.5)
Income for PILs purposes	0.0	0.4	0.5
Add depreciation	0.0	0.8	0.9
Deduct CCA	(0.0)	(1.0)	(1.1)
Taxable income for PILs purposes	0.0	0.3	0.3

Pro-rated for number of months in period

PILs before gross up	0.0	0.1	0.1
----------------------	-----	-----	-----

Grossed up PILs	0.0	0.1	0.2
-----------------	-----	-----	-----

Revenue requirement

Revenue requirement before PILs	0.6	2.5	2.1
Grossed up PILs	0.0	0.1	0.2
Revenue requirement	0.6	2.6	2.3

Under-recovery

Revenue requirement	0.6	2.6	2.3
Less: Revenue earned	0.0	0.0	0.0
Carrying charge	0.0	0.1	0.1
Under-recovery	0.6	2.7	2.4

Pro-rated for number of months in period

Cumulative balance	0.6	3.4	5.7
--------------------	-----	-----	-----

Calculation of Smart Meter Under-Recovery (to April 30, 2008)
Exceed Minimum Functionality

Filed: April 4, 2008
EB-2007-0681
Exhibit H-1-120
Attachment A
Page 6 of 6

(\$ millions)	<u>2006</u>	<u>2007</u>	<u>Jan-Apr 2008</u>	<u>Comments</u>
Inputs				
OM&A	0.6	0.8	0.9	
Capital (I/S additions)	0.6	24.0	33.0	
Interim revenue	0.0	0.0	0.0	
Number of months in period	12	12	4	
Working capital (% of OM&A)	15%	15%	15%	
Depreciation life (years)	15	15	15	
CCA rate (%)	8%	8%	8%	
Cost of debt (%)	5.93%	5.93%	5.93%	Weighted average cost of debt per 2006 Dx filing
Cost of equity (%)	8.65%	8.65%	8.65%	Weighted average cost of equity per 2006 Dx filing
Deemed equity (%)	40%	40%	40%	Per 2006 Dx filing
Tax rate (%)	36.12%	36.12%	34.50%	
Interest rate on reg assets	4.59%	4.64%	4.74%	

Detailed calculations

Depreciation

Opening gross fixed assets	0.0	0.6	24.6
Closing gross fixed assets	0.6	24.6	57.6
Average gross fixed assets	0.3	12.6	41.1
Depreciation	0.0	0.8	2.7

CCA

Opening UCC	0.0	0.6	23.6
Plus: Additions	0.6	24.0	33.0
Less: CCA	(0.0)	(1.0)	(3.2)
Closing UCC	0.6	23.6	53.4
UCC for CCA	0.3	12.6	40.1
CCA	0.0	1.0	3.2



EB-2007-0680

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

AND IN THE MATTER OF an application by Toronto
Hydro-Electric System Limited for an order approving or
fixing just and reasonable rates and other charges for the
distribution of electricity to be effective May 1, 2008, May
1, 2009, and May 1, 2010.

BEFORE: Paul Sommerville
Presiding Member

Paul Vlahos
Member

David Balsillie
Member

DECISION

May 15, 2008

completed in the test year period, and the Applicant is leasing facilities and relocating staff over the period. While the Board sees the need for the Applicant to address its underinvestment in IT assets, it is not convinced that the Applicant's proposed IT projects are fully justified during this period of operational reorganization and change.

As in all other areas of proposed spending increases, the Board looks to the Company's historical spending norms as a guide. The apparent underinvestment in this area over the recent past ought not to be used as a springboard for sharply increased spending now. The Company must, to some extent, live with its prioritization over the recent past; and customers are entitled to protection from lumpy spending plans that could have been, and should have been, avoided if appropriate measures had been taken earlier. This is as true of this aspect of the Company's proposal as it is for the sustaining capital and controllable operating expense aspects.

Consistent with its overall finding, the Board is approving amounts only for the two test years of 2008 and 2009. The Board finds that the Applicant's plan for upgrading and modernizing its IT infrastructure and investment in its IT systems must take a long-view approach, must be balanced and must be consistent with the Utility's size and its organic growth as well as customer growth. The Board therefore orders that there will be a 10% increase per annum in the IT capital budget in the next two test years, as follows: 2008 - \$23.0 Million and 2009 - \$25.3 Million. With \$23.0 Million in 2008, the Applicant will be in a position to commence the majority of its proposed projects, judiciously manage its program overall and maintain significant progress in this business area.

3.3 Meters

The Company's expenditures for metering fall into the following three categories:

- Wholesale meter installations;
- Smart meter installations to convert previously bulk-metered condominiums; and
- Smart meter installations to meet the Ontario Government's requirement.

The table below sets out the expenditures associated with each category for years 2008 and 2009.

Table 2
Metering CAPEX

		2008	2009
Conventional Metering⁵	Wholesale Meters	\$9,564,000	\$10,839,000
	Smart Meter conversion of bulk-metered Condominiums	\$3,400,000	\$5,700,000
	Total	\$12,964,000	\$16,539,000
Smart Metering⁶		\$36,207,000	\$34,567,000

Wholesale Metering

Wholesale meter installations are for the purpose of replacing meters previously installed and owned by Hydro One Networks. As the seal dates of the meters owned by Hydro One Networks expire, these meters are replaced by meters installed and owned by the distributor, in compliance with requirements of the IESO.

Board Findings

No party took issue with the Company's proposed expenditures in this category. This is an IESO mandatory meter replacement program, and there is no discretion to be exercised by Toronto Hydro. The Board finds the Company's forecasts of expenditures for 2008 and 2009 reasonable and approves them.

Smart Meters for Condominiums

The Company's proposed expenditures in this category relate to installing smart meters for condominiums, an alternative to smart sub-metering for which there are alternative providers. These smart meter conversions establish the condominium owners as customers of Toronto Hydro as the regulated monopoly distributor rather than as customers of an alternative smart sub-meter provider.

⁵ Exhibit D1, Tab 8, Schedule 5, Table 1

⁶ Exhibit D1, Tab 8, Schedule 5, Table 1 (updated)

Board Findings

On January 8, 2008, the Board issued a Notice of Proposal to amend the Distribution System Code and to issue a Smart Sub-Metering Code. While the Board has not yet formally adopted the change to the DSC and the new code, the Company's proposed involvement in this conversion initiative is consistent with the proposed section 5.1.9 of the DSC. The Board approves the Company's expenditure forecasts for this activity for purposes of setting rates for 2008 and 2009.

Board staff questioned whether sub-metering customers in condominiums who cause higher metering costs should be paying higher rates through a balancing contribution or through the creation a separate rate class, which would give effect to an allocation of costs appropriate to this category of customer. VECC on the other hand argued that as conversion is government driven the costs should be allocated to all customers.

It is true that there can be many elements of distribution costs that are not driven uniformly by sub groups of a given rate classification. At this time, for the purposes of this Decision, the Board will not consider differentiation in metering costs to be a pivotal consideration in entertaining the separation of the existing residential class or to direct the institution of contributions, capital or otherwise.

This is an issue that requires consideration in a more generic proceeding, with appropriate notice to effected parties, directed towards rate design, and cost allocation

Smart Meters Mandated by Government

Toronto Hydro is one of the named distributors that were authorized by Ontario Regulation 427/06 to implement the Government's objective of the installation of 800,000 smart meters by the end of 2007. The Company began installations in 2006 and has continued since then.

The Company proposed that, going forward (i.e. for the test years period and beyond), its investments in smart meters be considered part of its core business, and therefore form part of its rate base. As such, there would be no need for rate adders and deferral/variance accounts. The Company also sought to include in the rate base expenditures associated with the 2007 year.

Below the Board deals with these issues, as well as the regulatory treatment of the costs of the meters that are replaced by smart meters.

Smart Meter Capital Expenditures for 2008 and 2009

As noted, the Company estimated its capital expenditures for smart meters in this category at \$36.2 Million for 2008 and \$34.6 Million for 2009.

The Board determined⁷ there were fourteen cost categories in relation to minimum functionality. These categories were set out in Appendix A to that Decision. The Board also stated that costs beyond minimum functionality can be recovered as part of distribution rates in an individual utility's next rate case, if supported, and named some of those categories of costs.

The Company provided a breakdown of the minimum and beyond minimum functionality categories⁸. The amounts for years 2007 to 2009 are shown in the table below

Table 3
Smart Meter Costs

	2007	2008	2009
Minimum Functionality	\$33,178,000	\$30,756,000	\$30,112,000
Beyond Minimum Functionality	\$10,491,000	\$5,451,000	\$4,455,000
Total		\$36,207,000	\$34,567,000

Board Findings

The Board notes that the parties did not challenge the budgeted amounts specifically; rather, their submissions dealt with the need to track these forecasts through variance accounts.

On the basis of the record adduced, the Board approves the proposed capital expenditures amounts; however, the Board does not approve the Company's proposed regulatory treatment associated with these investments. This matter is discussed below under "Regulatory Treatment of Smart Meters".

⁷ Combined Smart Meter Decision EB-2007-0063, August 8, 2007

⁸ Exhibit R1/Tab 1/Schedule 9.1 b)

Regulatory Treatment of Smart Meters

In the Combined Smart Meter Decision the Board approved the Company's Smart Meters expenditures for the calendar year 2006 that were in accordance with the legislated minimum functionality⁹. The Company was authorized in that Decision to incorporate these 2006 expenditures in rate base in a subsequent rate application.

In the Decision on a motion by Toronto Hydro to vary certain aspects of the Smart Meter Decision, made September 21, 2007 (EB-2007-0747), the Board approved Toronto Hydro's request for a rate rider, effective for the period November 1, 2007 to April 30, 2008, to clear the 2006 Smart Meter Deferral Account credit balance and to set a rate adder to fund the 2007 expenditures.

As previously noted, in this application the Company proposes that as of 2008, smart meters should be considered part of its core business and therefore should be included in rate base. As such, there would be no further need for rate adders and no need for deferral or variance accounts associated with smart meters. The Company also sought to include in rate base expenditures associated with the 2007 year; the variances recorded in smart meter capital expenditure variance account 1555; and smart meter operating expenses variance account 1556.

Board staff noted that, consistent with the Smart Meter Decision, the Company can incorporate the 2006 expenditures in rate base. Board Staff also noted that the 2007 expenditures have not been reviewed and approved by the Board. Board staff further noted that the Smart Meter Decision was silent on how future capital expenditures would be treated.

CCC, SEC and VECC noted the adjustments to the Company's forecasts of capital expenditures and the correction of errors relating to depreciation and argued that as the Company's ability to forecast accurately has not been established, it would be premature to include the smart meter expenditures in rate base. CCC argued that it is fundamentally important that shareholders and ratepayers be kept whole with respect to this government-led initiative. VECC argued that until the premature retirement and replacement of meters by smart meters is completed in 2010, smart meters are not a core utility function; they should be considered a government initiative and the costs

⁹ The Board also approved investments for some interval meter conversions for GS>50 kW customers.

should be tracked and dealt with separately. SEC argued that there is considerable likelihood that actual expenditures will differ considerably from those forecast.

VECC argued that the appropriate treatment is to continue with variance accounts and rate riders. VECC disagreed with the clearance of any balances in the accounts until they have been subjected to a prudence review, at a minimum by Board staff. VECC argued that a prudence review is required for the beyond minimum functionality costs and therefore these should be tracked in a variance account, even if they are allowed in rate base. VECC also argued that the Company's forecast of expenditures for sub-metering is not reliable and that a variance account should be established to track the costs and revenues associated with sub-metering.

Board Findings

On the basis of the Board's findings in the Smart Meter Decision, the Board accepts that the capital expenditure on smart meters until the end of 2006 can be reflected in rate base. Those expenditures were previously reviewed and approved by the Board.

With respect to the 2007 expenditures, the Board notes that the Company had filed forecasts as part of its original application¹⁰. It updated that forecast on November 30, 2007, and subsequently provided the actual 2007 values¹¹.

The 2007 values were broken down in the categories of minimum and beyond minimum functionality. The Board agrees with the Company that parties had opportunities to test the prudence of these expenditures. The Board has no basis to reject the 2007 expenditures on the strength of any argument by the parties. The Board finds that the Company's evidence in this regard is sufficient for the Board to accept the expenditures for 2007 as reasonable and include them in rate base.

Having said that, it is important to note that as the "beyond minimum functionality" expenditures for 2007 have not been subjected to a detailed review in this proceeding, our acceptance of them should not be considered to have any particular precedential value in the consideration of such expenditures by other utilities, or this utility, in a future rates proceeding. The Board further finds that the balances recorded in smart meter capital expenditures account 1555 be included in rate base; however, the balances

¹⁰ Exhibit D1/Tab 8/Schedule 5

¹¹ Undertaking T5.1 (Confidential) and Exhibit T1/ Tab 5/ Schedule 1 (Confidential)

recorded in smart meter operating expenses account 1556 shall be expensed in the 2008 rate year.

While the Board has accepted the Company's capital expenditure forecasts related to smart meters for 2008 and 2009, the Board shares the concerns expressed by parties with respect to the Company's proposed regulatory treatment.

The forecast capital expenditures are quite large (\$36.2 Million for 2008, \$34.6 Million for 2009), and they are to take place over two test years. While the Board accepts that the Company is now in a better position to forecast its costs associated with smart meters, the Board is of the view that there is still considerable risk that the Company's forecasts may be substantially off the mark, resulting in significant over- or under-recovery. The issue is not necessarily that smart meter installation expenditures may not materialize; rather, the concern is the potential of timing differences in the actual expenditures from those forecasts. Timing differences will always exist, however, neither the Utility nor ratepayers should benefit or be burdened by an initiative that is temporal in nature and can be reasonably viewed as a cost pass-through. Treating smart meter expenditures for rate making purposes like any other core distribution activity is premature. The Board sees no harm in permitting the current regime to continue as it offers protection for both the Company and ratepayers from the vagaries of missed forecasts. As the installation program progresses and once the Board has reviewed and approved actual expenditures, bringing these expenditures into rate base can be considered again.

The Board therefore does not accept the Company's proposal to include the forecast capital expenditures in rate base for the 2008 and 2009 test years. The current regime where these expenditures are funded through a smart meter adder shall continue, as shall the variance accounts mechanisms currently in place to enable true-ups.

This leaves the issue of what should be the appropriate rate adder to fund the forecast expenditures. For certain other distributors who were not named by the government to implement an early smart meter program, upon application for enhanced funding, the Board has increased the adder to \$1.00/per month per metered customer to recognise the pending ramping up of expenditures on smart meters for these distributors. The Applicant is a named distributor under government regulation and its rate adder of \$0.68/month per metered customer was revised quite recently, in the fall of 2007. As shown in the table above, the Applicant's estimated spending on smart meters will

continue at somewhat lower levels for 2008 and 2009. Therefore, the Board finds that the Applicant's current rate adder is reasonable and shall continue.

Regulatory Treatment of Stranded Meters

As smart meters are replacing existing meters, there are stranded costs. In the Smart Meter Decision, the Board determined that the stranded costs associated with existing meters should stay in rate base. The Company's revenue requirement in the current application reflects that treatment.

Alternative treatments were proposed, such as transferring the net book value to a deferral account and drawing down the balance over a certain time period or leaving it in rate base but depreciating these stranded assets quicker, depending on rate impacts. CCC encouraged the Board to develop a policy that would apply to all distributors

Board Findings

The Board does not have a policy with respect to the retirement of the stranded meters. The record in this proceeding has not produced sufficient evidence of the value of these assets in the 2008 and 2009 test years. If better information were made available, it would have assisted the Board in its assessment of the parties' recommendations. As such information is not available, the Board has decided the Smart Meter Decision shall apply in this case. Having said this, the Board notes that the bulk of the stranded assets will still be in rate base at the end of the 2009 test year. At that time, in the absence of any Board policy, the issue may be brought forward by any party as part of a future Toronto Hydro rates proceeding.

Regulatory Treatment of Vehicles for Personal Use

Board staff raised the issue whether the \$200,000 for leased vehicles for executive personnel should be kept in rate base rather than expensed.

Board Findings

There is no generally accepted method whether costs associated with leased vehicles for executive personnel should be capitalized or expensed for ratemaking purposes,

