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Ontario Energy Board

Smart Meter Model

Choose Your Utility:

Hydro Ottawa Limited
Innisfil Hydro Distribution Systems Limited

Application Contact Information

Name:	Jane Scott
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We are applying for rates effective:	January 1, 2012
Last COS Re-based Year	2008

Legend

- DROP-DOWN MENU
- INPUT FIELD
- CALCULATION FIELD

Copyright

While this model has been provided in Excel format and is required to be filed with the applications, the onus remains on the applicant to ensure the accuracy of the data and the results. The use of any models and spreadsheets does not automatically imply Board approval. The onus is on the distributor to prepare, document and support its application. Board-issued Excel models and spreadsheets are offered to assist parties in providing the necessary information so as to facilitate an expeditious review of an application. The onus remains on the applicant to ensure the accuracy of the data and the results.

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Distributors must enter all incremental costs related to their smart meter program and all revenues recovered to date in the applicable tabs except for those costs (and associated revenues) for which the Board has approved on a final basis, i.e. capital costs have been included in rate base and OM&A costs in revenue requirement.

For 2012, distributors that have completed their deployments by the end of 2011 are not expected to enter any capital costs. However, for OM&A, regardless of whether a distributor has deployments in 2012, distributors should enter the forecasted OM&A for 2012 for all smart meters in service.

Smart Meter Capital Cost and Operational Expense Data	2006	2007	2008	2009	2010	2011	2012 and later	Total
	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	Forecast	
Smart Meter Installation Plan								
Actual/Planned number of Smart Meters installed during the Calendar Year								
Residential	96,570	70,694	73,798	26,454	4,931	5,974		278421
General Service < 50 kW	765	5,605	10,269	5,053	1,270	724		23686
Actual/Planned number of Smart Meters installed (Residential and GS < 50 kW only)	97335	76299	84067	31507	6201	6698	0	302107
Percentage of Residential and GS < 50 kW Smart Meter Installations Completed	32.22%	57.47%	85.30%	95.73%	97.78%	100.00%	0.00%	100.00%
Actual/Planned number of GS > 50 kW meters installed	235	137	894	775	698	30		2769
Other (please identify)	58	327	343	174	131	320		1353
Total Number of Smart Meters installed or planned to be installed	97628	76763	85304	32456	7030	7048	0	306229

1 Capital Costs

1.1 ADVANCED METERING COMMUNICATION DEVICE (AMCD)	Asset Type (Asset type must be selected to enable calculations)	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	Forecast	
1.1.1 Smart Meters *(may include new meters and modules, etc.)*	Smart Meter	10,912,767	10,596,597	9,726,371	3,924,168	1,123,912	1,290,068		$ 37,573,883
1.1.2 Installation Costs *(may include socket kits, labour, vehicle, benefits, etc.)*	Smart Meter	1,716,248	2,798,928	3,499,536	2,894,422	928,802	109,808		$ 11,947,744
1.1.3a Workforce Automation Hardware *(may include fieldwork handhelds, barcode hardware, etc.)*	Tools & Equipment	838,597	9,112						$ 847,709
1.1.3b Workforce Automation Software *(may include fieldwork handhelds, barcode hardware, etc.)*	Computer Software								$ -
Total Advanced Metering Communications Devices (AMCD)		$ 13,467,612	$ 13,404,637	$ 13,225,907	$ 6,818,590	$ 2,052,714	$ 1,399,876	$ -	$ 50,369,336

1.2 ADVANCED METERING REGIONAL COLLECTOR (AMRC) (includes LAN)	Asset Type	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	Forecast	
1.2.1 Collectors	Smart Meter	53,473	384,929	302,372	152,591	126,137	308,121		$ 1,327,623
1.2.2 Repeaters *(may include radio licence, etc.)*	Smart Meter								$ -
1.2.3 Installation *(may include meter seals and rings, collector computer hardware, etc.)*	Smart Meter	12,133	43,599	56,272	21,200	111,316	271,917		$ 516,437
Total Advanced Metering Regional Collector (AMRC) (Includes LAN)		$ 65,606	$ 428,528	$ 358,644	$ 173,791	$ 237,453	$ 580,038	$ -	$ 1,844,060

1.3 ADVANCED METERING CONTROL COMPUTER (AMCC)	Asset Type	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	Forecast	
1.3.1 Computer Hardware	Computer Hardware		53,634	5,138		666,387	363,072		$ 1,088,231
1.3.2 Computer Software	Computer Software		79,986						$ 79,986
1.3.3 Computer Software Licences & Installation (includes hardware and software) *(may include AS/400 disk space, backup and recovery computer, UPS, etc.)*	Computer Software		319,638	982,788	113,462	3,033,355	416,477		$ 4,865,720
Total Advanced Metering Control Computer (AMCC)		$ -	$ 453,258	$ 987,926	$ 113,462	$ 3,699,742	$ 779,549	$ -	$ 6,033,937

1.4 WIDE AREA NETWORK (WAN)	Asset Type	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	Forecast	
1.4.1 Activiation Fees									$ -
Total Wide Area Network (WAN)		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

1.5 OTHER AMI CAPITAL COSTS RELATED TO MINIMUM FUNCTIONALITY	Asset Type	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	Forecast	
1.5.1 Customer Equipment *(including repair of damaged equipment)*	Other Equipment								$ -
1.5.2 AMI Interface to CIS	Computer Software						231,177		$ 231,177
1.5.3 Professional Fees	Computer Software								$ -
1.5.4 Integration	Computer Software						927,930		$ 927,930
1.5.5 Program Management	Computer Software								$ -
1.5.6 Other AMI Capital	Computer Software								$ -
Total Other AMI Capital Costs Related to Minimum Functionality		$ -	$ -	$ -	$ -	$ -	$ 1,159,107	$ -	$ 1,159,107
Total Capital Costs Related to Minimum Functionality		$ 13,533,218	$ 14,286,423	$ 14,572,477	$ 7,105,843	$ 5,989,909	$ 3,918,570	$ -	$ 59,406,440

1.6 CAPITAL COSTS BEYOND MINIMUM FUNCTIONALITY *(Please provide a descriptive title and identify nature of beyond minimum functionality costs)*	Asset Type	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	Forecast	
1.6.1 Costs related to technical capabilities in the smart meters or related communications infrastructure that exceed those specified in O.Reg 425/06									$ -
1.6.2 Costs for deployment of smart meters to customers other than residential and small general service									$ -
1.6.3 Costs for TOU rate implementation, CIS system upgrades, web presentation, integration with the MDM/R, etc.									$ -
Total Capital Costs Beyond Minimum Functionality		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Smart Meter Capital Costs		$ 13,533,218	$ 14,286,423	$ 14,572,477	$ 7,105,843	$ 5,989,909	$ 3,918,570	$ -	$ 59,406,440

2 OM&A Expenses

2.1 ADVANCED METERING COMMUNICATION DEVICE (AMCD)	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast	Forecast	
2.1.1 Maintenance *(may include meter reverification costs, etc.)*			32,720	33,430	20,750	238,414		$ 325,314
2.1.2 Other *(please specifiy)*								$ -
Total Incremental AMCD OM&A Costs	$ -	$ -	$ 32,720	$ 33,430	$ 20,750	$ 238,414	$ -	$ 325,314
2.2 ADVANCED METERING REGIONAL COLLECTOR (AMRC) (includes LAN)								
2.2.1 Maintenance								$ -
2.2.2 Other *(please specifiy)*								$ -
Total Incremental AMRC OM&A Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2.3 ADVANCED METERING CONTROL COMPUTER (AMCC)								
2.3.1 Hardware Maintenance *(may include server support, etc.)*		210	2,842	1,983		259		$ 5,294
2.3.2 Software Maintenance *(may include maintenance support, etc.)*		92,700	75,905	179,037	637,760	949,000		$ 1,934,402
2.3.2 Other *(please specifiy)*								$ -
Total Incremental AMCC OM&A Costs	$ -	$ 92,910	$ 78,747	$ 181,020	$ 637,760	$ 949,259	$ -	$ 1,939,696
2.4 WIDE AREA NETWORK (WAN)								
2.4.1 WAN Maintenance		201,153	366,373	356,332	453,543	321,560		$ 1,698,961
2.4.2 Other *(please specifiy)*								$ -
Total Incremental AMRC OM&A Costs	$ -	$ 201,153	$ 366,373	$ 356,332	$ 453,543	$ 321,560	$ -	$ 1,698,961
2.5 OTHER AMI OM&A COSTS RELATED TO MINIMUM FUNCTIONALITY								
2.5.1 Business Process Redesign		109,042	42,345	204,560	40,775	100,000		$ 496,722
2.5.2 Customer Communication (may include project communication, etc.)		54,995	53,138	4,893	139,701	921,000		$ 1,173,727
2.5.3 Program Management		49,835	26,800	56,501	46,075			$ 179,211
2.5.4 Change Management (may include training, etc.)		2,535	8,167	97,127	203,668	32		$ 311,529
2.5.5 Administration Costs		92,680	30,346	113,454	145,855	194,146		$ 576,481
2.5.6 Other AMI Expenses *(please specify)*			76,975	82,454	2,763			$ 162,192
Total Other AMI OM&A Costs Related to Minimum Functionality	$ -	$ 309,087	$ 237,771	$ 558,989	$ 578,837	$ 1,215,178	$ -	$ 2,899,862
TOTAL OM&A COSTS RELATED TO MINIMUM FUNCTIONALITY	$ -	$ 603,150	$ 715,611	$ 1,129,771	$ 1,690,890	$ 2,724,411	$ -	$ 6,863,833
2.6 OM&A COSTS RELATED TO BEYOND MINIMUM FUNCTIONALITY *(Please provide a descriptive title and identify nature of beyond minimum functionality costs)*	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Audited Actual	Forecast		
2.6.1 Costs related to technical capabilities in the smart meters or related communications infrastructure that exceed those specified in O.Reg 425/06								$ -
2.6.2 Costs for deployment of smart meters to customers other than residential and small general service								$ -
2.6.3 Costs for TOU rate implementation, CIS system upgrades, web presentation, integration with the MDM/R, etc.								$ -
Total OM&A Costs Beyond Minimum Functionality	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Smart Meter OM&A Costs	$ -	$ 603,150	$ 715,611	$ 1,129,771	$ 1,690,890	$ 2,724,411	$ -	$ 6,863,833

3 Aggregate Smart Meter Costs by Category

3.1	**Capital**								
3.1.1	Smart Meter	$ 12,694,621	$ 13,824,053	$ 13,584,551	$ 6,992,381	$ 2,290,167	$ 1,979,914	$ -	$ 51,365,687
3.1.2	Computer Hardware	$ -	$ 53,634	$ 5,138	$ -	$ 666,387	$ 363,072	$ -	$ 1,088,231
3.1.3	Computer Software	$ -	$ 399,624	$ 982,788	$ 113,462	$ 3,033,355	$ 1,575,584	$ -	$ 6,104,813
3.1.4	Tools & Equipment	$ 838,597	$ 9,112	$ -	$ -	$ -	$ -	$ -	$ 847,709
3.1.5	Other Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3.1.6	**Total Capital Costs**	**$ 13,533,218**	**$ 14,286,423**	**$ 14,572,477**	**$ 7,105,843**	**$ 5,989,909**	**$ 3,918,570**	**$ -**	**$ 59,406,440**
3.2	**OM&A Costs**								
3.2.1	**Total OM&A Costs**	**$ -**	**$ 603,150**	**$ 715,611**	**$ 1,129,771**	**$ 1,690,890**	**$ 2,724,411**	**$ -**	**$ 6,863,833**

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	2006	2007	2008	2009	2010	2011	2012 and later
Cost of Capital							
Capital Structure[1]							
Deemed Short-term Debt Capitalization			4.0%	4.0%	4.0%	4.0%	
Deemed Long-term Debt Capitalization	60.0%	60.0%	56.0%	56.0%	56.0%	56.0%	56.0%
Deemed Equity Capitalization	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	44.0%
Preferred Shares							
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of Capital Parameters							
Deemed Short-term Debt Rate			4.47%	4.47%	4.47%	4.47%	
Long-term Debt Rate (actual/embedded/deemed)[2]	5.25%	5.25%	5.26%	5.26%	5.26%	5.26%	
Target Return on Equity (ROE)	9.0%	9.00%	8.57%	8.57%	8.57%	8.57%	
Return on Preferred Shares							
WACC	6.75%	6.75%	6.55%	6.55%	6.55%	6.55%	0.00%
Working Capital Allowance							
Working Capital Allowance Rate	15.0%	15.0%	12.5%	12.5%	12.5%	12.5%	
(% of the sum of Cost of Power + controllable expenses)							
Taxes/PILs							
Aggregate Corporate Income Tax Rate	36.12%	36.12%	33.50%	33.00%	31.00%	28.25%	26.25%
Capital Tax (until July 1st, 2010)	0.30%	0.225%	0.225%	0.225%	0.075%	0.00%	0.00%
Depreciation Rates							
(expressed as expected useful life in years)							
Smart Meters - years	15	15	15	15	15	15	
- rate (%)	6.67%	6.67%	6.67%	6.67%	6.67%	6.67%	0.00%
Computer Hardware - years	5	5	5	5	5	5	
- rate (%)	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	0.00%
Computer Software - years	5	5	5	5	5	5	
- rate (%)	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	0.00%
Tools & Equipment - years	10	10	10	10	10	10	
- rate (%)	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	0.00%
Other Equipment - years	10	10	10	10	10	10	
- rate (%)	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	0.00%
CCA Rates							
Smart Meters - CCA Class	47	47	47	47	47	47	
Smart Meters - CCA Rate	8%	8%	8%	8%	8%	8%	
Computer Equipment - CCA Class	45	45	50	50	50	50	
Computer Equipment - CCA Rate	45%	45%	55%	55%	55%	55%	
General Equipment - CCA Class	8	8	8	8	8	8	
General Equipment - CCA Rate	20%	20%	20%	20%	20%	20%	

Assumptions

[1] *Planned smart meter installations occur evenly throughout the year.*

[2] *Fiscal calendar year (January 1 to December 31) used.*

3 *Amortization is done on a striaght line basis and has the "half-year" rule applied.*

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	2006	2007	2008	2009	2010	2011	2012 and later
Net Fixed Assets - Smart Meters							
Gross Book Value							
Opening Balance		$ 12,694,621	$ 26,518,674	$ 25,391,340	$ 32,383,721	$ 34,673,888	$ 36,653,802
Capital Additions during year (from Smart Meter Costs)	$ 12,694,621	$ 13,824,053	$ 13,584,551	$ 6,992,381	$ 2,290,167	$ 1,979,914	$ -
Retirements/Removals (if applicable)			$ 14,711,885				
Closing Balance	$ 12,694,621	$ 26,518,674	$ 25,391,340	$ 32,383,721	$ 34,673,888	$ 36,653,802	$ 36,653,802
Accumulated Depreciation							
Opening Balance		-$ 423,154	-$ 1,730,264	-$ 1,633,497	-$ 3,559,332	-$ 5,794,586	-$ 8,172,176
Amortization expense during year	-$ 423,154	-$ 1,307,110	-$ 2,220,730	-$ 1,925,835	-$ 2,235,254	-$ 2,377,590	$ -
Retirements/Removals (if applicable)			-$ 2,317,497				
Closing Balance	-$ 423,154	-$ 1,730,264	-$ 1,633,497	-$ 3,559,332	-$ 5,794,586	-$ 8,172,176	-$ 8,172,176
Net Book Value							
Opening Balance	$ -	$ 12,271,467	$ 11,413,230	$ 23,757,843	$ 28,824,389	$ 28,879,302	$ 28,481,627
Closing Balance	$ 12,271,467	$ 24,788,410	$ 23,757,843	$ 28,824,389	$ 28,879,302	$ 28,481,627	$ 28,481,627
Average Net Book Value	$ 6,135,733	$ 18,529,939	$ 17,585,537	$ 26,291,116	$ 28,851,845	$ 28,680,464	$ 28,481,627
Net Fixed Assets - Computer Hardware							
Gross Book Value							
Opening Balance		$ -	$ 53,634	$ 5,640	$ 5,640	$ 672,027	$ 1,035,099
Capital Additions during year (from Smart Meter Costs)	$ -	$ 53,634	$ 5,138	$ -	$ 666,387	$ 363,072	$ -
Retirements/Removals (if applicable)			$ 53,132				
Closing Balance	$ -	$ 53,634	$ 5,640	$ 5,640	$ 672,027	$ 1,035,099	$ 1,035,099
Accumulated Depreciation							
Opening Balance	$ -	$ -	-$ 5,363	-$ 665	-$ 1,793	-$ 69,560	-$ 240,272
Amortization expense during year	$ -	-$ 5,363	-$ 11,241	-$ 1,128	-$ 67,767	-$ 170,713	$ -
Retirements/Removals (if applicable)			-$ 15,939				
Closing Balance	$ -	-$ 5,363	-$ 665	-$ 1,793	-$ 69,560	-$ 240,272	-$ 240,272
Net Book Value							
Opening Balance	$ -	$ -	$ 452	$ 4,975	$ 3,847	$ 602,467	$ 794,827
Closing Balance	$ -	$ 48,271	$ 4,975	$ 3,847	$ 602,467	$ 794,827	$ 794,827
Average Net Book Value	$ -	$ 24,135	$ 2,713	$ 4,411	$ 303,157	$ 698,647	$ 794,827
Net Fixed Assets - Computer Software							
Gross Book Value							
Opening Balance		$ -	$ 399,624	$ 1,270,668	$ 1,384,130	$ 4,417,485	$ 5,993,069
Capital Additions during year (from Smart Meter Costs)	$ -	$ 399,624	$ 982,788	$ 113,462	$ 3,033,355	$ 1,575,584	$ -
Retirements/Removals (if applicable)			$ 111,744				

Closing Balance	$ -	$ 399,624	$ 1,270,668	$ 1,384,130	$ 4,417,485	$ 5,993,069	$ 5,993,069
Accumulated Depreciation							
Opening Balance	$ -	$ -	-$ 39,962	-$ 184,643	-$ 450,123	-$ 1,030,284	-$ 2,071,340
Amortization expense during year	$ -	-$ 39,962	-$ 178,204	-$ 265,480	-$ 580,162	-$ 1,041,055	$ -
Retirements/Removals (if applicable)			-$ 33,523				
Closing Balance	$ -	-$ 39,962	-$ 184,643	-$ 450,123	-$ 1,030,284	-$ 2,071,340	-$ 2,071,340
Net Book Value							
Opening Balance	$ -	$ -	$ 259,092	$ 1,086,025	$ 934,007	$ 3,387,201	$ 3,921,729
Closing Balance	$ -	$ 359,662	$ 1,086,025	$ 934,007	$ 3,387,201	$ 3,921,729	$ 3,921,729
Average Net Book Value	$ -	$ 179,831	$ 672,558	$ 1,010,016	$ 2,160,604	$ 3,654,465	$ 3,921,729
Net Fixed Assets - Tools and Equipment							
Gross Book Value							
Opening Balance		$ 838,597	$ 847,709	$ -	$ -	$ -	$ -
Capital Additions during year (from Smart Meter Costs)	$ 838,597	$ 9,112	$ -	$ -	$ -	$ -	$ -
Retirements/Removals (if applicable)			$ 847,709				
Closing Balance	$ 838,597	$ 847,709	$ -	$ -	$ -	$ -	$ -
Accumulated Depreciation							
Opening Balance	$ -	-$ 41,930	-$ 126,245	-$ 0	$ -	$ -	$ -
Amortization expense during year	-$ 41,930	-$ 84,315	-$ 84,771	$ 0	$ -	$ -	$ -
Retirements/Removals (if applicable)			-$ 211,016				
Closing Balance	-$ 41,930	-$ 126,245	-$ 0	$ -	$ -	$ -	$ -
Net Book Value							
Opening Balance	$ -	$ 796,667	-$ 0	-$ 0	$ -	$ -	$ -
Closing Balance	$ 796,667	$ 721,464	-$ 0	$ -	$ -	$ -	$ -
Average Net Book Value	$ 398,334	$ 759,066	-$ 0	-$ 0	$ -	$ -	$ -
Net Fixed Assets - Other Equipment							
Gross Book Value							
Opening Balance		$ -	$ -	$ -	$ -	$ -	$ -
Capital Additions during year (from Smart Meter Costs)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Retirements/Removals (if applicable)							
Closing Balance	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Accumulated Depreciation							
Opening Balance	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Amortization expense during year	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Retirements/Removals (if applicable)							
Closing Balance	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Net Book Value							
Opening Balance	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Closing Balance	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Average Net Book Value	$ -	$ -	$ -	$ -	$ -	$ -	$ -

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	2006	2007	2008	2009	2010	2011	2012 and Later
Average Net Fixed Asset Values (from Sheet 4)							
Smart Meters	$ 6,135,733	$ 18,529,939	$ 17,585,537	$ 26,291,116	$ 28,851,845	$ 28,680,464	$ 28,481,627
Computer Hardware	$ -	$ 24,135	$ 2,713	$ 4,411	$ 303,157	$ 698,647	$ 794,827
Computer Software	$ -	$ 179,831	$ 672,558	$ 1,010,016	$ 2,160,604	$ 3,654,465	$ 3,921,729
Tools & Equipment	$ 398,334	$ 759,066	-$ 0	-$ 0	$ -	$ -	$ -
Other Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Net Fixed Assets	**$ 6,534,067**	**$ 19,492,970**	**$ 18,260,808**	**$ 27,305,543**	**$ 31,315,607**	**$ 33,033,576**	**$ 33,198,183**
Working Capital							
Operating Expenses (from Sheet 2)	$ -	$ 603,150	$ 715,611	$ 1,129,771	$ 1,690,890	$ 2,724,411	$ -
Working Capital Factor (from Sheet 3)	15%	15%	13%	13%	13%	13%	0%
Working Capital Allowance	$ -	$ 90,473	$ 89,451	$ 141,221	$ 211,361	$ 340,551	$ -
Incremental Smart Meter Rate Base	**$ 6,534,067**	**$ 19,583,443**	**$ 18,350,260**	**$ 27,446,764**	**$ 31,526,968**	**$ 33,374,128**	**$ 33,198,183**
Return on Rate Base							
Capital Structure							
Deemed Short Term Debt	$ -	$ -	$ 734,010	$ 1,097,871	$ 1,261,079	$ 1,334,965	$ -
Deemed Long Term Debt	$ 3,920,440	$ 11,750,066	$ 10,276,145	$ 15,370,188	$ 17,655,102	$ 18,689,512	$ 18,590,982
Equity	$ 2,613,627	$ 7,833,377	$ 7,340,104	$ 10,978,706	$ 12,610,787	$ 13,349,651	$ 14,607,200
Preferred Shares	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Capitalization	$ 6,534,067	$ 19,583,443	$ 18,350,260	$ 27,446,764	$ 31,526,968	$ 33,374,128	$ 33,198,183
Return on							
Deemed Short Term Debt	$ -	$ -	$ 32,810	$ 49,075	$ 56,370	$ 59,673	$ -
Deemed Long Term Debt	$ 205,823	$ 616,878	$ 540,525	$ 808,472	$ 928,658	$ 983,068	$ -
Equity	$ 235,226	$ 705,004	$ 629,047	$ 940,875	$ 1,080,744	$ 1,144,065	$ -
Preferred Shares	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Return on Capital	$ 441,050	$ 1,321,882	$ 1,202,382	$ 1,798,422	$ 2,065,773	$ 2,186,806	$ -
Operating Expenses	$ -	$ 603,150	$ 715,611	$ 1,129,771	$ 1,690,890	$ 2,724,411	$ -
Amortization Expenses (from Sheet 4)							
Smart Meters	$ 423,154	$ 1,307,110	$ 1,239,938	$ 1,925,835	$ 2,235,254	$ 2,377,590	$ -
Computer Hardware	$ -	$ 5,363	$ 614	$ 1,128	$ 67,767	$ 170,713	$ -
Computer Software	$ -	$ 39,962	$ 155,855	$ 265,480	$ 580,162	$ 1,041,055	$ -
Tools & Equipment	$ 41,930	$ 84,315	-$ 0	-$ 0	$ -	$ -	$ -
Other Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Amortization Expense in Year	$ 465,084	$ 1,436,751	$ 1,396,406	$ 2,192,443	$ 2,883,182	$ 3,589,358	$ -
Incremental Revenue Requirement before Taxes/PILs	$ 906,133	$ 3,361,783	$ 3,314,399	$ 5,120,636	$ 6,639,845	$ 8,500,575	$ -
Calculation of Taxable Income							
Incremental Operating Expenses	$ -	$ 603,150	$ 715,611	$ 1,129,771	$ 1,690,890	$ 2,724,411	$ -
Amortization Expense	$ 465,084	$ 1,436,751	$ 1,396,406	$ 2,192,443	$ 2,883,182	$ 3,589,358	$ -
Interest Expense	$ 205,823	$ 616,878	$ 573,336	$ 857,547	$ 985,029	$ 1,042,741	$ -
Net Income for Taxes/PILs	$ 235,226	$ 705,004	$ 629,047	$ 940,875	$ 1,080,744	$ 1,144,065	$ -
Grossed-up Taxes/PILs (from Sheet 7)	$ 100,647.85	$ 261,874.08	$ 146,942.49	$ 311,094.06	$ 178,823.65	$ 108,442.45	$ -
Revenue Requirement, including Grossed-up Taxes/PILs	$ 1,006,781	$ 3,623,657	$ 3,461,342	$ 5,431,730	$ 6,818,669	$ 8,609,017	$ -

Ontario Energy Board

Smart Meter Model

Hydro Ottawa Limited

For PILs Calculation

UCC - Smart Meters

	2006 Audited Actua	2007 Audited Actua	2008 Audited Actua	2009 Audited Actua	2010 Audited Actua	2011 Forecast	2012 and later Forecast
Opening UCC	$ -	$ 12,186,836.16	$ 11,334,518.15	$ 23,468,925.66	$ 28,304,097.36	$ 28,238,329.89	$ 27,879,980.94
Capital Additions	$ 12,694,621.00	$ 13,824,053.00	$ 13,584,551.00	$ 6,992,381.00	$ 2,290,167.00	$ 1,979,914.00	$ -
Retirements/Removals (if applicable)							
UCC Before Half Year Rule	$ 12,694,621.00	$ 26,010,889.16	$ 24,919,069.15	$ 30,461,306.66	$ 30,594,264.36	$ 30,218,243.89	$ 27,879,980.94
Half Year Rule (1/2 Additions - Disposals)	$ 6,347,310.50	$ 6,912,026.50	$ 6,792,275.50	$ 3,496,190.50	$ 1,145,083.50	$ 989,957.00	$ -
Reduced UCC	$ 6,347,310.50	$ 19,098,862.66	$ 18,126,793.65	$ 26,965,116.16	$ 29,449,180.86	$ 29,228,286.89	$ 27,879,980.94
CCA Rate Class	47	47	47	47	47	47	0
CCA Rate	8%	8%	8%	8%	8%	8%	0%
CCA	$ 507,784.84	$ 1,527,909.01	$ 1,450,143.49	$ 2,157,209.29	$ 2,355,934.47	$ 2,338,262.95	$ -
Closing UCC	$ 12,186,836.16	$ 24,482,980.15	$ 23,468,925.66	$ 28,304,097.36	$ 28,238,329.89	$ 27,879,980.94	$ 27,879,980.94

UCC - Computer Equipment

	2006 Audited Actua	2007 Audited Actua	2008 Audited Actua	2009 Audited Actua	2010 Audited Actua	2011 Forecast	2012 and later Forecast
Opening UCC	$ -	$ -	$ 223,496.95	$ 816,819.98	$ 449,828.94	$ 2,884,735.97	$ 2,703,656.79
Capital Additions Computer Hardware	$ -	$ 53,634.00	$ 5,138.00	$ -	$ 666,387.00	$ 363,072.00	$ -
Capital Additions Computer Software	$ -	$ 399,624.00	$ 982,788.00	$ 113,462.00	$ 3,033,355.00	$ 1,575,584.00	$ -
Retirements/Removals (if applicable)							
UCC Before Half Year Rule	$ -	$ 453,258.00	$ 1,211,422.95	$ 930,281.98	$ 4,149,570.94	$ 4,823,391.97	$ 2,703,656.79
Half Year Rule (1/2 Additions - Disposals)	$ -	$ 226,629.00	$ 493,963.00	$ 56,731.00	$ 1,849,871.00	$ 969,328.00	$ -
Reduced UCC	$ -	$ 226,629.00	$ 717,459.95	$ 873,550.98	$ 2,299,699.94	$ 3,854,063.97	$ 2,703,656.79
CCA Rate Class	45	45	50	50	50	50	0
CCA Rate	45%	45%	55%	55%	55%	55%	0%
CCA	$ -	$ 101,983.05	$ 394,602.97	$ 480,453.04	$ 1,264,834.97	$ 2,119,735.19	$ -
Closing UCC	$ -	$ 351,274.95	$ 816,819.98	$ 449,828.94	$ 2,884,735.97	$ 2,703,656.79	$ 2,703,656.79

UCC - General Equipment

	2006 Audited Actua	2007 Audited Actua	2008 Audited Actua	2009 Audited Actua	2010 Audited Actua	2011 Forecast	2012 and later Forecast
Opening UCC	$ -	$ 754,737.30	$ -	$ -	$ -	$ -	$ -
Capital Additions Tools & Equipment	$ 838,597.00	$ 9,112.00	$ -	$ -	$ -	$ -	$ -
Capital Additions Other Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Retirements/Removals (if applicable)							
UCC Before Half Year Rule	$ 838,597.00	$ 763,849.30	$ -	$ -	$ -	$ -	$ -
Half Year Rule (1/2 Additions - Disposals)	$ 419,298.50	$ 4,556.00	$ -	$ -	$ -	$ -	$ -
Reduced UCC	$ 419,298.50	$ 759,293.30	$ -	$ -	$ -	$ -	$ -
CCA Rate Class	8	8	8	8	8	8	0
CCA Rate	20%	20%	20%	20%	20%	20%	0%
CCA	$ 83,859.70	$ 151,858.66	$ -	$ -	$ -	$ -	$ -
Closing UCC	$ 754,737.30	$ 611,990.64	$ -	$ -	$ -	$ -	$ -

Hydro Ottawa Limited

PILs Calculation

	2006 Audited Actual	2007 Audited Actual	2008 Audited Actual	2009 Audited Actual	2010 Audited Actual	2011 Forecast	2012 and later Forecast
INCOME TAX							
Net Income	$ 235,226.41	$ 705,003.94	$ 629,046.90	$ 940,875.08	$ 1,080,744.46	$ 1,144,065.10	$ -
Amortization	$ 465,083.88	$ 1,436,750.93	$ 1,396,406.07	$ 2,192,443.12	$ 2,883,181.83	$ 3,589,357.67	$ -
CCA - Smart Meters	-$ 507,784.84	-$ 1,527,909.01	-$ 1,450,143.49	-$ 2,157,209.29	-$ 2,355,934.47	-$ 2,338,262.95	$ -
CCA - Computers	$ -	-$ 101,983.05	-$ 394,602.97	-$ 480,453.04	-$ 1,264,834.97	-$ 2,119,735.19	$ -
CCA - Other Equipment	-$ 83,859.70	-$ 151,858.66	$ -	$ -	$ -	$ -	$ -
Change in taxable income	$ 108,665.76	$ 360,004.15	$ 180,706.50	$ 495,655.87	$ 343,156.85	$ 275,424.63	$ -
Tax Rate (from Sheet 3)	36.12%	36.12%	33.50%	33.00%	31.00%	28.25%	26.25%
Income Taxes Payable	$ 39,250.07	$ 130,033.50	$ 60,536.68	$ 163,566.44	$ 106,378.62	$ 77,807.46	$ -
ONTARIO CAPITAL TAX							
Smart Meters	$ 12,271,466.97	$ 24,788,410.13	$ 23,757,843.17	$ 28,824,388.80	$ 28,879,302.17	$ 28,481,626.50	$ 28,481,626.50
Computer Hardware	$ -	$ 48,270.60	$ 4,975.00	$ 3,847.00	$ 602,467.30	$ 794,826.70	$ 794,826.70
Computer Software	$ -	$ 359,661.60	$ 1,086,025.00	$ 934,007.20	$ 3,387,200.70	$ 3,921,729.30	$ 3,921,729.30
Tools & Equipment	$ 796,667.15	$ 721,463.85	-$ 0.05	$ -	$ -	$ -	$ -
Other Equipment	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Rate Base	$ 13,068,134.12	$ 25,917,806.18	$ 24,848,843.12	$ 29,762,243.00	$ 32,868,970.17	$ 33,198,182.50	$ 33,198,182.50
Less: Exemption	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Deemed Taxable Capital	$ 13,068,134.12	$ 25,917,806.18	$ 24,848,843.12	$ 29,762,243.00	$ 32,868,970.17	$ 33,198,182.50	$ 33,198,182.50
Ontario Capital Tax Rate (from Sheet 3)	0.300%	0.225%	0.225%	0.225%	0.075%	0.000%	0.000%
Net Amount (Taxable Capital x Rate)	$ 39,204.40	$ 58,315.06	$ 55,909.90	$ 66,965.05	$ 24,651.73	$ -	$ -
Change in Income Taxes Payable	$ 39,250.07	$ 130,033.50	$ 60,536.68	$ 163,566.44	$ 106,378.62	$ 77,807.46	$ -
Change in OCT	$ 39,204.40	$ 58,315.06	$ 55,909.90	$ 66,965.05	$ 24,651.73	$ -	$ -
PILs	$ 78,454.47	$ 188,348.56	$ 116,446.57	$ 230,531.48	$ 131,030.35	$ 77,807.46	$ -

Gross Up PILs

Tax Rate	36.12%	36.12%	33.50%	33.00%	31.00%	28.25%	26.25%
Change in Income Taxes Payable	$ 61,443.44	$ 203,559.01	$ 91,032.60	$ 244,129.01	$ 154,171.92	$ 108,442.45	$ -
Change in OCT	$ 39,204.40	$ 58,315.06	$ 55,909.90	$ 66,965.05	$ 24,651.73	$ -	$ -
PILs	**$ 100,647.85**	**$ 261,874.08**	**$ 146,942.49**	**$ 311,094.06**	**$ 178,823.65**	**$ 108,442.45**	**$ -**

Ontario Energy Board

Smart Meter Model

Hydro Ottawa Limited

This worksheet calculates the funding adder revenues.

Account 1555 - Sub-account Funding Adder Revenues

Interest Rates	Approved Deferral and Variance Accounts	CWIP	Date	Year	Quarter	Opening Balance (Principal)	Funding Adder Revenues	Interest Rate	Interest	Closing Balance	Annual amounts	Board Approved Smart Meter Funding Adder (from Tariff)
2006 Q1			Jan-06	2006	Q1	$ -		0.00%	$ -	$ -		
2006 Q2	4.14%	4.68%	Feb-06	2006	Q1	$ -		0.00%	$ -	$ -		
2006 Q3	4.59%	5.05%	Mar-06	2006	Q1	$ -		0.00%	$ -	$ -		
2006 Q4	4.59%	4.72%	Apr-06	2006	Q2	$ -		4.14%	$ -	$ -		
2007 Q1	4.59%	4.72%	May-06	2006	Q2	$ -	$ 125,861	4.14%	$ -	$ 125,861.48		
2007 Q2	4.59%	4.72%	Jun-06	2006	Q2	$ 125,861.48	$ 126,014	4.14%	$ 434.22	$ 252,309.50		
2007 Q3	4.59%	5.18%	Jul-06	2006	Q3	$ 251,875.28	$ 126,117	4.59%	$ 963.42	$ 378,955.86		
2007 Q4	5.14%	5.18%	Aug-06	2006	Q3	$ 377,992.44	$ 126,220	4.59%	$ 1,445.82	$ 505,657.82		
2008 Q1	5.14%	5.18%	Sep-06	2006	Q3	$ 504,212.00	$ 126,371	4.59%	$ 1,928.61	$ 632,511.98		
2008 Q2	4.08%	5.18%	Oct-06	2006	Q4	$ 630,583.37	$ 126,605	4.59%	$ 2,411.98	$ 759,600.72		
2008 Q3	3.35%	5.43%	Nov-06	2006	Q4	$ 757,188.74	$ 126,809	4.59%	$ 2,896.25	$ 886,894.28		
2008 Q4	3.35%	5.43%	Dec-06	2006	Q4	$ 883,998.03	$ 126,869	4.59%	$ 3,381.29	$ 1,014,248.45	$ 1,024,328.75	
2009 Q1	2.45%	6.61%	Jan-07	2007	Q1	$ 1,010,867.16	$ 126,498	4.59%	$ 3,866.57	$ 1,141,231.26		
2009 Q2	1.00%	6.61%	Feb-07	2007	Q1	$ 1,137,364.69	$ 127,349	4.59%	$ 4,350.42	$ 1,269,064.15		
2009 Q3	0.55%	5.67%	Mar-07	2007	Q1	$ 1,264,713.73	$ 127,433	4.59%	$ 4,837.53	$ 1,396,984.17		
2009 Q4	0.55%	4.66%	Apr-07	2007	Q2	$ 1,392,146.64	$ 127,512	4.59%	$ 5,324.96	$ 1,524,984.08		
2010 Q1	0.55%	4.34%	May-07	2007	Q2	$ 1,519,659.12	$ 494,372	4.59%	$ 5,812.70	$ 2,019,844.10		
2010 Q2	0.55%	4.34%	Jun-07	2007	Q2	$ 2,014,031.40	$ 494,592	4.59%	$ 7,703.67	$ 2,516,326.59		
2010 Q3	0.89%	4.66%	Jul-07	2007	Q3	$ 2,508,622.92	$ 495,552	4.59%	$ 9,595.48	$ 3,013,770.40		
2010 Q4	1.20%	4.01%	Aug-07	2007	Q3	$ 3,004,174.92	$ 495,999	4.59%	$ 11,490.97	$ 3,511,665.07		
2011 Q1	1.47%	4.29%	Sep-07	2007	Q3	$ 3,500,174.10	$ 496,692	4.59%	$ 13,388.17	$ 4,010,253.97		
2011 Q2	1.47%	4.29%	Oct-07	2007	Q4	$ 3,996,865.80	$ 497,614	5.14%	$ 17,119.91	$ 4,511,599.61		
2011 Q3	1.47%	4.29%	Nov-07	2007	Q4	$ 4,494,479.70	$ 498,724	5.14%	$ 19,251.35	$ 5,012,455.07		
2011 Q4	1.47%	4.29%	Dec-07	2007	Q4	$ 4,993,203.72	$ 499,390	5.14%	$ 21,387.56	$ 5,513,981.72	$ 4,605,856.29	
2012 Q1		4.29%	Jan-08	2008	Q1	$ 5,492,594.16	$ 500,255	5.14%	$ 23,526.61	$ 6,016,375.99		
2012 Q2		4.29%	Feb-08	2008	Q1	$ 5,992,849.38	$ 500,903	5.14%	$ 25,669.37	$ 6,519,421.25		
2012 Q3		4.29%	Mar-08	2008	Q1	$ 6,493,751.88	$ 501,313	5.14%	$ 27,814.90	$ 7,022,879.92		
2012 Q4		4.29%	Apr-08	2008	Q2	$ 6,995,065.02	$ 502,047	4.08%	$ 23,783.22	$ 7,520,895.66		
			May-08	2008	Q2	$ 7,497,112.44	$ 329,278	4.08%	$ 25,490.18	$ 7,851,880.22		
			Jun-08	2008	Q2	$ 7,826,390.04	$ 329,658	4.08%	$ 26,609.73	$ 8,182,658.13		
			Jul-08	2008	Q3	$ 8,156,048.40	$ 330,258	3.35%	$ 22,768.97	$ 8,509,075.37		
			Aug-08	2008	Q3	$ 8,486,306.40	$ 330,546	3.35%	$ 23,690.94	$ 8,840,543.76		
			Sep-08	2008	Q3	$ 8,816,852.82	$ 330,652	3.35%	$ 24,613.71	$ 9,172,118.97		
			Oct-08	2008	Q4	$ 9,147,505.26	$ 331,741	3.35%	$ 25,536.79	$ 9,504,783.19		
			Nov-08	2008	Q4	$ 9,479,246.40	$ 332,166	3.35%	$ 26,462.90	$ 9,837,875.66		
			Dec-08	2008	Q4	$ 9,811,412.76	$ 332,543	3.35%	$ 27,390.19	$ 10,171,345.51	$ 4,954,718.67	
			Jan-09	2009	Q1	$ 10,143,955.32	$ 333,101	2.45%	$ 20,710.58	$ 10,497,767.06		
			Feb-09	2009	Q1	$ 10,477,056.48	$ 333,555	2.45%	$ 21,390.66	$ 10,832,002.02		
			Mar-09	2009	Q1	$ 10,810,611.36	$ 333,677	2.45%	$ 22,071.66	$ 11,166,359.88		

Ontario Energy Board

Smart Meter Model

Hydro Ottawa Limited

This worksheet calculates the funding adder revenues.

Account 1555 - Sub-account Funding Adder Revenues

Interest Rates	Approved Deferral and Variance Accounts	CWIP	Date	Year	Quarter	Opening Balance (Principal)	Funding Adder Revenues	Interest Rate	Interest	Closing Balance	Annual amounts	Board Approved Smart Meter Funding Adder (from Tariff)
			Apr-09	2009	Q2	$ 11,144,288.22	$ 334,063	1.00%	$ 9,286.91	$ 11,487,638.45		
			May-09	2009	Q2	$ 11,478,351.54	$ 492,796	1.00%	$ 9,565.29	$ 11,980,712.91		
			Jun-09	2009	Q2	$ 11,971,147.62	$ 493,203	1.00%	$ 9,975.96	$ 12,474,326.22		
			Jul-09	2009	Q3	$ 12,464,350.26	$ 493,718	0.55%	$ 5,712.83	$ 12,963,781.49		
			Aug-09	2009	Q3	$ 12,958,068.66	$ 493,715	0.55%	$ 5,939.11	$ 13,457,722.81		
			Sep-09	2009	Q3	$ 13,451,783.70	$ 494,859	0.55%	$ 6,165.40	$ 13,952,808.22		
			Oct-09	2009	Q4	$ 13,946,642.82	$ 495,795	0.55%	$ 6,392.21	$ 14,448,829.91		
			Nov-09	2009	Q4	$ 14,442,437.70	$ 496,684	0.55%	$ 6,619.45	$ 14,945,740.75		
			Dec-09	2009	Q4	$ 14,939,121.30	$ 497,292	0.55%	$ 6,847.10	$ 15,443,260.16	$ 5,423,134.90	
			Jan-10	2010	Q1	$ 15,436,413.06	$ 497,996	0.55%	$ 7,075.02	$ 15,941,483.76		
			Feb-10	2010	Q1	$ 15,934,408.74	$ 498,474	0.55%	$ 7,303.27	$ 16,440,186.49		
			Mar-10	2010	Q1	$ 16,432,883.22	$ 499,138	0.55%	$ 7,531.74	$ 16,939,553.04		
			Apr-10	2010	Q2	$ 16,932,021.30	$ 499,575	0.55%	$ 7,760.51	$ 17,439,356.81		
			May-10	2010	Q2	$ 17,431,596.30	$ 500,196	0.55%	$ 7,989.48	$ 17,939,781.78		
			Jun-10	2010	Q2	$ 17,931,792.30	$ 500,842	0.55%	$ 8,218.74	$ 18,440,853.04		
			Jul-10	2010	Q3	$ 18,432,634.30	$ 501,477	0.89%	$ 13,670.87	$ 18,947,782.17		
			Aug-10	2010	Q3	$ 18,934,111.30	$ 502,086	0.89%	$ 14,042.80	$ 19,450,240.10		
			Sep-10	2010	Q3	$ 19,436,197.30	$ 502,706	0.89%	$ 14,415.18	$ 19,953,318.48		
			Oct-10	2010	Q4	$ 19,938,903.30	$ 503,620	1.20%	$ 19,938.90	$ 20,462,462.52		
			Nov-10	2010	Q4	$ 20,442,523.62	$ 504,395	1.20%	$ 20,442.52	$ 20,967,360.94		
			Dec-10	2010	Q4	$ 20,946,918.42	$ 505,116	1.20%	$ 20,946.92	$ 21,472,980.86	$ 6,164,956.83	
			Jan-11	2011	Q1	$ 21,452,033.94	$ 505,877	1.47%	$ 26,278.74	$ 21,984,189.24		
			Feb-11	2011	Q1	$ 21,957,910.50	$ 506,671	1.47%	$ 26,898.44	$ 22,491,480.14		
			Mar-11	2011	Q1	$ 22,464,581.70	$ 507,068	1.47%	$ 27,519.11	$ 22,999,168.49		
			Apr-11	2011	Q2	$ 22,971,649.38	$ 507,459	1.47%	$ 28,140.27	$ 23,507,248.77		
			May-11	2011	Q2	$ 23,479,108.50	$ 429,263	1.47%	$ 28,761.91	$ 23,937,133.57		
			Jun-11	2011	Q2	$ 23,908,371.66	$ 429,899	1.47%	$ 29,287.76	$ 24,367,558.74		
			Jul-11	2011	Q3	$ 24,338,270.98	$ 430,300	1.47%	$ 29,814.38	$ 24,798,385.36		
			Aug-11	2011	Q3	$ 24,768,570.98	$ 430,714	1.47%	$ 30,341.50	$ 25,229,626.48		
			Sep-11	2011	Q3	$ 25,199,284.98	$ 431,413	1.47%	$ 30,869.12	$ 25,661,567.10		
			Oct-11	2011	Q4	$ 25,630,697.98	$ 432,635	1.47%	$ 31,397.61	$ 26,094,730.59		
			Nov-11	2011	Q4	$ 26,063,332.98	$ 433,139	1.47%	$ 31,927.58	$ 26,528,399.56		
			Dec-11	2011	Q4	$ 26,496,471.98	$ 433,644	1.47%	$ 32,458.18	$ 26,962,574.16	$ 5,831,776.64	

Ontario Energy Board

Smart Meter Model

Hydro Ottawa Limited

This worksheet calculates the funding adder revenues.

Account 1555 - Sub-account Funding Adder Revenues

Interest Rates	Approved Deferral and Variance Accounts	CWIP	Date	Year	Quarter	Opening Balance (Principal)	Funding Adder Revenues	Interest Rate	Interest	Closing Balance	Annual amounts	Board Approved Smart Meter Funding Adder (from Tariff)
			Jan-12	2012	Q1	$ 26,930,115.98		0.00%	$ -	$ 26,930,115.98		
			Feb-12	2012	Q1	$ 26,930,115.98		0.00%	$ -	$ 26,930,115.98		
			Mar-12	2012	Q1	$ 26,930,115.98		0.00%	$ -	$ 26,930,115.98		
			Apr-12	2012	Q2	$ 26,930,115.98		0.00%	$ -	$ 26,930,115.98		
			May-12	2012	Q2	$ 26,930,115.98		0.00%	$ -	$ 26,930,115.98		
			Jun-12	2012	Q2	$ 26,930,115.98		0.00%	$ -	$ 26,930,115.98		
			Jul-12	2012	Q3	$ 26,930,115.98		0.00%	$ -	$ 26,930,115.98		
			Aug-12	2012	Q3	$ 26,930,115.98		0.00%	$ -	$ 26,930,115.98		
			Sep-12	2012	Q3	$ 26,930,115.98		0.00%	$ -	$ 26,930,115.98		
			Oct-12	2012	Q4	$ 26,930,115.98		0.00%	$ -	$ 26,930,115.98		
			Nov-12	2012	Q4	$ 26,930,115.98		0.00%	$ -	$ 26,930,115.98		
			Dec-12	2012	Q4	$ 26,930,115.98		0.00%	$ -	$ 26,930,115.98	$ -	
			Total Funding Adder Revenues Collected				**$ 26,930,115.98**		**$ 1,074,656.10**	**$ 28,004,772.08**	**$ 28,004,772.08**	

Ontario Energy Board

Smart Meter Model

Hydro Ottawa Limited

This worksheet calculates the interest on OM&A and amortization/depreciation expense, based on monthly data.

Account 1556 - Sub-accounts Operating Expenses, Amortization Expenses, Carrying Charges

Prescribed Interest Rates	Approved Deferral and Variance Accounts	CWIP	Date	Year	Quarter	Opening Balance (Principal)	OM&A Expenses	Amortization / Depreciation Expense	Closing Balance (Principal)	(Annual) Interest Rate	Interest (on opening balance)	Cumulative Interest
2006 Q1	0.00%	0.00%	Jan-06	2006	Q1	$ -			-	0.00%	-	-
2006 Q2	4.14%	4.68%	Feb-06	2006	Q1	-			-	0.00%	-	-
2006 Q3	4.59%	5.05%	Mar-06	2006	Q1	-			-	0.00%	-	-
2006 Q4	4.59%	4.72%	Apr-06	2006	Q2	-			-	4.14%	-	-
2007 Q1	4.59%	4.72%	May-06	2006	Q2	-			-	4.14%	-	-
2007 Q2	4.59%	4.72%	Jun-06	2006	Q2	-			-	4.14%	-	-
2007 Q3	4.59%	5.18%	Jul-06	2006	Q3	-		$ 77,514.00	77,514.00	4.59%	-	-
2007 Q4	5.14%	5.18%	Aug-06	2006	Q3	77,514.00		$ 77,514.00	155,028.00	4.59%	296.49	296.49
2008 Q1	5.14%	5.18%	Sep-06	2006	Q3	155,028.00		$ 77,514.00	232,542.00	4.59%	592.98	889.47
2008 Q2	4.08%	5.18%	Oct-06	2006	Q4	232,542.00		$ 77,514.00	310,056.00	4.59%	889.47	1,778.95
2008 Q3	3.35%	5.43%	Nov-06	2006	Q4	310,056.00		$ 77,514.00	387,570.00	4.59%	1,185.96	2,964.91
2008 Q4	3.35%	5.43%	Dec-06	2006	Q4	387,570.00	$ -	$ 77,514.00	465,084.00	4.59%	1,482.46	4,447.37
2009 Q1	2.45%	6.61%	Jan-07	2007	Q1	465,084.00	$ 41,430.76	$ 119,729.24	626,244.00	4.59%	1,778.95	6,226.31
2009 Q2	1.00%	6.61%	Feb-07	2007	Q1	626,244.00	$ 64,876.63	$ 119,729.24	810,849.88	4.59%	2,395.38	8,621.70
2009 Q3	0.55%	5.67%	Mar-07	2007	Q1	810,849.88	$ 55,799.23	$ 119,729.24	986,378.35	4.59%	3,101.50	11,723.20
2009 Q4	0.55%	4.66%	Apr-07	2007	Q2	986,378.35	$ 73,790.63	$ 119,729.24	#########	4.59%	3,772.90	15,496.09
2010 Q1	0.55%	4.34%	May-07	2007	Q2	##########	##########	$ 119,729.24	#########	4.59%	4,513.11	20,009.20
2010 Q2	0.55%	4.34%	Jun-07	2007	Q2	##########	$ 75,641.45	$ 119,729.24	#########	4.59%	5,430.60	25,439.81
2010 Q3	0.89%	4.66%	Jul-07	2007	Q3	##########	-$ 80,175.18	$ 119,729.24	#########	4.59%	6,177.90	31,617.70
2010 Q4	1.20%	4.01%	Aug-07	2007	Q3	##########	$ 50,215.35	$ 119,729.24	#########	4.59%	6,329.19	37,946.89
2011 Q1	1.47%	4.29%	Sep-07	2007	Q3	##########	$ 46,409.59	$ 119,729.24	#########	4.59%	6,979.23	44,926.12
2011 Q2	1.47%	4.29%	Oct-07	2007	Q4	##########	$ 96,394.85	$ 119,729.24	#########	5.14%	8,527.15	53,453.27
2011 Q3	1.47%	4.29%	Nov-07	2007	Q4	##########	$ 45,552.04	$ 119,729.24	#########	5.14%	9,452.88	62,906.14
2011 Q4	1.47%	4.29%	Dec-07	2007	Q4	##########	$ 13,076.69	$ 119,729.24	#########	5.14%	10,160.83	73,066.98
2012 Q1	0.00%	4.29%	Jan-08	2008	Q1	##########	$ 46,369.62	$ 74,118.87	#########	5.14%	10,729.68	83,796.66

2012 Q2	0.00%	4.29%	Feb-08	2008	Q1	##########	$ 61,979.05	$ 80,524.43	#########	5.14%	11,245.78	95,042.44
2012 Q3	0.00%	4.29%	Mar-08	2008	Q1	##########	$ 25,138.13	$ 83,578.92	#########	5.14%	11,856.17	106,898.61
2012 Q4	0.00%	4.29%	Apr-08	2008	Q2	##########	$ 66,155.02	$ 96,556.00	#########	4.08%	9,780.76	116,679.36
			May-08	2008	Q2	##########	$ 78,452.35	$ 100,282.76	#########	4.08%	10,333.98	127,013.34
			Jun-08	2008	Q2	##########	$ 29,524.41	$ 106,703.68	#########	4.08%	10,941.68	137,955.02
			Jul-08	2008	Q3	##########	##########	$ 112,953.58	#########	3.35%	9,364.28	147,319.29
			Aug-08	2008	Q3	##########	$ 24,274.13	$ 113,721.58	#########	3.35%	9,961.96	157,281.26
			Sep-08	2008	Q3	##########	$ 74,024.33	$ 122,614.63	#########	3.35%	10,347.20	167,628.46
			Oct-08	2008	Q4	##########	##########	$ 131,114.23	#########	3.35%	10,896.15	178,524.61
			Nov-08	2008	Q4	##########	-$ 4,270.78	$ 134,864.84	#########	3.35%	11,568.57	190,093.17
			Dec-08	2008	Q4	##########	##########	$ 239,373.27	#########	3.35%	11,933.14	202,026.32
			Jan-09	2009	Q1	##########	$ 73,524.68	$ 164,166.19	#########	2.45%	9,426.38	211,452.70
			Feb-09	2009	Q1	##########	$ 52,783.01	$ 168,877.90	#########	2.45%	9,911.67	221,364.36
			Mar-09	2009	Q1	##########	$ 41,949.32	$ 175,078.66	#########	2.45%	10,364.22	231,728.59
			Apr-09	2009	Q2	##########	$ 74,786.87	$ 178,766.65	#########	1.00%	4,411.15	236,139.74
			May-09	2009	Q2	##########	$ 85,824.90	$ 181,923.33	#########	1.00%	4,622.45	240,762.18
			Jun-09	2009	Q2	##########	$ 60,836.58	$ 186,166.38	#########	1.00%	4,845.57	245,607.75
			Jul-09	2009	Q3	##########	$ 78,278.12	$ 183,918.27	#########	0.55%	2,778.27	248,386.03
			Aug-09	2009	Q3	##########	$ 52,829.09	$ 189,241.42	#########	0.55%	2,898.45	251,284.47
			Sep-09	2009	Q3	##########	$ 62,113.06	$ 186,923.13	#########	0.55%	3,009.40	254,293.87
			Oct-09	2009	Q4	##########	##########	$ 192,680.32	#########	0.55%	3,123.54	257,417.41
			Nov-09	2009	Q4	##########	##########	$ 194,264.53	#########	0.55%	3,278.71	260,696.11
			Dec-09	2009	Q4	##########	##########	$ 190,436.43	#########	0.55%	3,425.78	264,121.89
			Jan-10	2010	Q1	##########	##########	$ 203,578.57	#########	0.55%	3,638.81	267,760.70
			Feb-10	2010	Q1	##########	##########	$ 204,882.97	#########	0.55%	3,789.16	271,549.86
			Mar-10	2010	Q1	##########	##########	$ 244,581.48	#########	0.55%	3,986.44	275,536.29
			Apr-10	2010	Q2	##########	$ 54,584.08	$ 247,189.34	#########	0.55%	4,198.43	279,734.72
			May-10	2010	Q2	##########	##########	$ 242,704.10	#########	0.55%	4,336.74	284,071.47
			Jun-10	2010	Q2	##########	##########	$ 234,731.35	#########	0.55%	4,501.90	288,573.36
			Jul-10	2010	Q3	##########	$ 6,190.94	$ 238,513.02	#########	0.89%	7,611.82	296,185.18
			Aug-10	2010	Q3	##########	##########	$ 238,595.17	#########	0.89%	7,793.31	303,978.50
			Sep-10	2010	Q3	##########	##########	$ 228,306.17	#########	0.89%	8,113.83	312,092.33
			Oct-10	2010	Q4	##########	##########	$ 267,268.24	#########	1.20%	11,318.43	323,410.76
			Nov-10	2010	Q4	##########	##########	$ 260,231.59	#########	1.20%	11,732.60	335,143.36
			Dec-10	2010	Q4	##########	##########	$ 272,599.88	#########	1.20%	12,103.43	347,246.79
			Jan-11	2011	Q1	##########	##########	$ 278,630.09	#########	1.47%	15,328.78	362,575.57
			Feb-11	2011	Q1	##########	$ 93,207.77	$ 281,525.29	#########	1.47%	15,793.67	378,369.23
			Mar-11	2011	Q1	##########	$ 90,493.09	$ 284,139.18	#########	1.47%	16,252.71	394,621.95
			Apr-11	2011	Q2	##########	##########	$ 284,386.10	#########	1.47%	16,711.64	411,333.59
			May-11	2011	Q2	##########	##########	$ 285,374.41	#########	1.47%	17,257.47	428,591.05
			Jun-11	2011	Q2	##########	##########	$ 287,155.22	#########	1.47%	17,762.30	446,353.35
			Jul-11	2011	Q3	##########	##########	$ 291,656.49	#########	1.47%	18,401.38	464,754.73
			Aug-11	2011	Q3	##########	##########	$ 288,959.12	#########	1.47%	18,982.29	483,737.02
			Sep-11	2011	Q3	##########	##########	$ 290,025.08	#########	1.47%	19,562.34	503,299.36
			Oct-11	2011	Q4	##########	##########	$ 290,344.36	#########	1.47%	20,091.63	523,390.98
			Nov-11	2011	Q4	##########	##########	$ 291,260.98	#########	1.47%	20,619.80	544,010.78
			Dec-11	2011	Q4	##########	##########	$ 435,901.40	#########	1.47%	21,150.37	565,161.15
			Jan-12	2012	Q1	##########			#########	0.00%	-	565,161.15
			Feb-12	2012	Q1	##########			#########	0.00%	-	565,161.15
			Mar-12	2012	Q1	##########			#########	0.00%	-	565,161.15
			Apr-12	2012	Q2	##########			#########	0.00%	-	565,161.15

May-12	2012	Q2	##########			#########	0.00%	-	565,161.15
Jun-12	2012	Q2	##########			#########	0.00%	-	565,161.15
Jul-12	2012	Q3	##########			#########	0.00%	-	565,161.15
Aug-12	2012	Q3	##########			#########	0.00%	-	565,161.15
Sep-12	2012	Q3	##########			#########	0.00%	-	565,161.15
Oct-12	2012	Q4	##########			#########	0.00%	-	565,161.15
Nov-12	2012	Q4	##########			#########	0.00%	-	565,161.15
Dec-12	2012	Q4	##########			#########	0.00%	-	565,161.15
				##########	###########	#########			

Ontario Energy Board

Smart Meter Model

Hydro Ottawa Limited

This worksheet calculates the interest on OM&A and amortization/depreciation expense, in the absence of monthly data.

Year	OM&A (from Sheet 5)	Amortization Expense (from Sheet 5)	Cumulative OM&A and Amortization Expense	Average Cumulative OM&A and Amortization Expense	Average Annual Prescribed Interest Rate for Deferral and Variance Accounts (from Sheets 8A and 8B)	Simple Interest on OM&A and Amortization Expenses
2006	$ -	$ 465,083.88	$ 465,083.88	$ 232,541.94	4.37%	$ 10,150.46
2007	$ 603,150.00	$ 1,436,750.93	$ 2,504,984.82	$ 1,485,034.35	4.73%	$ 70,205.00
2008	$ 715,611.00	$ 1,396,406.07	$ 4,617,001.88	$ 3,560,993.35	3.98%	$ 141,727.54
2009	$ 1,129,771.00	$ 2,192,443.12	$ 7,939,216.00	$ 6,278,108.94	1.14%	$ 71,413.49
2010	$ 1,690,890.00	$ 2,883,181.83	$ 12,513,287.83	$ 10,226,251.92	0.80%	$ 81,554.36
2011	$ 2,724,411.00	$ 3,589,357.67	$ 18,827,056.50	$ 15,670,172.17	1.47%	$ 230,351.53
2012	$ -	$ -	$ 18,827,056.50	$ 18,827,056.50	1.47%	$ 276,757.73
Cumulative Interest to 2011						$ 605,402.37
Cumulative Interest to 2012						$ 882,160.10

Ontario Energy Board

Smart Meter Model

Hydro Ottawa Limited

This worksheet calculates the Smart Meter Disposition Rider and the Smart Meter Incremental Revenue Requirement Rate Rider, if applicable. This worksheet also calculates any new Smart Meter Funding Adder that a distributor may wish to request. However, please note that in many 2011 IRM decisions, the Board noted that current funding adders will cease on April 30, 2011 and that the Board's expectation is that distributors will file for a final review of prudence at the earliest opportunity. The Board also noted that the SMFA is a tool designed to provide advance funding and to mitigate the anticipated rate impact of smart meter costs when recovery of those costs is approved by the Board. The Board observed that the SMFA was not intended to be compensatory (return on and of capital) on a cumulative basis over the term the SMFA was in effect. The SMFA was initially designed to fund future investment, and not fully fund prior capital investment. Distributors that seek a new SMFA should provide evidence to support its proposal. This would include documentation of where the distributor is with respct to its smart meter deployment program, and reasons as to why the distributor's circumstances are such that coninuation of the SMFA is warranted. Press the "UPDATE WORKSHEET" button after choosing the applicable adders/riders.

Check if applicable		
	Smart Meter Funding Adder (SMFA)	
X	Smart Meter Disposition Rider (SMDR)	**The SMDR is calculated based on costs to December 31, 2011**
	Smart Meter Incremental Revenue Requirement Rate Rider (SMIRR)	**The SMIRR is calculated based on the incremental revenue requirement associated with the recovery of capital related costs to December 31, 2012 and associated OM&A.**

	2006	2007	2008	2009	2010	2011	2012 and later	Total
Deferred and forecasted Smart Meter Incremental Revenue Requirement (from Sheet 5)	$ 1,006,781.26	$ 3,623,657.39	$ 3,461,341.97	$ 5,431,729.97	$ 6,818,668.52	$ 8,609,017.46	$ -	$ 28,951,196.56
Interest on Deferred and forecasted OM&A and Amortization Expense (Sheet 8A/8B) (Check **one** of the boxes below)	$ 4,447.37	$ 68,619.61	$ 128,959.34	$ 62,095.58	$ 83,124.90	$ 217,914.36		$ 565,161.15
X Sheet 8A (Interest calculated on monthly balances)	$ 4,447.37	$ 68,619.61	$ 128,959.34	$ 62,095.58	$ 83,124.90	$ 217,914.36		$ 565,161.15
Sheet 8B (Interest calculated on average annual balances)								$ -
SMFA Revenues (from Sheet 8)	$ 1,010,867.16	$ 4,481,727.00	$ 4,651,361.16	$ 5,292,457.74	$ 6,015,620.88	$ 5,478,082.04	$ -	$ 26,930,115.98
SMFA Interest (from Sheet 8)	$ 13,461.59	$ 124,129.29	$ 303,357.51	$ 130,677.16	$ 149,335.95	$ 353,694.60	$ -	$ 1,074,656.10
Net Deferred Revenue Requirement	-$ 4,085.90	-$ 858,069.61	-$ 1,190,019.19	$ 139,272.23	$ 803,047.64	$ 3,130,935.42	$ -	$ 1,511,585.63
Number of Metered Customers (average for 2012 test year)							307,959	

Calculation of Smart Meter Disposition Rider (per metered customer per month)

Years for collection or refunding		1
Deferred Incremental Revenue Requirement from 2006 to December 31, 2011 plus Interest on OM&A and Amortization		$ 29,516,357.71
SMFA Revenues collected from 2006 to 2012 test year (inclusive) Plus Simple Interest on SMFA Revenues		$ 28,004,772.08
Net Deferred Revenue Requirement		$ 1,511,585.63
SMDR	January 1, 2012 to December 31, 2012	$ 0.41
Check: Forecasted SMDR Revenues		$ 1,515,158.28

Match

Funding and Cost Recovery Mechanisms

The following table provides a summary of the three mechanisms for smart meter funding and cost recovery that the Board has established and that can be calculated by this model. The Smart Meter Funding Adder ("SMFA") was described in Guideline G-2008-0002. The Smart Meter Disposition Rider ("SMDR") and Smart Meter Incremental Revenue Requirement Rate Rider (SMIRR) were defined by the Board in the Decision for PowerStream Inc.'s application for Smart Meter disposition [EB-2010-0209]. October 1, 2010.

Title	Acronym	Description
Smart Meter Funding Adder	SMFA	• Mechanism to provide funding before and during smart meter deployment and acts to smooth the rate increases due to smart meter implementation. • First implemented in rates for May 1, 2006. • Initially established at a level of about $0.26/month per metered customer for most distributors; some utilities have had unique SMFA rates due to initial Smart Meter Implementation Plans. Distributors could subsequently apply for a standard SMFA of $1.00 per metered customer per month or a utility-specific SMFA. • SMFA revenues are tracked in a sub-account of Account 1555. Upon disposition, the SMFA revenues and interest are used to offset the deferred historical revenue requirement of installed smart meters, with the variance recovered or refunded through the SMDR. • In many 2011 EDR applications, the Board capped the SMFA at $2.50/month per metered customer and established an end date of April 30, 2012.
Smart Meter Disposition Rider	SMDR	• The SMDR recovers, over a specified time period, the variance between: 1) the deferred revenue requirement for the installed smart meters up to the time of disposition; and 2) the SMFA revenues collected and associated interest. • To date the SMDR has been calculated on a monthly basis. • In many cases the SMDR has been recovered on an equal basis from all metered customer classes, although more recent decisions have dealt with class-specific disposition riders. The distributor should determine and support its proposed allocation, based on principles of cost causality and practicality.
Smart Meter Incremental Revenue Requirement Rate Rider	SMIRR	• When smart meter disposition occurs in a stand-alone application, a SMIRR is calculated as the proxy for the incremental change in the distribution rates that would have occurred if the assets and operating expenses were incorporated into the rate base and revenue requirement. • The SMIRR is calculated as the annualized revenue requirement for the test year for the capital and operating costs for smart meters. • The SMIRR will be calculated on a monthly basis, similar to the SMDR. • The allocation for the SMIRR should generally be the same as for the SMDR. • The SMIRR ceases at the time of the utility's next cost of service application when smart meter capital and operating

Cost of Service Applications

The recovery of smart meter capital and operating costs is normally approved (or denied) following a review for prudence and disposition in a cost of service proceeding. A smart meter disposition rate rider ("SMDR") is used to recover the residual revenue requirement that is made up of smart meter costs up to the time of disposition, less amounts collected through the SMFA and associated interest. The approved gross book value and accumulated depreciation of installed smart meters are then added to rate base, and the test period operating expenses are added to OM&A. This ensures the recovery of the incremental revenue requirement on a going-forward basis through base rates. Further, smart meter capital and operating costs should be reflected in the cost allocation study to ensure an appropriate allocation of costs to the various customer classes.[1]

If a distributor seeks approval for costs related to 100% smart meter deployment, any capital and operating costs for smart meters that are installed beyond the (2012) test year (i.e. for new customers) should not be recorded in Accounts 1555 and 1556.

The Board considers that rates will be fully compensatory when smart meter costs are either incorporated into base rates or recovered by means of the SMIRR. When smart meters are installed for new customers, these customers will pay rates that reflect the recovery of smart meter costs. The costs of these additional smart meter costs should be reflected in normal capital and operating accounts, akin to other normal distribution assets and costs.

Stand-alone Applications

As per *Chapter 3 of the Filing Requirements for Transmission and Distribution Applications*, issued June 22, 2011, the Board expects those distributors that are scheduled to remain on IRM to file a stand-alone application with the Board seeking final approval for smart meter related costs. When rates are adjusted in a stand-alone application, there is no re-evaluation of rate base or of the revenue requirement for the purpose of setting distribution rates. Where the Board approves smart meter capital and operating costs outside of a cost of service proceeding, a SMDR is still required. In addition, a smart meter incremental revenue requirement rate rider ("SMIRR") is established to recover the prospective annualized incremental revenue requirement for the approved smart meters, until the distributor's next cost of service application. The SMIRR continues until the effective date of the distributor's next cost of service rate order, at which time assets and costs are incorporated into the rate base and revenue requirement and recovered on a going-forward basis through base rates.

As in a cost of service application, when smart meter costs are approved for 100% deployment, capital and operating costs for smart meters on a going-forward basis are no longer recorded in Accounts 1555 and 1556; instead the costs are recorded in the applicable capital or operating expense account (e.g. Account 1860 – Meters for smart meter capital assets).

Evidence to be Filed in Support of Smart Meter Cost Recovery in a Cost of Service or Stand-Alone Application

The purpose of this model is to calculate a smart meter revenue requirement from a distributor's capital and OM&A costs, and to provide one methodology for the determination of associated riders and/or adders. In addition to filing this model, distributors must provide in any application for cost recovery detailed descriptions of all costs incurred. The onus is on the distributor to support its case, and the distributor should provide any additional information necessary to understand the distributor's costs in light of its circumstances. In considering the recovery of smart meter costs, the Board also expects that a distributor will provide evidence on any operational efficiencies and cost savings that result from smart meter implementation. As an example, meter reading expenses may be reduced with the activation of remote meter reading through the AMI network for residential and small general service customers.

When applying for the recovery of smart meter costs, a distributor should ensure that historical cost information has been audited including the smart meter-related deferral account balances up to the distributor's last Audited Financial Statements. A distributor may also include historical costs that are not audited and estimated costs, corresponding to a stub period or to a forecast for the test rate year. The Board expects that the majority (i.e. 90% or more) of costs for which the distributor is seeking recovery will be audited. In all cases, the Board expects that the distributor will document and explain any differences between unaudited or forecasted amounts and audited costs.

"Beyond Minimum Functionality" Costs

While authorized smart meter deployment must meet the requirements for minimum functionality, a distributor may incur costs that are beyond the "minimum functionality". To date, the Board has reviewed three types of costs that are "beyond minimum functionality":

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

B. Costs for deployment of smart meters to customers other than residential and small general service (i.e. Residential and GS < 50 kW customers); and

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

Costs beyond minimum functionality for which recovery is sought must be recorded in the Smart Meter Costs tab of the model in these three categories, and appropriate supporting evidence for each cost type must be provided in the application. Further comments on each of these cost types are provided below.

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

O.Reg. 425/06 specifies that costs that exceed minimum functionality may be approved by the Board for recovery. In deciding whether technical capabilities of installed smart meters or associated communications or other infrastructure that exceed minimum functionality are recoverable, the Board will consider the benefits of the added technical features and the prudence of these costs. Any distributor seeking recovery for these additional capabilities should provide documentation of the additional technical capabilities, the reasons for them and a detailed cost/benefit analysis.

Technical functionality "beyond minimum functionality" was dealt with by the Board with respect to Hydro One Networks' 2008 cost of service application, regarding the costs and benefits of super-capacitors in the smart meters and AMI collectors. In its Decision and Order on that application (EB-2007-0681), issued December 18, 2008, the Board approved the recovery of the incremental costs.

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

O.Reg. 425/06 defines smart meter deployment as pertaining to residential and small general service customers. The Functional Specification sets the required minimum level of functionality for the AMI to be "for residential and small general service consumers where the metering of demand is not required." As such, minimum functionality has been defined as customers in the residential and general service ("GS") < 50 kW classes.

While some customers in other metered customer classes (GS > 50 kW, Intermediate, Large Use) have interval meters that measure peak demand in a time interval, some distributors may have customers in these classes that have conventional meters and are not eligible for the regulated price plan ("RPP") and therefore are subject to the weighted average spot market price.

A distributor may, as part of its smart meter deployment program, decide to install smart meters for these customers. This could be on the basis that these customers will have higher demand than will typical residential and GS < 50 kW customers, and providing them with better information on how much and when they consume electricity may provide these customers with opportunities for more energy conservation and load shifting. While such meter conversions may generally appear to be logical, they are outside of the regulation and hence are "beyond minimum functionality". In other instances, a distributor may convert the meters of interval-metered customers upon repair or re-sealing to "smart" meters that communicate using the AMI infrastructure that the distributor has installed, replacing the existing communications systems for these meters. Again, as these are for meters for customers other than residential and small general service, they are outside of the regulation and hence "beyond minimum functionality".

The Board, as part of the Combined Proceeding (EB-2007-0063, December 13, 2007), approved cost recovery for meter conversions for GS > 50 kW customers for both Toronto Hydro Electric System Limited ("Toronto Hydro") and Hydro Ottawa Limited. However the Board stated:

"*The Board is explicitly not finding that the costs associated with these meters fall into the minimum functionality costs. The Board approval of these costs is ancillary to the smart meter decision."*

With respect to Toronto Hydro, the Board subsequently approved the recovery of these costs for smart meter installation/conversion for GS > 50 kW customers in Toronto Hydro's 2008-2009 [EB-2007-0681] and 2011 [EB-2010-0142] cost of service rate applications.

Some distributors may be doing "smart meter" conversions for General Service > 50 kW customers upon repair or resealing to enable meter data collection through the AMI infrastructure. While it is recognized that these smart meter installations and conversions are "beyond minimum functionality", a distributor may apply for the recovery of such costs. The application should document the nature, the justification and the cost per meter separately from those for the residential and GS < 50 kW customers.

C. Costs for TOU rate implementation, CIS system upgrades, web presentation, etc.

Costs for CIS systems, TOU rate implementation, etc., are beyond minimum functionality as established by the Board in the Combined Proceeding. However, such costs may be recoverable. In its application, a distributor should show how these costs are required for its smart meter program. Further, a distributor should document how these costs are incremental. For example, if a distributor has a normal budget for maintenance of its billing and CIS systems, costs claimed for system maintenance and upgrades must be shown to be incremental to the normal budget that is already recovered in base rates.

All costs "beyond minimum functionality" should be clearly identified and supported. Costs that are for meter data functions that will be the responsibility of the Smart Metering Entity will not be recoverable, unless already allowed for as per O.Reg. 426/06. Costs for other matters such as CIS changes or TOU bill presentment may be recoverable, but the distributor will have to support these costs and will have to demonstrate how they are required for the smart meter deployment program and that they are incremental to the distributor's normal operating costs.

Cost recovery for ongoing costs of the Smart Metering Entity should not be included in any smart meter cost recovery application, until such time as the Board establishes a cost recovery mechanism. To date, the Board has disallowed requests for either cost recovery or the establishment of a deferral account to track these costs.

Cost Allocation

The model does not deal with allocations between customer rate classes. In calculating the SMDR and SMIRR, the Board has approved, in some applications, the recovery of amounts from certain applicable customer classes based on the availability of detailed data at the customer class level and on principles of cost causality.

If a distributor does not have sufficient information to support an allocation to the applicable classes, a distributor may choose to propose a recovery on the basis of all metered customers resulting in one uniform rate rider for all metered customer classes. The model calculates the SMFA, SMIRR and SMDR on this basis.

Whichever method is adopted, the Board is of the view that any cost allocation approach should be consistent between the SMDR and the SMIRR when disposition is sought in a stand-alone application. The Board will entertain proposals supported by analysis for SMDRs and SMIRRs based on principles of cost causality and where the distributor has the necessary historical and forecasted data. Distributors should refer to the PowerStream application considered under EB-2010-0209 for a practical approach. However, if a distributor decides to adopt this approach in its application, it will have to adjust it to its own circumstances.[2] Further, adoption of this approach will not predetermine its approval by the Board in an individual application.

Stranded Meters

The model does not address the recovery of stranded meter costs. Distributors filing Cost of Service applications should refer to *Chapter 2 of the Filing Requirements for Transmission and Distribution Applications*, issued June 22, 2011 (Section 2.5.1.5).

While it would be preferable, conceptually, to also deal with stranded meter costs in a non-cost of service application, the Board recognizes that practical difficulties would arise since there is no restatement of rate base and rates. The Board therefore expects that stranded meter costs will be left in rate base until the distributor's next cost of service application.

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[1] See Section 2.10 – Cost Allocation of Chapter 2 of the Filing Requirements for Transmission and Distribution Applications, issued June 22, 2011.

[2] For example, if a distributor has deployed smart meters to classes other than Residential and GS < 50 kW, it will have to reflect the additional classes in any cost allocation proposal.