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January 22, 2008

Delivered by E-mail and Courier

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, Ontario
M4P 1E4

Dear Ms. Walli:

**Re: EB-2007-0697 – Horizon Utilities Corporation
Application to the Ontario Energy Board (the “OEB”) for Electricity
Distribution Rates and Charges as of May 1, 2008 – Responses to VECC
Interrogatories**

We are counsel to Horizon Utilities Corporation (“Horizon Utilities”) with respect to the above-captioned matter. Please find accompanying this letter two hard copies of Horizon Utilities’ responses to the Vulnerable Energy Consumers Coalition (“VECC”) interrogatories in this proceeding, together with an electronic copy of same.

Please note the following with respect to the responses to OEB Staff interrogatories delivered by Horizon Utilities last week:

- Horizon Utilities’ practice in responding to interrogatories is to reproduce each question in its entirety (including all parts and sub-parts), and to follow each question with the corresponding response.
- It has come to our attention that at OEB Staff questions 46 and 52, a number of small notes made by Horizon Utilities staff were inadvertently left within the bodies of those questions. Please disregard those notes. Horizon Utilities confirms that its it has arranged its responses to questions 46 and 52 in the same manner as its responses to all other staff questions. Horizon Utilities’ response (titled “Response”) to each question can be found immediately following the question in its entirety. We regret any confusion this may have caused.

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Yours very truly,

BORDEN LADNER GERVAIS LLP

Original Signed by James C. Sidlofsky

James C. Sidlofsky

cc: Max Cananzi, Horizon Utilities Corporation
John Basilio, Horizon Utilities Corporation
Cameron McKenzie, Horizon Utilities Corporation
Intervenors of Record

::ODMA\PCDOCS\TOR01\3729686\1

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

AND IN THE MATTER OF an Application by Horizon Utilities Corporation to the Ontario Energy Board for an Order or Orders approving or fixing just and reasonable rates and other service charges for the distribution of electricity as of May 1, 2008.

HORIZON UTILITIES CORPORATION

**2008 ELECTRICITY DISTRIBUTION RATE APPLICATION
RESPONSES TO THE VULNERABLE ENERGY CONSUMERS
COALITION (“VECC”) INTERROGATORIES**

FILED: JANUARY 22, 2008

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EB-2007-0697

HORIZON UTILITIES CORPORATION

**2008 ELECTRICITY DISTRIBUTION RATE APPLICATION
RESPONSES TO THE VULNERABLE ENERGY CONSUMERS COALITION
("VECC") INTERROGATORIES**

INDEX

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1 **Question #1**

2 **Reference:** i) Exhibit A/Tab 1/Schedule 13, page 1

3 a) Please explain why Hamilton Utilities Corporation is considered an affiliate
4 of Horizon while St. Catharines Hydro Inc. is not – as they are both
5 “owners” of Horizon Utilities Corporation.

6 **Response:**

7 a) Section 1.2 of the Affiliate Relationships Code for Electricity Transmitters
8 and Distributors, as prescribed by the Ontario Energy Board, defines an
9 “affiliate” as having the same meaning as in the *Business Corporations*
10 *Act* (Ontario) (the “OBCA”).

11 Subsection 1.(1) of the OBCA defines “affiliate” as follows:

12 “affiliate” means an affiliated body corporate within the meaning of
13 subsection (4);”

14 Subsection 1.(4) of the OBCA defines an “affiliated body corporate” as
15 follows:

16 “...one body corporate shall be deemed to be affiliated with
17 another body corporate if, but only if, one of them is the
18 subsidiary of the other or both are subsidiaries of the same body
19 corporate or each of them is controlled by the same person.”

20 Subsection 1.(2) of the OBCA provides its interpretation of “subsidiary
21 body corporate” as follows:

22 “...a body corporate shall be deemed to be a subsidiary of
23 another body corporate if, but only if,

24 (a) it is controlled by,

25 (i) that other, or

26 (ii) that other and one or more bodies corporate each of
27 which is controlled by that other, or

28 (iii) two or more bodies corporate each of which is
29 controlled by that other, or

1 (b) it is a subsidiary of a body corporate that is that other's
2 subsidiary."

3 Subsection 1(5) of the BCA provides that:

4 For the purposes of this Act, a body corporate shall be deemed to be
5 controlled by another person or by two or more bodies corporate if, but
6 only if,

7 (a) voting securities of the first-mentioned body corporate
8 carrying more than 50 per cent of the votes for the election of
9 directors are held, other than by way of security only, by or
10 for the benefit of such other person or by or for the benefit of
11 such other bodies corporate; and

12 (b) the votes carried by such securities are sufficient, if
13 exercised, to elect a majority of the board of directors of the
14 first-mentioned body corporate.

15 Hamilton Utilities Corporation ("HUC") owns 78.9% of the common shares
16 of Horizon Holdings Inc. ("Horizon Holdings") which in turn owns 100% of
17 the shares of Horizon Utilities. As such, Horizon Utilities is controlled by
18 HUC pursuant to subsection 1(5) of the BCA and is therefore a subsidiary
19 and affiliate of HUC pursuant to subsection 1(2) and subsections 1(1) and
20 1(4) of the OBCA, respectively.

21 St. Catharines Hydro Inc. ("SCH") owns 21.1% of the common shares of
22 Horizon Holdings and does not meet the criteria for affiliate status
23 pursuant to the OBCA or the OEB's Affiliate Relationships Code.

24 HUC and SCH are each wholly-owned by the municipalities of Hamilton
25 and St. Catharines, respectively, and, as such, are not affiliated.
26

1 **Question #2**

2 **Reference:** i) Exhibit A/Tab 1/Schedule 13, page 2

3 a) Please confirm that all services provided by Horizon to any of its affiliates
4 are addressed in the "Master Services Agreement". If not please identify
5 what other services are provided, who the recipient affiliates are and
6 provide a copy of the service agreement.

7 **Response:**

8 a) Horizon Utilities confirms that all services provided to its affiliates are
9 addressed in the "Master Services Agreement"

10

1 **Question #3**

2 **Reference:** i) Exhibit B/Tab 1/Schedule 1, page 8 (lines 21-23)

3 a) Please confirm that the “variance threshold” referred to is 1% of total net
4 fixed assets.

5 b) Please “describe” those projects in 2006 and 2007 with costs in excess of
6 \$100,000 and, in each case, identify the total capital cost and project pool
7 it falls into.

8 **Response:**

9 a) Horizon Utilities confirms that the variance threshold has been calculated
10 on 1% of its 2006 total net fixed assets.

11 b) The following tables provide the requested information on project
12 descriptions, costs in excess of \$100,000 and project pools for 2006 and
13 2007.

14

1

2006 Capital Expenditures by Project:

<u>Project Description</u>	<u>Actual Expenditure</u>	<u>Project Pool</u>
<u>PLANT DISTRIBUTION CAPITAL:</u>		-
Relocate Feeder (Customer, Roadway)	\$483,773	Customer Demand
Relocate Poles/Ltg. For MTO (Customer, Roadway)	\$457,034	Customer Demand
National Steel Car Project (Customer)	\$415,640	Customer Demand
Subdivision on Stonechurch (Customer, CCRA)	\$473,773	Customer Demand
Relocate O/H and U/G Plant (Customer, Roadway)	\$155,524	Customer Demand
Hamilton Street Lighting (Customer)	\$115,302	Customer Demand
Plant relocation (Customer, Roadway)	\$172,992	Customer Demand
Subdivision on Lorenzo Drive (Customer, CCRA)	\$121,060	Customer Demand
Relocation of Pole Line (Customer, Roadway)	\$173,281	Customer Demand
Road Widening (Customer, Roadway)	\$113,168	Customer Demand
Fortissimo Drive Subdivision (Customer, CCRA)	\$115,438	Customer Demand
Reloc. Poles for new Bridge (Customer, Roadway)	\$126,300	Customer Demand
Redesign for Bridge work (Customer, Roadway)	\$127,376	Customer Demand
New Pole Line to supply School (Customer)	\$172,008	Customer Demand
Regional Rd. Widening (Customer, Roadway)	\$110,290	Customer Demand
Buchanan Park Conversion	\$588,814	Renewal
Replace and convert small O/H line	\$124,511	Renewal
Replace Overhead Transformers	\$108,323	Renewal
Replace Underground Transformers	\$103,624	Renewal
Replace Transformers – end of life	\$177,178	Renewal
Pole Replacements	\$668,628	Renewal
Pole Replacements	\$119,914	Renewal
Pole Replacements	\$125,118	Renewal
Install 1000 MCM Feeder (from Univ to Main St.)	\$524,612	Renewal
Standing Work Orders Hamilton	\$3,360,976	Renewal
Standing Work Orders St. Catharines	\$481,190	Renewal
Halsion Conversion	\$3,128,929	Security
York Substation Conversion	\$823,127	Security
Convert Taylor F3 to 13 kV	\$103,464	Security
Downtown St. Catharines Network Upgrade	\$451,947	Security
Overhead conversion from 4 kV to 27 kV	\$226,550	Security

2

1

2007 Capital Expenditures by Project:

<u>Project Description</u>	<u>Forecast Expenditure</u>	<u>Project Pool</u>
<u>PLANT DISTRIBUTION CAPITAL:</u>		
Duct Run on Barton Rd E (Customer, Roadway)	\$126,978	Customer Demand
Flamborough Power Center (Customer)	\$220,737	Customer Demand
Subdivision Upper Horning Rd (Customer)	\$138,242	Customer Demand
Highway 6 Widening (Customer, Roadway)	\$140,450	Customer Demand
Ancaster Resid. Development (Customer)	\$296,007	Customer Demand
St. Catharines - QEW Road Widening (Customer)	\$149,639	Customer Demand
Resid. Dev. Limeridge & Gage (Customer)	\$194,864	Customer Demand
Residential Subdivision (Customer)	\$289,554	Customer Demand
Relocate Pole Line Along Canal (Customer)	\$195,775	Customer Demand
Niagara St. Road Widening (Customer, Roadway)	\$538,509	Customer Demand
Mohawk Dr. St. Catharines (Customer, Roadway)	\$219,769	Customer Demand
2.5 mVA Customer Substation (Customer)	\$110,765	Customer Demand
Relocate Plant - Cust. Request (Customer)	\$139,876	Customer Demand
Flamborough Power Center (Customer)	\$296,784	Customer Demand
Carlton Street Road Widening	\$634,568	Customer Demand
Zellens Road, Dundas Ltg. (Customer, Roadway)	\$153,596	Customer Demand
Resid. Dev. DiCenzo Gardens (Customer)	\$229,589	Customer Demand
Rymal Road Pole Lline Reinforcement	\$327,439	Security
Hamilton O/H Transformer Replacements	\$370,927	Renewal
St. Catharines Upgrade Tension Sleeves	\$281,203	Renewal
Replace Poles in St. Catharines	\$250,707	Renewal
Replace Poles in St. Catharines	\$198,697	Renewal
Replace Poles in Hamilton	\$172,357	Renewal
Replace Poles in St. Catharines	\$272,342	Renewal
Replace Poles in Hamilton	\$213,209	Renewal
Replace Transformers in St. Catharines	\$343,223	Renewal
Replace Poles in Hamilton	\$132,343	Renewal
Replace Transformers in Hamilton	\$208,797	Renewal
Replace Carlton TS egress cable	\$140,345	Renewal
Replace M34 Cable	\$630,708	Renewal
Replace Lead Cable and Reroute	\$602,340	Renewal
Standing Work Orders Hamilton	\$2,595,608	Renewal
Standing Work Orders St. Catharines	\$844,222	Renewal
Halsion Conversion	\$2,348,375	Security
Convert Baldwin load to 28 kV	\$294,500	Security
Convert Downtown St. Catharines System	\$572,872	Security
Convert Welland SS F1 from 4 kV to 13 kV	\$348,229	Security
Lodor Street Overhead Conversion	\$612,992	Capacity
Sulphur Springs Road Conversion	\$296,619	Capacity
Carlton M17 Bracket Upgrade	\$248,566	Reliability
Replace #6 wire (various areas)	\$185,867	Reliability
Install switches (various areas)	\$135,911	Reliability
Replaced Faulted U/G cables	\$215,937	Reliability

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1 **Question #4**

2 **Reference:** i) Exhibit B, Tab 1, Schedule 1, Appendix A

3 a) Is the Distribution System Capital & Maintenance Programs document
4 produced annually as part of the planning process?

- 5 • If not, what was the basis for capital and maintenance planning in
6 2006 and 2007?
7 • If yes, please provide the comparable document for 2006 and 2007.

8 **Response:**

9 a) The 2007 Distribution System Capital & Maintenance Programs document
10 was the first document of its kind developed in 2007 for 2008 planning
11 purposes, and will be updated on an annual basis going forward.

12 For 2006 and 2007 planning purposes, the capital and maintenance
13 programming was based on historical and informal business processes of
14 the former Hamilton Hydro and St. Catharines Hydro. Following the
15 merger, Horizon Utilities commenced developing leading practices in the
16 area of system planning and maintenance, and has now adopted a more
17 formal approach to capital and maintenance programming as provided in
18 the 2007 Distribution System Capital & Maintenance Programs.

1 **Question #5**

2 **Reference:** i) Exhibit B, Tab 1, Schedule 1, Appendix A, page 3

3 a) Please provide the network performance targets “set” by Horizon for 2005,
4 2006 and 2007.

5 b) Please provide the actual results for each the three performance indices
6 for 2005 and 2006.

7 Please provide Horizon’s minimum performance standards, as set by the OEB.

8 **Response:**

9 a) The following table provides Horizon Utilities’ performance targets for
10 2005, 2006 and 2007.

	TARGETS			
	2005		2006 (Horizon)	2007 (Horizon)
	(Hamilton) 80%	(St. Catharines) 20%		
SAIDI	0.87	0.53	0.97	0.87
SAIFI	1.19	1.00	1.34	1.34
CAIDI	0.73	0.53	0.73	0.65

11 b) Horizon Utilities has provided its actual results for each performance index
12 for 2005 and 2006 in the following table.

<u>Horizon Utilities’ Standard:</u>	<i>Within the range of performance over the previous 3 years</i>	
SAIDI (System Average Interruption Duration Index)	2005	2006
	1.0400	0.9352
SAIFI (System Average Interruption Frequency Index)	2005	2006
	1.5900	1.4395
CAIDI (Customer Average Interruption Duration Index)	2005	2006
	0.6600	0.6496

13 The current standard, as set by the OEB, states that distributors with three years
14 of data for the applicable SQI must “at a minimum, remain within the range of
15 their historical performance”. Horizon Utilities’ actual minimum performance

- 1 standards, for the latest three year period, are based on the range established by
 2 the years 2005 to 2007 as set out in the following table.

<u>Horizon Utilities' Standard:</u>	<i>Within the range of performance over the previous 3 years</i>	
SAIDI (System Average Interruption Duration Index)	2005	2007
	1.0400	1.0100
SAIFI (System Average Interruption Frequency Index)	2005	2007
	1.5900	1.5900
CAIDI (Customer Average Interruption Duration Index)	2005	2007
	0.6600	0.6400

Question #6

Reference: i) Exhibit B, Tab 1, Schedule 1, pages 4-10
ii) Exhibit B, Tab 1, Schedule 1, Appendix A, pages 5-6

Preamble: Reference (i) describes the various project pools used by Horizon in its capital planning process. Reference (ii) describes a prioritization process used by Horizon in its capital planning, but also indicates that certain projects are not included in the ranking process and find their way directly into the capital budget.

a) Please provide a schedule that identifies the project pools where prioritization and ranking is involved to determine spending levels for 2008 versus those where all identified capital projects were included.

b) With reference to part (a), for those project pools where ranking and prioritization was involved please identify for each project pool:

- The two projects with the lowest ranking/priority that were included in the 2008 budget. In each case, please discuss the consequences of not proceeding with the project in 2008.
- The top two projects, in terms of ranking, that were excluded from the 2008 budget. In each case, please discuss the consequences of not proceeding with the project in 2008.

Response:

a) The following table identifies those project pools where prioritization and ranking is involved to determine spending levels for 2008 with a “y”; and those project pools where all identified capital projects were included with an “n”.

Project Pool	Prioritization and Ranking used (y/n)
Customer Demand	n
Renewal	*n
Security	y
Capacity	y
Reliability	y
Regulatory Requirements	n
Substations	n
Customer Connections and Metering	n

*proactive replacement of transformers are based on a prioritization method as documented in the Distribution System Capital & Maintenance Programs document referenced in Exhibit B/Tab 1/Schedule 1/Appendix A.

b) Horizon Utilities ranks and prioritizes capital projects on an overall basis, regardless of which pool they are in. Accordingly, Horizon Utilities is identifying the two projects with the lowest overall ranking that were included in the 2008 budget. They are the Caroline 6 Conversion in Hamilton and the Welland F1 conversion in St. Catharines both within the Security Project Pool.

- The Caroline 6 area is presently in a radial supply condition without back up capability, and the assets in this area have reached their useful end of life. The consequence of foregoing this project is an unacceptable impairment of reliability to the customers serviced by this feeder including lengthy restoration times.

- The Welland F1 conversion, phase 2 will complete the conversion of the plant in this area to 13.8kV. The majority of the distribution system in this area is at its end of life. The consequence of not doing this project is decreased reliability to the customers serviced by this feeder including lengthy restoration times.

Both of these projects will decrease public safety risks associated with aging assets.

The top two projects that were excluded from the 2008 budget were the Highland Conversion, Feeder 1 in Hamilton and the Vine Conversion, Feeder 4 in St. Catharines.

- The Highland substation has one substation transformer. The Feeder 1 conversion was identified in order to reduce the loading on Highland to a level that can be easily transferred to an adjacent station in the event of a substation transformer failure. The consequence of not proceeding with the

1 project in 2008 is a low risk of the transformer failing with an impact of
2 approximately 240 customers being interrupted for 8 hours.

- 3 • The Vine Conversion, Feeder 4 in St. Catharines is at or near its end of life.
4 The consequence of not proceeding with this project in 2008 is a risk of
5 reactive asset replacement resulting in higher asset replacement costs and
6 unscheduled interruptions to customers.

Question #7

Reference: i) Exhibit B, Tab 1, Schedule 1, Appendix A, pages 5-10

a) With respect to the “renewal benefit” score please explain:

- What is the difference between the “total value of the assets being replaced” and the “total project cost”. If the project involves replacement of existing assets why aren’t the two be the same?
- Why the “renewal benefit” score is an appropriate basis for prioritizing capital projects.

b) Please provide the Project Priority Scores (including the Security Risk Score and Renewal Benefit Score components) for each of the projects discussed on pages 7-10.

Response:

a) With respect to the renewal benefit Horizon Utilities provides the following comments:

- The “total value of the assets being replaced” refers to the assets that already exist in the distribution system that will be replaced with new assets as a result of the project being completed. The “total project cost” includes the replacement of existing assets (“total value of the assets being replaced”) and the installation of additional assets due to system expansion or modification.

The two values would only be the same for a particular project if the project was purely renewal (like for like replacement).

All projects that are prioritized and ranked are scored based on the security benefit as well as the renewal benefit, regardless of the process by which they were identified.

- The “renewal benefit” score is used to increase the ranking of projects that have the additional benefit to Horizon in terms of renewing assets that are at or near their end of life. For example, if two projects score equally in security benefit, the project with the greater renewal benefit will rank higher.

b) The following table provides the priority project scores as requested. The total score is a weighted combination of the security and renewal scores such that the Total Score = 3x(security score) + 1x(renewal score).

Project	Security Score	Renewal Score	Total Score
Mohawk S/S - MK-10 FDR	10	3	33
Bartonville - Connect Spare Transformer	10	0	30
Hughson 8 Conversion	9	1	28
Wellington S/S - WL-5 FDR	6	4	22
Halsen Substation – Area Conversion	3	6	15
Horning M50 - Mohawk load relief	5	0	15
Fifty Rd. & N. Service Rd. - Backup loop	4	2	14
Spadina SP7 Conversion	3	5	14
St. Catharines Downtown Network Conversion phase 3	4	2	14
Hughson 10 Conversion	4	1	13
Caroline 6 Conversion, Queen S. King	3	3	12
Welland F1 Conversion Phase 2	2	3	9

Question #8

Reference: Exhibit B, Tab 1, Schedule 1, pages 7-10 and pages 23-29

a) Do the projects listed in Section 1 (pages 7-10) include the consideration of the needs and projects associated with substation capital improvements and transformer asset renewal?

b) Please set out the total spending on (each of) substation capital improvement and transformer asset renewal in 2006, 2007 and 2008.

Response:

a) The needs and projects associated with substation capital improvements and transformer asset renewal are considered in the projects listed in section 1.

b) The following tables provide the total spending on substation capital improvements for the years 2006, 2007 Bridge Year and 2008 Test Year.

YEAR 2006	SUBSTATION CAPITAL IMPROVEMENT DESCRIPTION	ACTUAL SPEND
Wellington S/S	Replace Electrical Panel	9,000
Central S/S	Replace 13kV & 4kV oil circuit breaker contacts	93,000
Central S/S Mohawk S/S Mountain S/S Parkdale S/S Vine S/s	Replace substation storage battery systems	42,000
Multiple S/S	Upgrade substation security systems	9,000
Other		62,000
Total		215,000

YEAR 2007	SUBSTATION CAPITAL IMPROVEMENT DESCRIPTION	BRIDGE YEAR
Hughson S/S	Replace T2 & T4 transformer bay exhaust fans	20,000
Eastmount S/S	Replace Electrical Panel	15,000
Ottawa S/S Wellington S/S Cope S/S Highland S/S Grantham S/s	Replace Substation Storage Battery Systems	36,000
Multiple S/S	Upgrade substation security system substation transformer yard access-electronic padlocks	42,000
Spadina S/S	Erect blast barriers on Spadina T1 & T3	100,000

	transformers	
Welland S/S	Erect live bus barrier	2,000
Other		62,000
	Total	277,000

YEAR 2008	SUBSTATION CAPITAL IMPROVEMENT DESCRIPTION	TEST YEAR
Eastmount S/S	Re-point brickwork and replace 4 doors	16,000
Whitney S/S	Replace Substation Storage Battery Systems	5,000
Multiple S/S	Upgrade substation security system substation transformer yard access-electronic padlocks	11,000
Wentworth S/S	Erect blast barriers on Wentworth T1, T2, T3 & T4 transformers	150,000
Other		20,000
	Total	202,000

Question #9

Reference: Exhibit B, Tab 1, Schedule 1, Appendix B

a) Please provide a schedule that sets out the total capital budget, by department, for 2008. Where Appendix B provides a more detailed breakdown of a department's budget, please also report in the requested schedule.

b) Please include in the response to part (a), the departmental capital budgets for 2006 and 2007. Please provide at the same level of detail (within each department) as provided for 2008.

Response:

a) Horizon Utilities has provided the 2008 Test Year capital by department and, where available, a more detailed breakdown of the department's budget at Attachment A to these responses.

b) Horizon Utilities has provided the 2006 and 2007 capital budgets by department and, where available, a more detailed breakdown of the department's budget at Attachment B1 and B2 to these responses. Horizon Utilities would reiterate that the 2006 and 2007 figures are budget numbers as requested and may not be the same as those included in its Application.

Question #10

Reference: Exhibit B, Tab 2, Schedule 1, page 3

Preamble: The last time Horizon's rates were based on a "cost of service" type approach was for 2006. In that process, rate base was determined by making various adjustments to 2004 year end actual values. Horizon is currently seeking approval for its 2008 rate base.

a) Please provide a continuity schedule for Horizon's Net Plant, Property and Equipment that:

- Starts as of December 31, 2004.
- Also shows separately:
 - o Opening gross book value, accumulated depreciation and net book value
 - o Annual depreciation charges
 - o The capital expenditures during the year
 - o The in-service asset additions during the year
 - o Year end assets under construction (CWIP)
 - o Year end gross book value, accumulated depreciation and net book value

Response:

a) Please refer to Horizon Utilities' response to OEB Staff Question 14.

Question #11

Reference: i) Exhibit B/Tab 3/Schedule 1, pages 20-21

- a) Does Horizon plan work on Wholesale Meter Verification for IESO Compliance so that it is completed in the year of the meter expiration date?
- b) Please list the Wholesale Meter Verification projects delayed from 2007 to 2008 and, in each case, indicate the meter expiration date and estimated cost.
- c) Does the 2008 capital budget for "Wholesale Meter Verification for IESO Compliance" include all the deferred projects from 2007? If not which projects were not included and why?
- d) Please list all the additional projects included in 2008 and the meter expiration date and cost associated with each.
- e) Given the difficulty in scheduling upgrades with Hydro One Networks, why is it reasonable to assume that 2008 spending which is more than double the 2007 spending can be accomplished?

Response:

- a) Horizon Utilities prepares its budgets based on the wholesale meter points due for verification in that year. Whether the work on a wholesale meter point is completed in the year of expiration is dependent on the resource availability of Hydro One.
- b) The following table lists the wholesale meter points delayed for completion in 2007 and deferred to 2008 for completion. The expiration date and the estimated cost to complete are included.

Station	Meter Pt	Expiration Date	Cost
Carleton TS	D9HS (Q+H+B bus)	2005	\$313,392
Carleton TS	D10S (Y+K+E bus)	2005	\$313,392
Lake TS	T3	2005	\$404,947
Lake TS	T4	2005	\$404,947

c) The wholesale meter verification projects deferred from 2007 are included in the 2008 budget.

d) The following table provides a list of wholesale meter verifications requiring upgrades. Horizon Utilities has issued purchase orders for the completion of this work to Hydro One in order to secure a place for the scheduling of Hydro One resources. These costs have not been included in the 2008 Test Year due to the uncertainty of completion in 2008; however, should Hydro One schedule the completion of the required upgrades, Horizon Utilities will proceed with the work in order to maintain IESO compliance.

Supply Station	Meter Expiration	Carried forward to 2008
Mohawk B1	2006	
Mohawk B2	2006	349,894
Mohawk Y1	2006	
Mohawk Y2	2006	349,894
Beach J1	2006	
Beach J2	2006	183,894
Beach B1	2006	
Beach B2	2006	183,894
Birmingham JQ	2007	63,000
Lake TS T1 & T227.6kV 2005	2005	419,894
Nebo J & Q	2006	339,894
Glendale TS T1B	2007	105,000
Glendale TS T2J	2007	105,000
Glendale TS T1Q	2007	105,000
Glendale TS T2D	2007	105,000
Glendale TS T3E	2007	105,000
Glendale TS T4Y	2007	105,000
Vansickle TS T5	2007	170,000
Vansickle TS T6	2007	170,000

e) Hydro One has committed to the completion of the 2008 Test Year wholesale meter points identified in its response to question 11 b) above. The remaining wholesale meters, identified in Horizon Utilities' response to question 11 d) above, are due to be upgraded but, at the time of filing its Application, Horizon

1 Utilities had not received a commitment from Hydro One and as such has not
2 included these costs in its 2008 Test Year Application for recovery.

3

Question #12

Reference: i) Exhibit B, Tab 3, Schedule 1, pages 26-41

a) Please provide a schedule that sets out the capital spending for 2006, 2007 and 2008 for the following project pools:

- Facilities (i.e., Buildings and Fixtures)
- ERP Software
- Other Computer Hardware and Software
- Transportation and Related Equipment
- Communication Equipment

Response:

a) The following table summarizes the information requested.

	2006	2007	2008
Facilities	1,013,528	1,300,000	360,000
ERP Software	-	-	3,960,000
Other Computer Hardware /Software	788,398	1,769,195	994,856
Transportation and Related Equipment	1,835,741	1,712,014	1,898,233
Communication Equipment	691,297	468,970	242,506

1 **Question #13**

2 **Reference:** i) OEB Staff Information Request #4 a)

3 a) In responding to the OEB Staff request please organize the presentation
4 according to the “project pools” discussed Exhibit B, Tab 1, Schedule 1.

5 **Response:**

6 a) Please refer to Horizon Utilities response to OEB Staff Question 4 a.

Question #14

Reference: i) Exhibit B, Tab 3, Schedule 1, page 35

- a) Please provide a schedule that breaks down the revenue requirement for each year into OM&A, return on capital and depreciation as well as benefits.
- b) Please reconcile any differences between the "benefits" used to calculate Table 12 and those identified in Exhibit B, Tab 3, Schedule 1, Appendix E, page 19.
- c) Please indicate the average in-service capital (i.e., rate base) associated with the ERP for each year displayed in Table 12.
- d) Please explain the revenue requirement impact in 2007, given the project goes into service in March 2008.

Response:

- a) The following schedule breaks down the ERP revenue requirement as requested.

Description	2007	2008	2009	2010	2011	2012	2013
OM&A	1,650,000	1,295,000	449,000	224,000	224,000	224,000	89,000
Benefit			(400,000)	(400,000)	(400,000)	(400,000)	(133,000)
Depreciation		935,200	935,200	935,200	935,200	935,200	0
Return on Rate Base	19,305	158,045	251,120	172,538	102,734	32,931	(123)
PILs	5,038	(557,121)	(576,828)	471,707	472,579	467,393	(5,797)
Revenue Requirement	1,674,343	1,831,124	658,491	1,403,445	1,334,514	1,259,524	(49,920)

- b) In the preparation of its Application, Horizon Utilities used an estimated cost savings of \$2,000,000 over the five year period. The above reference in Appendix E – Summary of Benefits – estimates cost saving at \$2,267,500. In the calculation of the ERP revenue requirement, Horizon Utilities included a conservative estimated cost savings of \$2 million thereby reducing its ERP revenue requirement even though these savings have not been realized. In addition, Horizon Utilities expects to incorporate a similar ERP-related revenue requirement into its next rebasing application, in order that Horizon Utilities may continue to recover its ERP-related costs and pass on to its customers its ERP-related savings.

c) The following table provides the average Net Book Value of capital included in rate base. The question also alluded to the term “rate base” and as working capital is a component of rate base Horizon Utilities has included this to provide the total rate base used in the tables.

Year		Average NBV	Working Capital	Total Rate Base
2007			247,500	247,500
2008	1/2 yr rule	1,870,400	194,250	2,064,650
2009		3,273,200	7,350	3,280,550
2010		2,338,000	(26,400)	2,311,600
2011		1,402,800	(26,400)	1,376,400
2012		467,600	(26,400)	441,200
2013		0	(6,600)	(6,600)
Capital additions 2008 only				

d) The revenue requirement for 2007 would have been increased by the OM&A expenditures of \$1,650,000.

Question #15

Reference:

- i) Exhibit B, Tab 3, Schedule 1, Appendix A, page 32
- ii) Exhibit B, Tab 3, Schedule 1, Appendix E, page 19
- iii) OEB Staff Information Request #12 g)

- a) Please explain the reason for the difference in “benefits” as between references (i) and (ii).
- b) In responding to OEB Staff request #12 g), please explain any material (>10%) variation in the benefits now projected versus those identified in Reference (ii).

Response:

- a) The benefits referenced in (i) above were calculated in 2004 and were based on assumptions and estimates prepared by IBM Consulting. Many of the assumptions used in 2004 would have been based on business processes and costs in existence at the time of the review and also would not reflect business process changes and costs subsequent to the merger between Hamilton Hydro Inc. and St. Catharines Hydro Utility Services Inc.

The benefits referenced in ii) above are based on current information, as well as estimates of future cost assumptions using 2007 as the base year. In addition, the business process benefits and cost savings have been estimated based on a detailed review and assessment of Horizon’s current and future state requirements by Horizon Utilities employees.

- b) Please refer to Horizon Utilities’ response to OEB Staff Question 12 g for the table of savings; please refer to the response to Question 14 b above for the explanation.

Question #16

Reference: i) Exhibit B, Tab 3, Schedule 1, Appendix E

a) On page 3, total “capitalized costs” are quoted as \$8-9 M. However, in Exhibit B, Tab 3, Schedule 1, Table 11, the capital cost is quoted as \$4.7 M. Please reconcile.

b) Why is the life of project assumed to be 5 years – for both the hardware and the software (page 3)?

Response:

a) The paragraph referenced in the question refers to the “total cost of ownership” which includes capital and OM&A expenditures. The capital cost quoted as \$4.7 in Exhibit B/Tab 3/Schedule 1/Table 11 is correct.

b) The estimated useful life of the project is assumed to be five years. This is based on discussions with the vendor with respect to the estimated timing/scheduling of future software upgrades that will result in a major software upgrade, involving additional capital costs and resources to implement. As future software upgrades may involve upgrades or replacements to computer hardware due to changes in the operating environment, often due to significant changes in technology, the estimated useful life of the computer hardware was assumed to be the same as the software. An estimated useful life of 3-5 years for computer hardware is considered to be reasonable based on industry standards.

1 **Question #17**

2 **Reference:** i) Exhibit B, Tab 3, Schedule 2, page 1
3 ii) Exhibit B, Tab 3, Schedule 1, page 4

4 a) Please confirm that the capital contributions discussed in Reference (i) are with
5 respect to Customer Demand projects as discussed in Reference (ii). If not,
6 please explain.

7 **Response:**

8 a) Horizon Utilities confirms that the capital contributions, referenced above, are
9 with respect to Customer Demand projects.

Question #18

Reference: i) Exhibit B, Tab 3, Schedule 3, page 1

a) Please describe Horizon's capitalization policy with respect to overheads (e.g., Administrative and General costs):

- Are such costs capitalized?
- If so, how is the amount determined?
- Please provide the derivation of the amount capitalized for 2008.
- If not, what cost, other than direct attributable project costs, are capitalized and how are the amounts to be capitalized determined?

Response:

a) Horizon Utilities does not capitalize administrative and general costs.

The following is a summary of costs that are considered to be overhead and the methodology for allocating these costs to capital:

Payroll Burden

In accordance with OEB Article 340 of the OEB's Accounting Procedures Handbook (the "APH"), the following costs are included in the burden pool:

- Bonuses
- Benefits (EI, CPP, OMERS, EHT, WSIB, GWL health & dental, life insurance, LTD, boot allowance)
- Paid absenteeism (vacation, sickness, stat holidays, etc.)
- Paid lunches & breaks
- Downtime (bad weather, etc.)
- Time spent on union business (excluding costs that are reimbursed by the union)
- Time spent in job related training
- Safety training costs
- Safety clothing & supplies

Payroll burden is charged as a percentage of direct labour costs charged to work orders for all timesheet employees (hourly waged employees) (excluding work

1 orders which are used for downtime, absenteeism and safety activities). Payroll
2 burden is charged on all regular hours worked.

3 Each month, the over/under allocation of payroll burden is charged to operating
4 and capital accounts using a breakdown that is representative of how these costs
5 are charged to work orders in the month.

6 The payroll burden percentage is set at the beginning of each year based on the
7 budget for that year and taking into account the magnitude of the over/under
8 burden distribution in the previous year.

9 **Fleet Burden**

10 In accordance with Article 340 of the APH, the following costs are included in the
11 annual fleet pool:

- 12 ▪ Payroll and related costs of all Fleet department employees
- 13 ▪ All regular operating costs of the Fleet department, including office supplies,
14 telephone, PC services costs, and facility costs.
- 15 ▪ Operating, repairs and maintenance costs of vehicles, equipment and fleet
16 tools
- 17 ▪ Drivers license renewals
- 18 ▪ Vehicle amortization
- 19 ▪ Losses attributable to the Fleet department

20 Fleet burden is charged as an hourly rate on each direct labour hour that is
21 charged to a work order that has been set up to collect Fleet costs. Fleet burden
22 is charged on all regular hours worked. It is also charged on all overtime hours
23 worked (excluding premium hours)

24 The Fleet hourly rate is calculated separately for Metering, Overhead and
25 Underground, based on the operating costs of the vehicles and equipment used
26 in these departments.

1 Each month, the over/under allocation of fleet burden is charged to operating and
2 capital accounts using a breakdown that is representative of how these costs are
3 charged to work orders in the month.

4 Fleet burden rates are set at the beginning of each year based on the budget for
5 that year and taking into account the magnitude of the over/under burden
6 distribution in the previous year.

7 **Engineering Burden**

8 In accordance with Article 340 of the APH, the engineering burden pool currently
9 includes the following:

- 10 ▪ Payroll and related costs for all of the following:
- 11 ▪ All Engineering staff (technicians, draftspersons, AM/FM technicians, records
12 co-ordinators, clerks, students)
- 13 ▪ All Engineering managers and supervisors
- 14 ▪ 50% of the cost of the Director, Network Planning & Operating
- 15 ▪ All regular operating costs of the 'Planning' and 'Network Records'
16 departments, including office supplies, telephone and facility costs
- 17 ▪ Engineering related software costs
- 18 ▪ Locate costs
- 19 ▪ Property records system management (Teranet fees)
- 20 ▪ ESA fees

21 Engineering burden is charged as a percentage of direct labour costs charged to
22 current work orders, excluding current work orders that do not require
23 Engineering input. Engineering burden is charged on all regular hours worked. It
24 is also charged on all overtime hours worked (excluding premium hours).

25 Each month, the over/under allocation of engineering burden is charged to
26 operating and capital accounts using a breakdown that is representative of how
27 these costs are charged to work orders in the month.

1 The engineering burden percentage is set at the beginning of each year based on
2 the budget for that year and taking into account the magnitude of the over/under
3 burden distribution in the previous year.

4 **Stores Burden**

5 In accordance with Article 340 of the APH, the following costs are included in the
6 annual stores burden pool:

- 7 ▪ Payroll and related costs of all Stores and SCM department employees
- 8 ▪ All regular operating costs of the Stores and SCM departments, including
9 office supplies, telephone and facility costs
- 10 ▪ Operating, repairs and maintenance costs of stores yards and equipment
- 11 ▪ Inventory shipping charges
- 12 ▪ Scrap & waste disposal
- 13 ▪ Inventory adjustments
- 14 ▪ Obsolete inventory
- 15 ▪ Losses attributable to the Stores and SCM departments

16 Stores burden is charged as a percentage markup on inventory items issued to
17 work orders. Stores burden is not credited on inventory items that are
18 subsequently returned to the warehouse, as there is a cost associated with the
19 issue and subsequent return of the inventory item. The full Stores burden is only
20 applied on inventory items that are handled by the Stores.

21 Each month, the over/under allocation of stores burden is charged to operating
22 and capital accounts using a breakdown that is representative of how these costs
23 are charged to work orders in the month.

24 Stores burden rates are set at the beginning of each year based on the budget for
25 that year and taking into account the magnitude of the over/under burden
26 distribution in the previous year.

1 **Question #19**

2 **Reference:** i) Exhibit B, Tab 4, Schedule 1, pages 2-3

3 a) Please provide the assumptions underlying the cost of power (power purchased
4 and WMS charges) for 2006, 2007 and 2008 (e.g., what are the purchased
5 kWh's and average cost of power/WMS charge per kWh)?

6 b) Please reconcile the increase in Network and Connection charges with the rate
7 decrease that were effective November 1, 2007.

8 **Response:**

9 a) The following table provides the cost of power and WMS charges assumptions.

	2006 Actual		2007 Bridge Year		2008 Test Year	
kWh Forecast	5,567,936,18		5,708,236,208		5,759,471,504	
Cost per kWh						
Power Purchased	0.05483	305,306,445	0.05735	327,369,501	0.05688	327,617,937
Charges WMS	0.00400	22,258,763	0.00402	22,942,004	0.00402	23,147,924

10 b) Horizon Utilities' forecasts for Transmission Network and Connection charges are
11 based on the rates in effect at the time of filing its Application and trends, with a
12 forecasted increase in both accounts of less than 1%. Horizon Utilities has
13 proposed rate riders, to be effective April 1, 2008, in order to dispose of the
14 network and connection RSVA balances forecasted to April 30, 2008. In
15 addition, Horizon Utilities has proposed new Retail Transmission Service Rates,
16 based on the November 1, 2007 OEB approved transmission rates, in order to
17 maintain revenue neutrality over the twelve month period beginning May 1, 2008.
18 Please refer to Horizon Utilities' response to OEB Staff Question 47 for detailed
19 calculations on the Transmission Network and Connection charges.

Question #20

Reference: i) Exhibit C, Tab 1, Schedule 2, page 1

a) Please confirm whether any of the rates used for 2006 through 2008 include the rate “adders” for smart meters.

b) If the response to (a) is yes, please indicate, by class, the revenue from the smart meter adder for any year where the rates included the “adder”.

Response:

a) The smart meter rate adder is included in the fixed distribution charge for 2006 and 2007. The smart meter rate credit is not included in the fixed distribution charge for 2008.

b) The table below provides the revenue associated with the smart meter adder for 2006 and 2007.

2006

Rate Class	Revenue Earned
Residential	\$ (640,424)
GS<50	\$ (55,105)
GS>50	\$ (6,501)
Large Users	\$ (38)
Total	\$ (702,068)

2007

Rate Class	Revenue Earned
Residential	\$ (1,688,326)
GS<50	\$ (145,271)
GS>50	\$ (17,139)
Large Users	\$ (100)
Total	\$ (1,850,836)

Question #21

Reference: i) Exhibit C, Tab 1, Schedule 3

a) Please confirm whether the monthly customer charges used for 2006, 2007, and 2008 in Tables 2, 3, 4 and 5 all include/excluded the Smart Meter Adder. If not, please correct and present on a consistent basis.

b) With respect to page 6, does the reference to transformation costs include both line transformers and substations? If not, how does this impact on Horizon's proposals?

Response:

a) The smart meter adder is included in the 2006 and 2007 fixed distribution charge but not included in the 2008 fixed distribution charge. Horizon Utilities has recalculated Tables 2, 3, 4 and 5 by removing the smart meter adder from the 2006 and 2007 fixed distribution charge.

Residential Class – Variance between 2006 Actual-Normalized and 2007 Bridge Year-Normalized

		2006 Actual - Normalized	2007 Bridge Year Normalized	Variance		2008 Test Year	Variance	
1	Residential Class							
2	A	B	C	D		E	F	
3	Volume Variance							
4	kWh Volume	1,678,067,082	1,688,342,107	140,768	D3=(C3-B3)*C8	1,698,681,251	145,896	(E3-C3)*E8
5	Number of Customers Volume	209,370	210,652	215,222	D4=(C4-B4)*C9	211,942	216,434	(E4-C4)*E9
6	Total Volume Variance			355,990			362,330	
7	Price Variance							
8	Variable Price Variance	0.0136	0.0137	167,807	D8=(C8-B8)*B3	0.0141	694,004	(E8-C8)*C3
9	Fixed Price Variance	13.91	13.99	200,995	D9=(C9-B9)*B4	13.98	(21,498)	(E9-C9)*C4
10	Total Price Variance			368,802			672,505	
11								
12	Total Residential Class Variance			724,792			1,034,835	

GS<50 kW Class – Variance between 2007 Bridge Year-Normalized and 2008 Test Year

		2007 Bridge Year Normalized	2008 Test Year	Variance	
1	General Service < 50 kW				
2	A	B	C	D	
3	Volume Variance				
4	kWh Volume	635,806,330	633,227,782	(20,303)	D3=(C3-B3)*C8
5	Number of Customers Volume	18,000	17,927	(26,050)	D4=(C4-B4)*C9
6	Total Volume Variance			(46,353)	
7	Price Variance				
8	Variable Price Variance	0.0066	0.0079	809,899	D8=(C8-B8)*B3
9	Fixed Price Variance	25.31	29.74	956,369	D9=(C9-B9)*B4
10	Total Price Variance			1,766,269	
11					
12	Total General Service < 50 kW Class Variance			1,719,916	

GS>50 kW Class – Variance between 2007 Bridge Year-Normalized and 2008 Test Year

		2007 Bridge YearNormalized	2008 Test Year	Variance	
	General Service > 50 kW				
1	A	B	C	D	
2	Volume Variance				
3	kW Volume	5,427,922	5,535,480	206,189	D3=(C3-B3)*C8
4	Number of Customers Volume	2,170	2,213	138,947	D4=(C4-B4)*C9
5	Total Volume Variance			345,137	
6					
7	Price Variance				
8	Variable Price Variance	1.3227	1.9170	3,225,860	D8=(C8-B8)*B3
9	Fixed Price Variance	235.05	269.28	891,287	D9=(C9-B9)*B4
10	Total Price Variance			4,117,147	
11					
12	Total General Service > 50 kW Class Variance			4,462,284	

Large User Class – Variance between 2007 Bridge Year-Normalized and 2008 Test Year

		2007 Bridge YearNormalized	2008 Test Year	Variance	
	Large User				
1	A	B	C	D	
2	Volume Variance				
3	kW Volume	3,876,319	3,876,319	-	D3=(C3-B3)*C8
4	Number of Customers Volume	12	12	-	D4=(C4-B4)*C9
5	Total Volume Variance			-	
6					
7	Price Variance				
8	Variable Price Variance	0.8800	1.0969	840,947	D8=(C8-B8)*B3
9	Fixed Price Variance	9,430.85	11,972.72	366,029	D9=(C9-B9)*B4
10	Total Price Variance			1,206,976	
11					
12	Total Large User Class Variance			1,206,976	

b) Transformation costs, referenced in this question, include line transformers and substations.

Question #22

Reference: i) Exhibit C, Tab 1, Schedule 4, page 1

a) Again, please confirm if the smart meter adder has been treated consistently in all years (i.e., excluded from the revenue per kilowatt-hour calculations for all years or included for all years). If not, please re-do on a consistent basis.

Response:

a) Horizon Utilities has updated the table below to remove the smart meter adder from the metered customers' fixed distribution charge for 2006 and 2007.

Distribution Revenue For 2006, 2007 Bridge, and 2008 Test Year									
Description	U.O.M.	2006 Actual	2006 Board Approved	2006 Board Approved Normalized	2006 Actual Normalized	2007 Bridge Year	2007 Bridge Year Normalized	2008 Test Year At Existing Rates	2008 Test Year At Proposed Rates
Distribution Revenue:									
Residential	kWh	0.0339	0.0338	0.0344	0.0344	0.0341	0.0346	0.0346	0.0350
General Service < 50 kW	kWh	0.0151	0.0150	0.0152	0.0152	0.0151	0.0152	0.0152	0.0180
General Service > 50 kW	kWh	0.0064	0.0062	0.0064	0.0064	0.0064	0.0064	0.0064	0.0084
Large Use (> 5000 kW)	kWh	0.0044	0.0044	0.0044	0.0044	0.0044	0.0044	0.0044	0.0055
Street Lighting	kWh	0.0094	0.0096	0.0096	0.0094	0.0095	0.0095	0.0095	0.0169
Sentinel Lighting	kWh	0.0260	0.0248	0.0279	0.0260	0.0262	0.0262	0.0262	0.0704
Unmetered Scattered Load	kWh	0.0072	0.0071	0.0071	0.0072	0.0073	0.0073	0.0073	0.0442
Back-up/Standby Power	kW	1.2600	1.2600	1.2600	1.2600	1.2670	1.2670	1.2670	2.2122
Average Distribution Revenue Per kWh	kWh	0.0156	0.0151	0.0153	0.0156	0.0157	0.0157	0.0156	0.0173

Question #23

Reference: i) Exhibit C, Tab 2, Schedule 2

- a) Does Horizon have any explanation for the anomalous growth rates observed for the GS>50 -> 5,000 class in 2004 and 2005?
- b) For the 12 Large Users assumed to continue through to 2008, please provide their aggregate usage (kWhs and kW) for 2002 through 2007 inclusive.
- c) Please confirm that for all years 2002 through 2007 inclusive, the weather normalized loads for residential are less than the actual loads except for 2004.
- d) If the response to (d) is yes, has Horizon pursued with Hydro One Networks the reasonableness of this result? If not, why not?

Response:

- a) Please refer to Horizon Utilities' response to OEB Staff Question 16 a.
- b) Please refer to Horizon Utilities' Application at Exhibit C/Tab 2/Schedule 2/Appendix A, third page, for total kWh and kW for the years 2002 to 2007.
- c) Horizon Utilities confirms that the weather normalized loads for residential customers provided in Table 4 of this referenced section are less than the actual loads for the years 2002 to 2007 except for 2004.
- d) Horizon Utilities used the Hydro One weather normalized data provided for its cost of service study and has not addressed the further reasonableness of this result. As discussed in its Application, Horizon Utilities submits that two additional years of actual data, being 2005 and 2006, would not have a significant impact on the existing normalized data from 2004, as the Hydro One forecast takes into consideration 30 years of historical data for Horizon Utilities.

Question #24

Reference: i) Exhibit C, Tab 3, Schedule 2, page 1

- a) With the elimination of Fibre Wired in 2008, please explain why the % of Corporate Management Team (Table 3) allocated to the other affiliates (e.g., HUC, Hamilton Community Energy and Hamilton Hydro Services) did not increase over 2007.
- b) Please explain the increase in Retail Services Revenue between 2006 and 2007 and why the 2007 value can not be maintained going forward.

Response:

- a) The percentage allocations of the Corporate Management Team were recalculated for 2008 to take into account (a) the elimination of Fibre Wired; (b) the removal of Fibre Wired assets from the total asset pool which forms the basis for the calculation of the percentage allocations; and (c) the increase in assets of both Horizon Utilities and the remaining affiliates from the year in which the allocations were last calculated. Horizon Utilities' share of the overall asset pool grew significantly since the allocations were last calculated, so that its proportionate share of the allocation of the Corporate Management Team has increased. It is incorrect to suggest, however, that the percentage allocations to Horizon Utilities' affiliates do not reflect the elimination of Fibre Wired.
- b) Horizon Utilities had a noticeable increase in new retailer contracts at the end of 2006 and beginning of 2007 as retailers became more aggressive in enrolling customers with the higher RPP pricing. This increased the volume of retail service transactions, with a corresponding increase in Horizon Utilities' retail services revenue. In May 2007, RPP prices decreased which may have created a disincentive for customers to enter into retail contracts. At the same time, the five year retail contracts entered into by customers in 2002 (at the time of Market Opening), were expiring, and Horizon Utilities began to experience a significant number of customers dropping back to SSS. Horizon Utilities estimated this

1 revenue for the 2008 Test Year conservatively as a result of the RPP price
2 decreases and disincentive to sign retailer contracts.

Question #25

Reference:

- i) Exhibit D, Tab 1, Schedule 1, Table 1
- ii) Exhibit D, Tab 2, Schedule 2, page 1
- iii) Exhibit D, Tab 2, Schedule 3, page 1

- a) Between 2006 and 2007 Total Operations expenses increase by almost \$900,000 or almost 13% but are not addressed in the variance analyses. Please provide the reasons for the significant increase.
- b) Please explain the 64% increase in spending on Maintenance for Underground Conductors and Devices between 2006 and 2008.
- c) Please explain the more than 50% increase in spending on Maintenance for Line Transformers between 2006 and 2008.
- d) Please explain the 47% increase in Bad Debt Expense between 2006 and 2008.

Response:

- a) Horizon Utilities provided detailed variance analyses in accordance with the filing requirements. The total Operations costs are made up of nineteen USoA accounts of which none exceeds the materiality threshold of \$540,000. The OM&A Costs Table provided in Exhibit D/Tab 2/Schedule 2/p.1 details the individual variances for all accounts that comprise the total operations costs.

In general, Horizon Utilities has planned increases in the 2007 Bridge Year and the 2008 Test Year in the following areas, which account for approximately \$700,000 of the increase over 2006: an additional control room operator in preparation for staff retirement; planned increase to the visual inspection program; increased training and development in overhead lines; planned increase in repairs to substation buildings and associated equipment; and an increase in service centre costs distributed to operations.

- b) This increase is due in part to improved inspection techniques that have identified areas of the system requiring maintenance previously not identified. As well, Horizon Utilities has added new tasks such as graffiti removal, manhole/vault maintenance and switching, and work protection.

1 In addition, Horizon Utilities has had to renumber switches in St. Catharines to
2 comply with Horizon Utilities' numbering scheme in the rest of its service territory.
3 This work was necessary to ensure worker safety, proper communications with
4 field workers, and consistency in its control facilities in operating Horizon Utilities'
5 entire distribution system.

6 c) Similarly with underground lines, improved inspection techniques have identified
7 new areas of the distribution system requiring maintenance, including
8 transformers, to ensure continued system reliability.

9 d) Bad debt expense for 2008 is estimated at approximately 0.2% of the 2008 Test
10 Year gross billings of \$520,000,000. As this is an estimate, actual bad debts
11 may be higher or lower and Horizon Utilities has experienced significant
12 increases in bad debts as a result of its large industrial customer base.

Question #26

Reference: i) Exhibit D, Tab 1, Schedule 1, Table 1
ii) Exhibit D, Tab 2, Schedule 1, pages 1-22

a) Please provide a schedule that indicates how the cost for the organization as discussed in Reference (ii) relates to the various cost accounts set out in Reference (i).

Response:

a) The following schedules indicate how the cost for the organization as discussed in Reference (ii) relates to the various cost accounts set out in Reference (i) for the 2006 Actual, the 2007 Bridge Year and the 2008 Test Year.

2006 Actual					
Description	Operations	Maintenance	Billing & Collecting	Community Relations	Admin G&A
General & Administration Departments:					
Board of Directors					192,451
Business Development					59,796
Finance			179,707		2,633,034
ERP Implementation Project					103,714
Regulatory Services	12,071				1,515,331
Business Applications					
Network / PC Support					
Corporate Services					761,453
Corporate Communications				227,080	345,462
Wellness & Safety					413,532
Human Resources					568,556
Head Office Maintenance - Hamilton					90,175
Head Office Maintenance - St Catharines					-54,627
Billing & Collecting Departments:					
Billing & Collecting - Hamilton			6,742,994		
Billing & Collecting - St Catharines			227,422		
Distribution & Utilization Departments:					
D&U Management					1,886,836
Network Records Planning	261,685				66,958
Network Operating	1,719,398				139,787
City Call Centre					
Substation Services - Hamilton	403,224	426,026			170,955
Substation Services - St Catharines	64,985	29,974			41,550
Design & Construction			383,457		924,003
Engineering					71,540
Design - Capital Projects					
Overhead Lines - Hamilton	639,331	2,366,968			327,340
Overhead Lines - St Catharines	177,034	1,015,017			131,012
Underground Lines - Hamilton	634,570	508,854			317,498
Underground Lines - St Catharines	248,852	305,219			62,974
Customer Connections & Conservation - Shared Cos	387,669	616			306,740
Smart Meters					0
MSP & Meter Sealing Services					
C&DM Costs (D&U) - Hamilton	48,328			1,319,049	
C&DM Costs (D&U) - St Catharines	16,795			490,754	
Meter Assets & Inside Service	222,175	44,185			110,246
Revenue Protection					129,699
MV90	404	11,640			192,315
Meter Services - Hamilton	332,975	240,211			138,705
Meter Services - St Catharines	163,871	39,128			167,393
Customer Requested Services - Hamilton	1,286,481	228,914			74,657
Customer Requested Services - St Catharines	311,222	188,606			38,822
Supply Chain Management	1,321				156,511
	6,932,390	5,405,357	7,533,580	2,036,883	12,084,417

2007 Bridge Year					
Description	Operations	Maintenance	Billing & Collecting	Community Relations	Admin G&A
General & Administration Departments:					
Board of Directors					291,504
Business Development					200,000
Finance			24,000		3,060,612
ERP Implementation Project					1,650,000
Regulatory Services					2,148,388
Business Applications					
Network / PC Support					
Corporate Services				26,500	1,124,889
Corporate Communications				342,976	713,563
Wellness & Safety					386,987
Human Resources					956,961
Head Office Maintenance - Hamilton					83,100
Head Office Maintenance - St Catharines					(148,161)
Billing & Collecting Departments:					
Billing & Collecting - Hamilton			6,935,050		
Billing & Collecting - St Catharines			179,996		
Distribution & Utilization Departments:					
D&U Management					2,065,652
Network Records Planning	216,264				60,000
Network Operating	1,955,146				115,532
City Call Centre					
Substation Services - Hamilton	532,999	370,172			132,866
Substation Services - St Catharines	78,788	66,719			16,645
Design & Construction			438,517		883,205
Engineering					49,348
Design - Capital Projects					
Overhead Lines - Hamilton	1,360,621	2,348,522			393,597
Overhead Lines - St Catharines	218,295	1,047,617			209,265
Underground Lines - Hamilton	694,735	621,944			297,755
Underground Lines - St Catharines	162,952	428,864			87,678
Customer Connections & Conservation - Shared Costs	306,413	900			332,760
Smart Meters	285,805	78,399	3	125,000	495,425
MSP & Meter Sealing Services					
C&DM Costs (D&U) - Hamilton	35,301			637,589	
C&DM Costs (D&U) - St Catharines	2,803			205,621	
Meter Assets & Inside Service	198,771	79,219			117,113
Revenue Protection	250				134,277
MV90	5,000	16,506			212,124
Meter Services - Hamilton	205,651	372,408			162,633
Meter Services - St Catharines	191,972	35,808	19,920		197,493
Customer Requested Services - Hamilton	1,133,869	168,228			16,644
Customer Requested Services - St Catharines	240,227	207,404			191,531
Supply Chain Management					548,948
Total	7,825,862	5,842,710	7,597,486	1,337,686	17,188,334

2008 Test Year					
Description	Operations	Maintenance	Billing & Collecting	Community Relations	Admin G&A
General & Administration Departments:					
Board of Directors					309,000
Business Development					853,847
Office of the CEO					398,948
Office of the CFO					334,974
Finance			160,000		3,038,210
ERP Implementation Project					1,214,935
Regulatory Services					2,153,627
Business Applications					
Network / PC Support					
Corporate Services					546,000
Corporate Communications				252,418	596,816
Wellness & Safety					360,840
Human Resources					1,226,690
Head Office Maintenance - Hamilton					40,939
Head Office Maintenance - St Catharines					(148,885)
Billing & Collecting Departments:					
Billing & Collecting - Hamilton			6,781,862		
Billing & Collecting - St Catharines			300,000		
Distribution & Utilization Departments:					
D&U Management					1,829,181
D&U Management					163,300
Network Records	216,612				
Planning					
Network Operating	1,950,474				220,633
City Call Centre					
Substation Services - Hamilton	488,500	437,613			255,904
Substation Services - St Catharines	79,444	86,766			20,835
Design & Construction	200		397,162		949,175
Engineering					212,542
Design - Capital Projects					3,338
Overhead Lines - Hamilton	1,310,554	3,341,755			561,805
Overhead Lines - St Catharines	207,489	1,277,366			297,704
Underground Lines - Hamilton	762,060	714,071			377,974
Underground Lines - St Catharines	234,212	593,929			87,972
Customer Connections & Conservation - Shared Costs	294,335				673,657
Smart Meters	369,719	188,748	147,600	225,000	441,332
MSP & Meter Sealing Services					
C&DM Costs (D&U) - Hamilton	147,350			233,013	12,107
C&DM Costs (D&U) - St Catharines				31,610	
Meter Assets & Inside Service	213,767	46,156			147,835
Revenue Protection	250				153,351
MV90	3,000	21,535			232,725
Meter Services - Hamilton	183,024	281,868			181,744
Meter Services - St Catharines	105,156	35,844			189,081
Customer Requested Services - Hamilton	994,750				6,004
Customer Requested Services - St Catharines	433,454	44,028			196,399
Supply Chain Management					367,506
OPA Programs					15,805
	7,994,350	7,069,679	7,786,624	742,041	18,523,850

Question #27

Reference: i) Exhibit D, Tab 2, Schedule 3, pages 2-4

- a) Please provide the Business Case supporting Horizon's move to a three-year trim cycle for the entire City of Hamilton.
- b) If St. Catherines is now on the second year of a three year cycle and plans to continue on a three year cycle, please explain why tree trimming costs increase by almost 20% in 2008.
- c) By how much is "reactive tree trimming" in the Hamilton area assumed to fall in 2008 as a result the shorter trim cycle? Has this savings been incorporated into the budget for 2008?
- d) With respect to the chart on page 3, how many "grids" are there in the Hamilton area in total and how many are to be "trimmed" in 2008? Also, with respect to the chart, please provide the annual spending on tree trimming for 2001 through 2005 inclusive.

Response:

- a) Horizon Utilities did not prepare a business case for tree trimming. The decision to move to a three-year tree trimming plan in the entire Horizon Utilities service area is based on Horizon Utilities' view that a 3-year tree trimming cycle is an industry best practice taking into account tree growth, safe limits of approach for energized lines, public safety concerns and distribution system reliability.
- b) At the time of tendering for the 2007 tree trimming requirements it was determined that contractor costs per grid were going to exceed 2007 budget. Contractors cited rising fuel costs as an explanation. As a result, Horizon Utilities deferred the outstanding 2007 tree trimming programs to the 2008 Test Year. The deferral of costs in addition to the decision to move to a three year tree trimming cycle in the Hamilton service area accounts for the increase in the 2008 Test Year.
- c) Horizon Utilities will implement the three-year tree trimming cycle for the Hamilton service area commencing in 2008. As such, Horizon Utilities will not begin to

1 realize savings in the reactive tree trimming until subsequent years and therefore
2 there are no savings to reflect in the 2008 Test Year.

3 d) There are 254 grids in the Hamilton area. A total of 83 grids will be completed as
4 part of the planned tree trimming process in 2008.

5 2001: Not Available

6 2002: \$554,177

7 2003: \$469,501

8 2004: \$686,010

9 2005: \$1,330,764

1 **Question #28**

2 **Reference:** i) Exhibit D, Tab 2, Schedule 7, Table 3

3 a) Horizon's total compensation increases by almost 12% between 2006 and 2008,
4 although the number of FTEs remains constant (i.e., 373). Please explain the
5 reasons for the significant increase of roughly 3x inflation.

6 **Response:**

7 a) Horizon Utilities' total compensation in the 2008 Test Year amounts to
8 \$21,145,758 which represents an increase over 2006 of \$1,616,854 or 8.3%, and
9 not the 12% addressed in the question. Please refer to Horizon Utilities'
10 responses to OEB Staff IR questions 32 to 37.

Question #29

Reference: i) Exhibit D, Tab 2, Schedule 1, pages 18-22

- a) Please explain how the \$4 million dollar cost of implementing and operating the ERP Solution (page 19) is related to the annual expenses set out in Table 1.
- b) With respect to Table #1, the title reads "OM&A Expenses and Capital Expenditures Forecasts" but the total line in the table reads "Total ERP Operations, Maintenance and Administrative Expenses". Please clarify whether or not the table includes capital spending.
- c) Please provide an expanded version of Table #1 that shows expenses and cost savings separately by year.

Response:

- a) The annual amounts shown in Table 1 incorporate the Estimated Cost Savings (discussed in the Business Case) for the corresponding years. For example, the budgeted expense of \$(176,000) for 2010 reflects estimated costs of \$224,000 for 2010, less Estimated Cost Savings of \$400,000, for net costs of \$(176,000). Therefore the gross costs incorporated in Table 1 (i.e. before savings) are \$4,422,000 over six years compared to the estimate of \$4,000,000, over five years.
- b) The title of Table 1 should read "ERP-Related OM&A Net Expense Forecasts"
- c) The following table provides the estimated expense and estimated cost savings by year.

	2009	2010	2011	2012	2013
OM&A	449,000	224,000	224,000	224,000	89,000
Benefit	(400,000)	(400,000)	(400,000)	(400,000)	(133,000)

1 **Question #30**

2 **Reference:** i) OEB Staff Information Request #37

3 a) Please outline the methodology used to determine the expenses that are not
4 charged to operations.

5 **Response:**

6 a) Please see Horizon Utilities' response to OEB Staff Question 37.

1 **Question #31**

2 **Reference:** i) Exhibit D, Tab 2, Schedule 9, page 1

3 a) The loss factors calculated for 2006 (4.35%) and 2007 (4.62%) are materially
4 higher than those in the preceding years, can Horizon explain what is leading to
5 this increase?

6 b) Please confirm that the 2007 loss value is based, in part, on a forecast. How
7 many months of actual data is reflected in the 2007 value?

8 c) Please explain why it is appropriate to base the proposed loss factor on forecast
9 data.

10 **Response:**

11 a) Please see Horizon Utilities' response to OEB Staff Question 46 d.

12 b) Horizon Utilities 2007 SFLF is calculated on actual data up to and including June
13 30, 2007.

14 c) Not applicable

Question #32

Reference:

- i) Exhibit E, Tab 1, Schedule 4, Tables 1 - 4
- ii) Exhibit B, Tab 3, Schedule 1, page 21
- iii) Exhibit A, Tab 1, Schedule 5, page 2

- a) Please confirm that the amount for 2008 (Jan-Apr) in Reference (i), Table 1 is actually an "over recovery".
- b) Please confirm that for the Application (i.e., rates effective May 1, 2008) all costs associated with Smart Meters have been included in the Distribution Revenue Requirement (e.g. capital in Rate Base, depreciation, operating expenses, etc.).
- c) Please indicate the impact on the 2008 Revenue Requirement of including Smart Meters in the Base Distribution costs as opposed to treating it separately as a "rate adder".
- d) With respect to Reference (i), Tables 2 – 4, please provide a schedule setting out the calculation of the Revenue Earned-Smart Meter Funding for each year.
- e) With respect to Tables 2-4, please explain how the carrying costs for each year were established. Does the carrying charge for each year represent carrying costs forward to April 30, 2008?

Response:

- a) Horizon Utilities confirms that the January to April amount in Table 1 is an over recovery.
- b) Horizon Utilities confirms that smart meter capital is included in the calculations of net book value and is therefore in Horizon Utilities' rate base and the 2008 related smart meter expenditures for OM&A are included in the calculations for 2008 revenue requirement.
- c) The impact on the 2008 revenue requirement, by including smart meters in rate base, is \$665,779.
- d) The following tables provide the calculations for the smart meter revenue for each year.

1

2006				
Rate Class	Rate	Average Customer Count	Number of Months	Total
Residential	0.39	204,810	8	639,006
GS < 50	0.39	18,073	8	56,388
GS > 50	0.39	2,127	8	6,636
Large users	0.39	12	8	37
				702,068

2

2007				
Rate Class	Rate	Average Customer Count	Number of Months	Total
Residential	0.39	207,753	4	324,095
Residential	0.82	207,753	8	1,362,863
GS < 50	0.39	18,000	4	28,080
GS < 50	0.82	18,000	8	118,080
GS > 50	0.39	2,170	4	3,385
GS > 50	0.82	2,170	8	14,235
Large users	0.39	12	4	19
Large users	0.82	12	8	79
				1,850,836

3

2008				
Rate Class	Rate	Average Customer Count	Number of Months	Total
Residential	0.82	207,897	4	681,901
GS < 50	0.82	17,927	4	58,801
GS > 50	0.82	2,213	4	7,259
Large users	0.82	12	4	39
				748,000

4

e) Carrying charges have been calculated assuming the over recovery occurred

5

evenly over the same period as the smart meter rider. Carrying charges are

1 calculated to April 30, 2008; please see Exhibit E/Tab 1/Schedule 3/Appendix A
2 in Horizon Utilities' pre-filed evidence.

Question #33

Reference: i) Exhibit G, Tab 1, Schedule 2, page 1

- a) Please provide a schedule that sets out the derivation of revenue at existing rates for 2008, showing the billing quantities and rates used for each class. Please confirm whether the rates used in the calculation for each customer class included the smart meter rate adder.

Response:

- a) The following table provides the calculations of revenue at existing rates for 2008, including the billing quantities and rates used for each customer class. The fixed distribution charge for metered customers included the smart meter adder.

Class	Metric	2007 Approved Distribution Rates	Test Year Projection	Revenue
Residential	# Customer kWh	14.81	211,942	37,666,332
		0.0137	1,698,681,251	23,271,933
GS <50 kW	# Customer kWh	26.13	17,927	5,621,190
		0.0066	633,227,782	4,179,303
GS>50 kW	# Customer kW	235.87	2,213	6,263,763
		1.3227	5,535,480	7,321,779
	kW Tx Allow kWh	(0.6000)	2,440,104	(1,464,062)
		N/A	2,118,642,390	N/A
Large Use >5MW	# Customer kW	9,431.67	12	1,358,160
		0.8800	3,876,319	3,411,160
	kW Tx Allow kWh	(0.6000)	3,876,319	(2,325,791)
		N/A	1,088,833,225	N/A
Street Light	# Connection kW	0.36	53,514	231,179
		1.4840	112,919	167,571
	kWh	N/A	42,054,739	N/A
Sentinel	# Connection kW	1.59	479	9,139
		3.9194	1,721	6,745
	kWh	N/A	606,521	N/A
Unmetered Scattered Load	# Connection kWh	2.26	3,338	90,526
		0.0023	18,237,718	41,946
Back-up/Standby Power	# Customer kW	N/A	12	N/A
		1.2670	192,960	244,480

Question #34

Reference: i) Exhibit H, Tab 1, Schedule 2, page 2

a) Please provide a schedule that sets out, based on the 2006 EDR and the cost allocation informational filing:

- The transformers ownership discount received by each customer class (in terms of a lower rate) The cost of the transformer ownership discount allocated to each customer class in the Cost Allocation Model.

b) Please confirm that for purposes of rerunning the Cost Allocation Model Horizon has:

- Removed the inclusion of the Transformer Ownership Allowance as a “cost” to be allocated to customer classes via the Model, and
- Reduced the revenues for those classes receiving the discount by the revenue reduction attributed to each class as a result of the Transformer Allowance discount.

c) If the recalculation was not done as outlined in (b), please provide re-run the model as described and provide the full results.

Response:

a) The following table provides the transformer allowance applied on a per kW basis and the total cost of the transformer allowance as determined in the 2006 EDR Model and the Cost Allocation Model.

	kW	Transformer Allowance Rate	Cost of Transformer Allowance
2006 EDR			
GS > 50	2,404,979	0.60	1,442,987.31
Large Users	4,484,468	0.60	2,690,680.70
2006 Cost Allocation			
GS > 50	2,330,873	0.7289	1,698,973.47

b) Horizon Utilities confirms that the Transformer Allowance has been removed as a cost to be allocated to customer classes.

- 1 Horizon Utilities confirms that revenues have been reduced by the Transformer
- 2 Allowance for those customer classes receiving the Transformer Allowance.
- 3 c) Not applicable

Question #35

Reference: Exhibit H, Tab 1, Schedule 2, pages 5-6

- a) Please discuss the total bill impact on Unmetered/Scattered Load resulting from the Horizon proposal.
- b) Please provide the class revenue shares and resulting R/C ratios by customer class for an alternative 2008 cost allocation proposal where by:
- The allocation to Street Lighting, Sentinel Lights and Back-up/Standby Power is as proposed by Horizon
 - Revenue shares for GS <50; GS > 50; Large Use and Unmetered/Scattered Load are all set to achieve a 90% revenue to cost ratio
 - The Revenue share for Residential is set so as to permit recovery of the overall revenue requirement.
- c) Please provide the average class total bill impacts for each customer class based on the preceding results.

Response:

- a) Horizon Utilities used the Cost Allocation Model to determine the revenue to cost ratios for all customer classes. The Unmetered/Scattered Load customer class revenue to cost ratios was 34.2%. A perfect revenue to cost ratio is 100%. This customer class was under-contributing to the cost of servicing this customer class. Horizon Utilities has proposed to implement partial cost re-allocation and as such the Unmetered/Scattered Load customer class would be required to contribute sufficient revenue to meet a revenue to cost ratio of 88.05%. This results in a total bill increase to this customer class of 35.14% as provided in the following table.
- b) The following table provides the impact of the proposed alternative cost allocation on class revenue and revenue to cost ratios.

1

Customer Class	Revenue	Revenue Share (%)	Revenue to Cost Ratio
Residential	59,273,495	62.49%	111.95%
GS <50 kW	11,075,232	11.68%	90.00%
GS>50 kW	16,667,646	17.57%	90.00%
Large Use >5MW	5,838,400	6.15%	90.00%
Street Light	711,450	0.75%	23.79%
Sentinel	42,687	0.05%	91.49%
Unmetered Scattered Load	824,199	0.87%	90.00%
Back-up/Standby Power	426,870	0.45%	65.84%
	94,859,978	100.00%	

- 2 c) The following table provides the class total bill impact based on the alternative
3 cost allocation approach.

Class Average Total Bill Impact	
Residential	-1.77%
General Service < 50 kW	2.00%
General Service > 50 kW	2.90%
Large User	2.73%
Street Lighting	9.50%
Sentinel Lighting	66.68%
Backup/Standby Power	29.58%
Unmetered/Scattered	36.17%

4

Question #36

Reference: i) Exhibit H, Tab 1, Schedule 2, page 6
ii) Exhibit K, Tab 1, Schedule 1, Appendix B – Cost Allocation
Based Calculations Worksheet

Preamble: The revenue requirement allocation factors set out in Reference (i) appear to be derived using the share percentages from the 2006 Cost Allocation Model as detailed in Reference (ii). However, these percentages reflect the 2006 loads/customer counts for each class. To the extent not all loads/customer counts increase by the same proportion between 2006 and 2008, the 2008 revenue requirement shares would be different using the Cost Allocation model

a) Did the 2006 Cost Allocation Model include (as a cost) the LV charges from Hydro One Networks? If yes, what was the total cost included and how much was “allocated to each customer class? Also, if yes, based on the 2006 LV adder what is the revenue by customer class associated with LV charges?

b) If the response to (a) is yes, please provide the revenue to cost ratios and cost shares by customer class based on the 2006 EDR and the following revisions to the Cost Allocation Model (as proposed by Horizon in Exhibit H, Tab 1, Schedule 2, Appendix A):

- Remove LV Charges from the “costs” to be allocated to customer classes
- Reduce each customer class’ revenue by the amount attributable to the LV charge adder.

c) If the response to (a) is no, why – in Reference (ii) – are the calculations done as if LV Charges were included in the 2006 Cost Allocation Model?

d) Please confirm whether the proposition put forward in the preamble above is correct. If not, please explain why.

e) If the response to (d) is affirmative, please update the cost shares for 2008 based on revenue to cost ratios of 100%.

Response:

a) The 2006 Cost Allocation Model did not include (as a cost) the LV charges from Hydro One Networks.

b) Not applicable.

1 c) Horizon Utilities' 2008 Service Revenue Requirement of \$101,580,859 includes
2 LV charges, therefore the LV charges must be removed from Service Revenue
3 Requirement in order to properly allocate Horizon Utilities' Base Distribution
4 Revenue Requirement of \$96,638,570. The calculations, in the "Cost Allocation
5 Based Calculations Worksheet", referenced in ii), removes the LV charges such
6 that the 2008 base revenue and the 2006 cost allocation revenue are calculated
7 in a consistent manner.

8 d) Horizon Utilities confirms that the revenue requirement allocation factors set out
9 in Reference (i) were derived using the share percentages from the 2006 Cost
10 Allocation Model as detailed in Reference (ii).

11 Horizon Utilities confirms that these percentages reflect the 2006 loads/customer
12 counts for each class.

13 Without undertaking a 2008 Cost of Service Study, Horizon Utilities cannot
14 confirm that to the extent not all loads/customer counts increase by the same
15 proportion between 2006 and 2008, the 2008 revenue requirement shares would
16 be different using the Cost Allocation model.

17 e) Horizon Utilities has not undertaken a 2008 Cost of Service Study. Horizon
18 Utilities has provided a revised Table 5 based on the results of its 2008
19 Distribution Rate Design Model and revenue to cost ratio of 100% for all
20 customer classes, as requested in the question.

1 Class Share of 2008 Distribution Revenue at 100% Revenue to Cost Ratio

2

Customer Class	100% Cost Allocation	Allocation at Existing Rates	Proposed Cost Allocation	Revenue Share at 100% Cost Allocation	Revenue Share at Existing Rates	Revenue Share Proposed
Residential	55.81%	67.53%	55.81%	52,945,593	64,057,794	52,945,593
GS <50 kW	12.97%	10.90%	12.97%	12,305,813	10,339,938	12,305,813
GS>50 kW	19.52%	15.23%	19.52%	18,519,607	14,450,207	18,519,607
Large Use >5MW	6.84%	5.46%	6.84%	6,487,111	5,176,699	6,487,111
Street Light	3.15%	0.44%	3.15%	2,991,048	421,575	2,991,048
Sentinel	0.05%	0.02%	0.05%	46,660	16,705	46,660
Unmetered Scattered	0.97%	0.15%	0.97%	915,776	140,780	915,776
Back-up/Standby Power	0.68%	0.27%	0.68%	648,369	256,281	648,369
TOTAL	100.00%	100.00%	100.00%	94,859,978	94,859,978	94,859,978

3

Question #37

Reference:

- i) Exhibit I, Tab 1, Schedule 1, page 1
- ii) Exhibit D, Tab 1, Schedule 1, page 1

- a) Please indicate where the \$196,399 in LV Charges is captured in the OM&A Expenses for 2008 (per Reference (ii)). If not included in OM&A, please indicate how the charges are included in the Total Service Revenue Requirement.
- b) What were the LV Charges for 2006 and 2007 and how are they captured in the reported costs for each year?

Response:

- a) The LV charges are included in USoA account 5665 for 2008 and are included in Horizon Utilities' total Service Revenue Requirement.
- b) the LV charges for 2006 and 2007 are \$105,805 and \$193,235 respectively. For part of the 2006 year LV charges were recorded in the Transmission RSVA accounts. The balance of 2006 and 2007 LV charges were recorded in USoA account 1550.

Question #38

Reference: i) Exhibit I, Tab 1, Schedule 1, page 3

a) Please include a representative Unmetered/Scattered Load customer in Table 2.

Response:

a) The following table now includes a representative Unmetered/Scattered Load customer.

Percent Impact On Total Bill					
Customer Class			No Cost Allocation	Full Cost Allocation	Proposed Cost Allocation
Residential					
	1,000 kWh		1.35%	(3.38%)	(0.59%)
General Service < 50 kW					
	2,000 kWh		0.88%	4.59%	2.86%
General Service < 50 kW					
	5,000 kWh		0.79%	3.16%	2.06%
General Service > 50 kW					
	15,000 kWh		1.33%	6.98%	3.58%
	60 kW				
General Service > 50 kW					
	40,000 kWh		1.02%	4.43%	2.41%
	100 kW				
General Service > 50 kW					
	100,000 kWh		1.14%	3.82%	2.29%
	350 kW				
Large User					
	2,800,000 kWh		2.53%	4.52%	3.76%
	6,500 kW				
Large User					
	10,000,000 kWh		2.04%	3.09%	2.69%
	20,000 kW				
Street Lights					
	36,000 Connections		1.70%	66.49%	9.01%
	2,400,000 kWh				
	6,800 kW				
Street Lights					
	15,000 Connections		1.92%	73.50%	9.99%
	850,000 kWh				
	2,400 kW				
Unmetered/Scattered					
	1 Connection		-3.31%	41.47%	35.14%
	511 kWh				

Question #39

Reference: i) Exhibit I, Tab 1, Schedule 1, page 6

- a) Please confirm that the fixed/variable splits derived from the 2006 EDR are based on total revenue for each class prior any reduction for transformer ownership allowance discounts – where applicable. If not, please explain.
- b) Please confirm that under Horizon's revised Cost Allocation model the revenue requirement by customer class (for at least the Large User class) represents actual revenues (after consideration of transformer ownership). If not, please explain.
- c) Based on (a) and (b), please explain how applying the 2006 EDR split for each customer class to 2008 class revenue requirements will "maintain" the historical split.
- d) Please redo Table 5 based on revenue by class after allowance for the transformer ownership discount (i.e., excluding the transformer ownership allowance as a cost).

Response:

- a) Horizon Utilities confirms that the fixed/variable splits derived from the 2006 EDR are based on total revenue for each class prior any reduction for transformer ownership allowance discounts – where applicable.
- b) Horizon Utilities confirms that under Horizon Utilities' revised Cost Allocation model the revenue requirement by customer class represents actual revenues after consideration of transformer ownership.
- c) Horizon Utilities adds the transformer allowance to the revenue requirement for the General Service > 50 kW customer class before applying the fixed / variable percentage split to the total class revenues thereby separating the total class revenues into the fixed and variable components on the same basis as derived in the 2006 EDR.
- d) The following revised version of Table 5 is based on current 2007 rates with the fixed distribution charge for the General Service > 50 kW and Large User

- 1 customer classes calculated after subtracting the Transformer Allowance from
- 2 the class revenue requirement.

Rate Class	Connection	Customer
Residential		13.91
GS < 50		25.17
GS > 50		207.83
Large Users		4,758.07
Unmetered/Scattered/Load	2.2482	
Sentinel Lighting	1.5843	
Street Lighting	0.3558	
Back-up/Standby Power	1.2605	

- 3

1 **Question #40**

2 **Reference:** i) Exhibit I, Tab 1, Schedule 1, page 6

3 a) Do the 2006 distribution rates used to determine the split between fixed and
4 variable (Table 5) include an LV rate component? If so, should this component
5 be removed as LV Charges for 2008 are addressed separately?

6 **Response:**

7 a) The 2006 distribution rates used to determine the split between the fixed and
8 variable rate components do not included the LV charges. Horizon Utilities would
9 refer to the 2006 EDR Model Tab 7-1 ALLOCATION – Base Revenue
10 Requirement.

Question #41

Reference: i) Exhibit I, Tab 1, Schedule 1, page 7

a) Please provide a schedule that compares each customer class' 2007 monthly fixed charge (excluding smart meter rate adder) with the results of the three service charge calculations produced by the 2006 Cost Allocation model.

Response:

a) The following table provides the results of the three service charge calculations from the 2006 Cost Allocation model and Horizon Utilities' 2007 monthly fixed distribution charge.

<u>Summary</u>	Residential	GS <50	GS>50- Regular	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load	Back- up/Standby Power
Customer Unit Cost per month - Avoided Cost	\$1.94	\$4.41	\$45.86	\$105.02	\$0.39	\$0.38	\$1.61	\$158.64
Customer Unit Cost per month - Directly Related	\$2.88	\$6.78	\$63.25	\$201.96	\$0.62	\$0.62	\$3.29	\$225.42
Customer Unit Cost per month - Minimum System with PLCC Adjustment	\$10.57	\$17.57	\$109.69	\$364.27	\$8.34	\$6.15	\$17.12	\$256.80
2007 Fixed Distribution Charge	\$13.99	\$25.31	\$235.05	\$9,430.85	\$0.36	\$1.59	\$2.26	\$235.87

Question #42

Reference: i) Exhibit I, Tab 1, Schedule 1, pages 12-13

a) Please confirm that the rationale for eliminating the transformer ownership allowance for Large Users is that:

- All customer in the class own their own transformation
- No transformation costs are allocated to this customer class
- Therefore there is no need to address the potential for intra-class cross subsidy that exists in cases where some customer in the class own their own transformer but others do not.

Response:

a) Horizon Utilities confirms that the rationale for eliminating the Transformer Allowance is as described above.

Question #43

Reference: i) Exhibit I, Tab 1, Schedule 6, pages 1-2

- a) Please confirm that the average annual usage for a residential customer is approximately 8,000 kWh.
- b) Based on a recent 12 consecutive months of actual billing data, please indicate the percentage of total residential customers that:
- Consume less than 100 kWh per month
 - Consume 100 -> 250 kWh per month
 - Consume 250 -> 500 kWh per month
 - Consume 500 -> 700 kWh per month
 - Consume 700 -> 1000 kWh per month

Response:

- a) The average annual consumption for a Residential customer is 8,370, based on 2002 to 2006 actual values.
- b) The following table provides the customer counts for the different consumption ranges requested.

kWh Range	# Residential customers
< 100	2,795
100 - 250	7,102
250 - 500	20,865
500 - 700	20,087
700 - 1000	34,393

Question #44

Reference: i) Exhibit J, Tab 1, Schedule 5, page 1

a) Please provide copies of any reports prepared by SeeLine Group Ltd. Regarding Horizon's claim for SSM and LRAM.

b) Please provide the terms of reference for SeeLine's work and indicate the basis under which they were contracted (e.g. sole source, RFP, etc.).

Response:

a) Horizon Utilities has attached the 2005 Annual Report for Hamilton, the 2005 Annual Report and St. Catharines and the 2006 Annual Report for Horizon Utilities prepared by the SeeLine Group Inc. ("SeeLine") at Attachments C1, C2 and C3 respectively, to these responses.

b) SeeLine was selected to provide this service for other members of the Coalition of Large Distributors ("CLD"). Horizon Utilities selected SeeLine in order to ensure consistency in assumptions related to common programs as well as the calculations of LRAM and SSM claims. Horizon Utilities has provided the terms of reference for SeeLine at Attachment D to these responses.

ATTACHMENT A

REFERENCE: VECC QUESTION 9A

2008 - T E S T Y E A R**Department****20-10 Finance****Description****2008**

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computuer Equip - Smart Meters	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	6,000
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-

20-10 Finance Total**6,000****20-12 Design & Construction**

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	6,052,878
1835 Overhead conductors & devices	1,546,989
1840 Underground conduit	3,671,371
1855 Services	236,601
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-

1920 Computuer Equip - Smart Meters	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	- 3,329,432
1920 Computer hardware	-
1845 U/g conductors & devices	4,578,414
1850 Line transformers	4,911,964
1820 Distribution station equipment	-
20-12 Design & Construction Total	17,668,785

20-14 ERP Implementation Project

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computuer Equip - Smart Meters	-
1925 Computer software	865,000
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-
20-14 ERP Implementation Project Total	865,000

20-30 Corporate Services

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computuer Equip - Smart Meters	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	12,000
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-

20-30 Corporate Services Total**12,000****20-32 Business Applications**

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computuer Equip - Smart Meters	-
1925 Computer software	21,100

	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1970 Load Management controls	-
	1980 System supervisory equipment	-
	1995 Capital contributions	-
	1920 Computer hardware	66,000
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1820 Distribution station equipment	-
20-32 Business Applications Total		87,100

20-33 Network / PC Support

	1565 General plnt buildngs & fixtrs	-
	1565 Meters	-
	1808 Substatn buildings & fixtures	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1855 Services	-
	1860 Meters	-
	1860 Smart meters	-
	1906 Land rights	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	-
	1920 Computuer Equip - Smart Meters	-
	1925 Computer software	52,820
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	55,700
	1960 Miscellaneous equipment	-
	1970 Load Management controls	-
	1980 System supervisory equipment	-
	1995 Capital contributions	-
	1920 Computer hardware	205,800
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1820 Distribution station equipment	-
20-33 Network / PC Support Total		314,320

20-34 Corporate Communications

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	20,000
1920 Computuer Equip - Smart Meters	-
1925 Computer software	1,250
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	1,600
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-
20-34 Corporate Communications Total	22,850

20-36 Wellness & Safety

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	500
1920 Computuer Equip - Smart Meters	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-

1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	1,000
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-

20-36 Wellness & Safety Total 1,500

20-38 Head Office Maintenance - Hamilton

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	65,000
1915 Office furniture & equipment	12,996
1920 Computuer Equip - Smart Meters	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	5,996
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	9,000
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-

20-38 Head Office Maintenance - Hamilton Total 92,992

20-39 Head Office Maintenance - St Catharines

1565 General plnt buildngs & fixtrs	-
1565 Meters	-

1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	245,000
1915 Office furniture & equipment	2,996
1920 Computuer Equip - Smart Meters	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	2,996
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-
20-39 Head Office Maintenance - St Catharines Total	250,992

20-40 Human Resources

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computuer Equip - Smart Meters	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-

	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1970 Load Management controls	
	1980 System supervisory equipment	-
	1995 Capital contributions	-
	1920 Computer hardware	9,000
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1820 Distribution station equipment	-
20-40 Human Resources Total		9,000

20-52 Engineering

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	1,500
1920 Computuer Equip - Smart Meters	-
1925 Computer software	1,800
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	4,500
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-

20-52 Engineering Total	7,800
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20-54 Network Records

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-

1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	24,000
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computuer Equip - Smart Meters	-
1925 Computer software	31,600
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	9,300
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-

20-54 Network Records Total

64,900

20-55 Planning

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computuer Equip - Smart Meters	-
1925 Computer software	2,000
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-

	1970 Load Management controls	
	1980 System supervisory equipment	-
	1995 Capital contributions	-
	1920 Computer hardware	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1820 Distribution station equipment	-
20-55 Planning Total		2,000

20-56 Design - Capital Projects

	1565 General plnt buildngs & fixtrs	-
	1565 Meters	-
	1808 Substatn buildings & fixtures	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1855 Services	-
	1860 Meters	-
	1860 Smart meters	-
	1906 Land rights	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	-
	1920 Computuer Equip - Smart Meters	-
	1925 Computer software	12,000
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	1,800
	1960 Miscellaneous equipment	-
	1970 Load Management controls	
	1980 System supervisory equipment	-
	1995 Capital contributions	-
	1920 Computer hardware	21,500
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1820 Distribution station equipment	-
20-56 Design - Capital Projects Total		35,300

20-58 Customer Connections & Conservation - Shared Costs

	1565 General plnt buildngs & fixtrs	-
	1565 Meters	-
	1808 Substatn buildings & fixtures	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-

1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	15,500
1920 Computuer Equip - Smart Meters	-
1925 Computer software	1,800
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	17,200
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-
20-58 Customer Connections & Conservation - Shared Costs Total	34,500

20-59 Smart Meters

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	109,996
1860 Meters	-
1860 Smart meters	10,573,416
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computuer Equip - Smart Meters	52,920
1925 Computer software	9,996
1930 Transportation equipment	-
1935 Stores equipment	20,000
1940 Tools, shop & garage equipment	18,996
1945 Measurement & testing equip	-
1955 Communications equipment	1,450
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-

	1995 Capital contributions	-
	1920 Computer hardware	175,555
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1820 Distribution station equipment	-
20-59 Smart Meters Total		10,962,329

20-60 Network Operating

	1565 General plnt buildngs & fixtrs	-
	1565 Meters	-
	1808 Substatn buildings & fixtures	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1855 Services	-
	1860 Meters	-
	1860 Smart meters	-
	1906 Land rights	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	57,900
	1920 Computuer Equip - Smart Meters	-
	1925 Computer software	36,045
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	176,006
	1960 Miscellaneous equipment	-
	1970 Load Management controls	-
	1980 System supervisory equipment	-
	1995 Capital contributions	-
	1920 Computer hardware	37,920
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1820 Distribution station equipment	-
20-60 Network Operating Total		307,871

20-62 Design & Construction

	1565 General plnt buildngs & fixtrs	-
	1565 Meters	-
	1808 Substatn buildings & fixtures	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1855 Services	-
	1860 Meters	-

1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computuer Equip - Smart Meters	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	350
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	4,400
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-

20-62 Design & Construction Total

4,750

20-64 Stores - Hamilton

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	30,000
1920 Computuer Equip - Smart Meters	-
1925 Computer software	3,000
1930 Transportation equipment	-
1935 Stores equipment	80,000
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	1,600
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	37,700

	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1820 Distribution station equipment	-
20-64 Stores - Hamilton Total		152,300

20-65 Stores - St Catharines

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	13,500
1920 Computuer Equip - Smart Meters	-
1925 Computer software	1,800
1930 Transportation equipment	-
1935 Stores equipment	104,350
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	17,100
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-

20-65 Stores - St Catharines Total	136,750
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20-66 Fleet Services - Hamilton

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-

1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computuer Equip - Smart Meters	-
1925 Computer software	5,000
1930 Transportation equipment	1,357,233
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-

20-66 Fleet Services - Hamilton Total

1,362,233

20-67 Fleet Services - St Catharines

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computuer Equip - Smart Meters	-
1925 Computer software	5,000
1930 Transportation equipment	541,000
1935 Stores equipment	-
1940 Tools, shop & garage equipment	5,000
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	-
1845 U/g conductors & devices	-
1850 Line transformers	-

	1820 Distribution station equipment	-
20-67 Fleet Services - St Catharines Total		551,000

20-68 Overhead Lines - Hamilton

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	684,321
1835 Overhead conductors & devices	107,667
1840 Underground conduit	-
1855 Services	246,912
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	3,000
1915 Office furniture & equipment	6,096
1920 Computuer Equip - Smart Meters	-
1925 Computer software	-
1930 Transportation equipment	6,500
1935 Stores equipment	-
1940 Tools, shop & garage equipment	68,300
1945 Measurement & testing equip	22,300
1955 Communications equipment	1,600
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	4,000
1845 U/g conductors & devices	-
1850 Line transformers	270,120
1820 Distribution station equipment	-

20-68 Overhead Lines - Hamilton Total	1,420,816
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20-69 Supply Chain Management

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	6,500

1920 Computuer Equip - Smart Meters	-
1925 Computer software	2,000
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-
20-69 Supply Chain Management Total	8,500

20-70 Underground Lines - Hamilton

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	200,529
1855 Services	560,228
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computuer Equip - Smart Meters	-
1925 Computer software	1,500
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	61,854
1945 Measurement & testing equip	47,200
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	5,000
1845 U/g conductors & devices	707,754
1850 Line transformers	178,352
1820 Distribution station equipment	-
20-70 Underground Lines - Hamilton Total	1,762,417

20-72 Nebo SC

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	132,000
1915 Office furniture & equipment	7,996
1920 Computuer Equip - Smart Meters	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	2,996
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-

20-72 Nebo SC Total**142,992****20-73 Stoney Creek SC**

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	47,000
1915 Office furniture & equipment	2,996
1920 Computuer Equip - Smart Meters	-
1925 Computer software	-

1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-
20-73 Stoney Creek SC Total	49,996

20-74 Substation Services - Hamilton

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	185,530
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computuer Equip - Smart Meters	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	27,000
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	2,000
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	16,353

20-74 Substation Services - Hamilton Total **230,883**

20-76 Overhead Lines - St Catharines

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	281,844
1835 Overhead conductors & devices	99,840
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	800
1920 Computuer Equip - Smart Meters	-
1925 Computer software	7,000
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	70,500
1945 Measurement & testing equip	16,000
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	8,800
1845 U/g conductors & devices	-
1850 Line transformers	122,688
1820 Distribution station equipment	-
20-76 Overhead Lines - St Catharines Total	607,472

20-78 Underground Lines - St Catharines

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	11,944
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computuer Equip - Smart Meters	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-

1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	-
1845 U/g conductors & devices	135,442
1850 Line transformers	75,707
1820 Distribution station equipment	-

20-78 Underground Lines - St Catharines Total 223,093

20-80 Supply Chain Management

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	2,000
1920 Computuer Equip - Smart Meters	-
1925 Computer software	1,000
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	1,000
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	2,000
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-

20-80 Supply Chain Management Total 6,000

20-81 Meter Assets & Inside Service

1565 General plnt buildngs & fixtrs	-
1565 Meters	-

1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	278,500
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computuer Equip - Smart Meters	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	5,000
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-

20-81 Meter Assets & Inside Service Total

283,500

20-84 Revenue Protection

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computuer Equip - Smart Meters	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	12,100

	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1970 Load Management controls	-
	1980 System supervisory equipment	-
	1995 Capital contributions	-
	1920 Computer hardware	850
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1820 Distribution station equipment	-
20-84 Revenue Protection Total		12,950

20-85 MV90

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	1,000
1920 Computuer Equip - Smart Meters	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	3,000
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-

20-85 MV90 Total		4,000
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20-86 Meter Services - Hamilton

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-

1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	1,364,858
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	5,000
1920 Computuer Equip - Smart Meters	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	18,492
1945 Measurement & testing equip	-
1955 Communications equipment	3,000
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	10,400
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-

20-86 Meter Services - Hamilton Total

1,401,750

20-87 Meter Services - St Catharines

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	776,556
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	15,000
1920 Computuer Equip - Smart Meters	-
1925 Computer software	1,000
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	4,996
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-

1970 Load Management controls	
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	5,100
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-
20-87 Meter Services - St Catharines Total	802,652

20-88 Customer Requested Services - Hamilton

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1855 Services	-
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	1,600
1920 Computuer Equip - Smart Meters	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	9,400
1945 Measurement & testing equip	13,004
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	1,000
1845 U/g conductors & devices	-
1850 Line transformers	-
1820 Distribution station equipment	-
20-88 Customer Requested Services - Hamilton Total	25,004

20-89 Customer Requested Services - St Catharines

1565 General plnt buildngs & fixtrs	-
1565 Meters	-
1808 Substatn buildings & fixtures	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	360
1840 Underground conduit	-

1855 Services	196,512
1860 Meters	-
1860 Smart meters	-
1906 Land rights	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computuer Equip - Smart Meters	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1980 System supervisory equipment	-
1995 Capital contributions	-
1920 Computer hardware	-
1845 U/g conductors & devices	360
1850 Line transformers	-
1820 Distribution station equipment	180
20-89 Customer Requested Services - St Catharines Total	197,412
Grand Total	40,131,709

ATTACHMENT B

REFERENCE: VECC QUESTION 9B

ATTACHMENT B1

REFERENCE: VECC QUESTION 9B

2006 BUDGET - NOT ACTUAL YEAR AS FILED IN APPLICATION

Department	Description	2006
20-10 Finance		
	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	1,500
	1920 Computer hardware	13,700
	1925 Computer software	2,000
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1970 Load Management controls	-
	1995 Capital contributions	-
20-10 Finance Total		17,200
20-12 Design & Construction		
	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1830 Poles, towers & fixtures	4,492,440
	1835 Overhead conductors & devices	2,059,176
	1840 Underground conduit	2,443,620
	1845 U/g conductors & devices	4,271,844
	1850 Line transformers	4,182,948
	1855 Services	1,327,140
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	-
	1920 Computer hardware	-
	1925 Computer software	-
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	-

	1960 Miscellaneous equipment	-
	1970 Load Management controls	
	1995 Capital contributions	- 3,251,760
20-12 Design & Construction Total		15,525,408

20-18 Regulatory Services

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	2,680
1920 Computer hardware	28,456
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	
1995 Capital contributions	-

20-18 Regulatory Services Total	31,136
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20-32 Business Applications

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	36,000
1920 Computer hardware	58,400
1925 Computer software	28,000
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-

	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1970 Load Management controls	-
	1995 Capital contributions	-
20-32 Business Applications Total		122,400
20-33 Network / PC Support		
	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	1,200
	1920 Computer hardware	80,300
	1925 Computer software	7,200
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	600,000
	1960 Miscellaneous equipment	-
	1970 Load Management controls	-
	1995 Capital contributions	-
20-33 Network / PC Support Total		688,700
20-34 Corporate Communications		
	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	-
	1920 Computer hardware	4,825
	1925 Computer software	-
	1930 Transportation equipment	-

	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1970 Load Management controls	-
	1995 Capital contributions	-
20-34 Corporate Communications Total		4,825

20-36 Wellness & Safety

	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	13,660
	1920 Computer hardware	11,265
	1925 Computer software	-
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1970 Load Management controls	-
	1995 Capital contributions	-
20-36 Wellness & Safety Total		24,925

20-38 Head Office Maintenance - Hamilton

	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	833,000
	1915 Office furniture & equipment	6,500
	1920 Computer hardware	4,000

1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1995 Capital contributions	-

20-38 Head Office Maintenance - Hamilton Total 843,500

20-39 Head Office Maintenance - St Catharines

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	285,000
1915 Office furniture & equipment	7,000
1920 Computer hardware	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	50,000
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1995 Capital contributions	-

20-39 Head Office Maintenance - St Catharines Total 342,000

20-40 Human Resources

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-

	1915 Office furniture & equipment	17,500
	1920 Computer hardware	4,800
	1925 Computer software	-
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1970 Load Management controls	-
	1995 Capital contributions	-
20-40 Human Resources Total		22,300
20-52 Engineering		
	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	250,000
	1920 Computer hardware	-
	1925 Computer software	-
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1970 Load Management controls	-
	1995 Capital contributions	-
20-52 Engineering Total		250,000
20-54 Network Records		
	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-

1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	26,735
1925 Computer software	11,600
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1995 Capital contributions	-
20-54 Network Records Total	38,335

20-55 Planning

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	4,420
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1995 Capital contributions	-

20-55 Planning Total	4,420
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20-56 Design - Capital Projects

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-

1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	6,000
1920 Computer hardware	17,740
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	725
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1995 Capital contributions	-
20-56 Design - Capital Projects Total	24,465

20-58 Customer Connections & Conservation - Shared Costs

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	25,000
1915 Office furniture & equipment	4,500
1920 Computer hardware	5,750
1925 Computer software	4,800
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	3,500
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1995 Capital contributions	-
20-58 Customer Connections & Conservation - Shared Costs Total	43,550

20-60 Network Operating

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-

	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	-
	1920 Computer hardware	21,010
	1925 Computer software	45,000
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	1,500
	1960 Miscellaneous equipment	-
	1970 Load Management controls	-
	1995 Capital contributions	-
20-60 Network Operating Total		67,510
20-61 City Call Centre		
	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	5,750
	1920 Computer hardware	2,600
	1925 Computer software	531
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1970 Load Management controls	-
	1995 Capital contributions	-
20-61 City Call Centre Total		8,881
20-62 Design & Construction		
	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-

1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	10,300
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	800
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1995 Capital contributions	-
20-62 Design & Construction Total	11,100

20-64 Stores - Hamilton

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	5,450
1925 Computer software	-
1930 Transportation equipment	1,200
1935 Stores equipment	57,250
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	8,500
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1995 Capital contributions	-

20-64 Stores - Hamilton Total **72,400**

20-65 Stores - St Catharines

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	1,125
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	500
1940 Tools, shop & garage equipment	350
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1995 Capital contributions	-
20-65 Stores - St Catharines Total	1,975

20-66 Fleet Services - Hamilton

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	500
1925 Computer software	-
1930 Transportation equipment	905,000
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	25,000
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1995 Capital contributions	-
20-66 Fleet Services - Hamilton Total	930,500

20-67 Fleet Services - St Catharines

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	-
1925 Computer software	-
1930 Transportation equipment	698,000
1935 Stores equipment	-
1940 Tools, shop & garage equipment	18,000
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1995 Capital contributions	-

20-67 Fleet Services - St Catharines Total**716,000****20-68 Overhead Lines - Hamilton**

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	16,000
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	127,150
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-

	1995 Capital contributions	-
20-68 Overhead Lines - Hamilton Total		143,150

20-70 Underground Lines - Hamilton

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	10,400
1920 Computer hardware	18,500
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	78,750
1945 Measurement & testing equip	29,950
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1995 Capital contributions	-

20-70 Underground Lines - Hamilton Total		137,600
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20-72 Nebo SC

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	173,000
1915 Office furniture & equipment	8,000
1920 Computer hardware	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	75,000
1945 Measurement & testing equip	-
1955 Communications equipment	-

	1960 Miscellaneous equipment	-
	1970 Load Management controls	
	1995 Capital contributions	-
20-72 Nebo SC Total		256,000
20-73 Stoney Creek SC		
	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	44,200
	1915 Office furniture & equipment	5,000
	1920 Computer hardware	-
	1925 Computer software	-
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1970 Load Management controls	
	1995 Capital contributions	-
20-73 Stoney Creek SC Total		49,200
20-74 Substation Services - Hamilton		
	1808 Substatn buildings & fixtures	31,500
	1820 Distribution station equipment	140,055
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	10,000
	1920 Computer hardware	35,645
	1925 Computer software	26,760
	1930 Transportation equipment	3,000
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	9,200

	1945 Measurement & testing equip	103,500
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1970 Load Management controls	
	1995 Capital contributions	-
20-74 Substation Services - Hamilton Total		359,660
20-75 Substation Services - St Catharines		
	1808 Substatn buildings & fixtures	13,440
	1820 Distribution station equipment	15,230
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	-
	1920 Computer hardware	-
	1925 Computer software	-
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1970 Load Management controls	
	1995 Capital contributions	-
20-75 Substation Services - St Catharines Total		28,670
20-76 Overhead Lines - St Catharines		
	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	-
	1920 Computer hardware	11,250
	1925 Computer software	-
	1930 Transportation equipment	-

	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	33,000
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1970 Load Management controls	-
	1995 Capital contributions	-
20-76 Overhead Lines - St Catharines Total		44,250
20-78 Underground Lines - St Catharines		
	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	1,000
	1920 Computer hardware	-
	1925 Computer software	-
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	33,337
	1945 Measurement & testing equip	14,000
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1970 Load Management controls	-
	1995 Capital contributions	-
20-78 Underground Lines - St Catharines Total		48,337
20-80 Supply Chain Management		
	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	2,300
	1920 Computer hardware	12,769

1925 Computer software	4,944
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1995 Capital contributions	-
20-80 Supply Chain Management Total	20,013

20-81 Meter Assets & Inside Service

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	869,422
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	3,200
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	1,600
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1995 Capital contributions	-

20-81 Meter Assets & Inside Service Total **874,222**

20-82 C&DM Costs (D&U) - Hamilton

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	275,004
1855 Services	-
1860 Meters	1,665,008
1908 General plnt buildngs & fixtrs	130,000

1915 Office furniture & equipment	3,750
1920 Computer hardware	3,000
1925 Computer software	1,125
1930 Transportation equipment	40,000
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	88,600
1970 Load Management controls	395,000
1995 Capital contributions	-

20-82 C&DM Costs (D&U) - Hamilton Total 2,601,487

20-83 C&DM Costs (D&U) - St Catharines

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	359,032
1908 General plnt buildngs & fixtrs	50,000
1915 Office furniture & equipment	1,250
1920 Computer hardware	1,000
1925 Computer software	375
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1995 Capital contributions	-

20-83 C&DM Costs (D&U) - St Catharines Total 411,657

20-84 Revenue Protection

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-

	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	-
	1920 Computer hardware	-
	1925 Computer software	-
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	1,500
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1970 Load Management controls	-
	1995 Capital contributions	-
20-84 Revenue Protection Total		1,500

20-85 MV90

	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	-
	1920 Computer hardware	4,000
	1925 Computer software	-
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1970 Load Management controls	-
	1995 Capital contributions	-
20-85 MV90 Total		4,000

20-86 Meter Services - Hamilton

	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-

1850 Line transformers	-
1855 Services	-
1860 Meters	2,272,423
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	4,200
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	22,996
1945 Measurement & testing equip	26,300
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1995 Capital contributions	-
20-86 Meter Services - Hamilton Total	2,325,919

20-87 Meter Services - St Catharines

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	938,233
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	3,200
1925 Computer software	9,650
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	6,366
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1995 Capital contributions	-

20-87 Meter Services - St Catharines Total **957,449**

20-88 Customer Requested Services - Hamilton

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-

1840 Underground conduit	-
1845 U/g conductors & devices	2,910
1850 Line transformers	-
1855 Services	372,707
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	1,500
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	10,675
1945 Measurement & testing equip	1,800
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1995 Capital contributions	-
20-88 Customer Requested Services - Hamilton Total	389,592
20-89 Customer Requested Services - St Catharines	
1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	1,844
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	4,873
1840 Underground conduit	-
1845 U/g conductors & devices	11,768
1850 Line transformers	-
1855 Services	100,168
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	6,500
1945 Measurement & testing equip	400
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1970 Load Management controls	-
1995 Capital contributions	-
20-89 Customer Requested Services - St Catharines Total	125,553
Grand Total	28,569,789

ATTACHMENT B2

REFERENCE: VECC QUESTION 9B

2007 BUDGET - NOT BRIDGE YEAR AS FILED IN APPLICATION

Department	Description	2007
20-10 Finance		
	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1825 Storage battery equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	4,900
	1920 Computer hardware	16,600
	1925 Computer software	5,000
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1980 System supervisory equipment	-
	1995 Capital contributions	-
20-10 Finance Total		26,500
20-12 Design & Construction		
	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1825 Storage battery equipment	-
	1830 Poles, towers & fixtures	6,292,215
	1835 Overhead conductors & devices	2,414,127
	1840 Underground conduit	2,799,305
	1845 U/g conductors & devices	3,652,144
	1850 Line transformers	4,318,354
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	-
	1920 Computer hardware	-
	1925 Computer software	-
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-

	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1980 System supervisory equipment	-
	1995 Capital contributions	- 2,854,992
20-12 Design & Construction Total		16,621,153

20-18 Regulatory Services

	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1825 Storage battery equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	-
	1920 Computer hardware	23,560
	1925 Computer software	2,450
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1980 System supervisory equipment	-
	1995 Capital contributions	-
20-18 Regulatory Services Total		26,010

20-30 Corporate Services

	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1825 Storage battery equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	80,000
	1915 Office furniture & equipment	-
	1920 Computer hardware	9,500

	1925 Computer software	-
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1980 System supervisory equipment	-
	1995 Capital contributions	-
20-30 Corporate Services Total		89,500

20-32 Business Applications

	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1825 Storage battery equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	6,000
	1920 Computer hardware	152,855
	1925 Computer software	17,100
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	350
	1960 Miscellaneous equipment	-
	1980 System supervisory equipment	-
	1995 Capital contributions	-
20-32 Business Applications Total		176,305

20-33 Network / PC Support

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-

	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	-
	1920 Computer hardware	142,700
	1925 Computer software	262,200
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	500,000
	1960 Miscellaneous equipment	-
	1980 System supervisory equipment	-
	1995 Capital contributions	-
20-33 Network / PC Support Total		904,900

20-34 Corporate Communications

	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1825 Storage battery equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	28,000
	1920 Computer hardware	-
	1925 Computer software	2,000
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1980 System supervisory equipment	-
	1995 Capital contributions	-
20-34 Corporate Communications Total		30,000

20-36 Wellness & Safety

	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1825 Storage battery equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-

	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	-
	1920 Computer hardware	2,300
	1925 Computer software	-
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	10,000
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1980 System supervisory equipment	-
	1995 Capital contributions	-
20-36 Wellness & Safety Total		12,300

20-38 Head Office Maintenance - Hamilton

	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1825 Storage battery equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	1,390,500
	1915 Office furniture & equipment	305,000
	1920 Computer hardware	7,500
	1925 Computer software	-
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	8,000
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1980 System supervisory equipment	-
	1995 Capital contributions	-

20-38 Head Office Maintenance - Hamilton Total **1,711,000**

20-39 Head Office Maintenance - St Catharines

	1808 Substatn buildings & fixtures	-
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1820 Distribution station equipment	-
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	69,000
1915 Office furniture & equipment	-
1920 Computer hardware	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	88,500
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1980 System supervisory equipment	-
1995 Capital contributions	-

20-39 Head Office Maintenance - St Catharines Total 157,500

20-40 Human Resources

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	9,900
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1980 System supervisory equipment	-
1995 Capital contributions	-

20-40 Human Resources Total	9,900
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20-52 Engineering

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	300
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1980 System supervisory equipment	-
1995 Capital contributions	-

20-52 Engineering Total	300
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20-54 Network Records

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	3,000
1920 Computer hardware	14,750
1925 Computer software	37,100
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-

	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1980 System supervisory equipment	-
	1995 Capital contributions	-
20-54 Network Records Total		54,850

20-55 Planning

	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1825 Storage battery equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	-
	1920 Computer hardware	-
	1925 Computer software	10,000
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1980 System supervisory equipment	-
	1995 Capital contributions	-
20-55 Planning Total		10,000

20-56 Design - Capital Projects

	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1825 Storage battery equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	8,000
	1920 Computer hardware	4,000
	1925 Computer software	-

1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	1,560
1960 Miscellaneous equipment	-
1980 System supervisory equipment	-
1995 Capital contributions	-
20-56 Design - Capital Projects Total	13,560

20-58 Customer Connections & Conservation - Shared Costs

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	25,000
1915 Office furniture & equipment	2,000
1920 Computer hardware	3,900
1925 Computer software	600
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1980 System supervisory equipment	-
1995 Capital contributions	-
20-58 Customer Connections & Conservation - Shared Costs Total	31,500

20-59 Smart Meters

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	200,000
1860 Meters	7,653,905

	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	-
	1920 Computer hardware	435,100
	1925 Computer software	150,000
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	5,600
	1980 System supervisory equipment	-
	1995 Capital contributions	-
20-59 Smart Meters Total		8,444,605

20-60 Network Operating

	1808 Substatn buildings & fixtures	8,000
	1820 Distribution station equipment	-
	1825 Storage battery equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	146,500
	1920 Computer hardware	210,110
	1925 Computer software	30,000
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	720
	1960 Miscellaneous equipment	-
	1980 System supervisory equipment	108,000
	1995 Capital contributions	-
20-60 Network Operating Total		503,330

20-61 City Call Centre

	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1825 Storage battery equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-

	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	-
	1920 Computer hardware	3,000
	1925 Computer software	380
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1980 System supervisory equipment	-
	1995 Capital contributions	-
20-61 City Call Centre Total		3,380

20-62 Design & Construction

	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1825 Storage battery equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	1,200
	1920 Computer hardware	3,500
	1925 Computer software	-
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	800
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1980 System supervisory equipment	-
	1995 Capital contributions	-
20-62 Design & Construction Total		5,500

20-64 Stores - Hamilton

	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-

1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	18,400
1925 Computer software	4,000
1930 Transportation equipment	1,500
1935 Stores equipment	58,500
1940 Tools, shop & garage equipment	1,000
1945 Measurement & testing equip	10,500
1955 Communications equipment	1,500
1960 Miscellaneous equipment	-
1980 System supervisory equipment	-
1995 Capital contributions	-

20-64 Stores - Hamilton Total

95,400

20-65 Stores - St Catharines

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	2,700
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	21,000
1940 Tools, shop & garage equipment	500
1945 Measurement & testing equip	-
1955 Communications equipment	700
1960 Miscellaneous equipment	-
1980 System supervisory equipment	-
1995 Capital contributions	-

20-65 Stores - St Catharines Total

24,900

20-66 Fleet Services - Hamilton

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	925
1925 Computer software	-
1930 Transportation equipment	867,988
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	24,000
1960 Miscellaneous equipment	-
1980 System supervisory equipment	-
1995 Capital contributions	-

20-66 Fleet Services - Hamilton Total**892,913****20-67 Fleet Services - St Catharines**

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	2,600
1925 Computer software	-
1930 Transportation equipment	914,026
1935 Stores equipment	-
1940 Tools, shop & garage equipment	30,000
1945 Measurement & testing equip	-
1955 Communications equipment	6,000

	1960 Miscellaneous equipment	-
	1980 System supervisory equipment	-
	1995 Capital contributions	-
20-67 Fleet Services - St Catharines Total		952,626

20-68 Overhead Lines - Hamilton

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	656,636
1835 Overhead conductors & devices	112,376
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	254,820
1855 Services	167,336
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	122,454
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1980 System supervisory equipment	-
1995 Capital contributions	-

20-68 Overhead Lines - Hamilton Total	1,313,622
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20-70 Underground Lines - Hamilton

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	205,200
1845 U/g conductors & devices	575,265
1850 Line transformers	162,119
1855 Services	435,509
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	300
1920 Computer hardware	500
1925 Computer software	-
1930 Transportation equipment	-

	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	65,399
	1945 Measurement & testing equip	18,550
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1980 System supervisory equipment	-
	1995 Capital contributions	-
20-70 Underground Lines - Hamilton Total		1,462,842

20-72 Nebo SC

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	72,000
1915 Office furniture & equipment	14,000
1920 Computer hardware	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	5,000
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1980 System supervisory equipment	-
1995 Capital contributions	-

20-72 Nebo SC Total	91,000
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20-73 Stoney Creek SC

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	75,000

1915 Office furniture & equipment	5,000
1920 Computer hardware	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	5,000
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1980 System supervisory equipment	-
1995 Capital contributions	-

20-73 Stoney Creek SC Total 85,000

20-74 Substation Services - Hamilton

1808 Substatn buildings & fixtures	154,000
1820 Distribution station equipment	75,450
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	30,170
1925 Computer software	5,500
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	33,200
1945 Measurement & testing equip	-
1955 Communications equipment	17,640
1960 Miscellaneous equipment	-
1980 System supervisory equipment	-
1995 Capital contributions	-

20-74 Substation Services - Hamilton Total 315,960

20-75 Substation Services - St Catharines

1808 Substatn buildings & fixtures	25,208
1820 Distribution station equipment	5,083
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-

1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	16,500
1960 Miscellaneous equipment	-
1980 System supervisory equipment	-
1995 Capital contributions	-
20-75 Substation Services - St Catharines Total	46,791

20-76 Overhead Lines - St Catharines

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	166,296
1835 Overhead conductors & devices	128,700
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	124,640
1855 Services	- 12,397
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	2,000
1920 Computer hardware	3,000
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	40,654
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1980 System supervisory equipment	-
1995 Capital contributions	-

20-76 Overhead Lines - St Catharines Total	452,893
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20-78 Underground Lines - St Catharines

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1825 Storage battery equipment	-

1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	5,976
1845 U/g conductors & devices	131,221
1850 Line transformers	56,941
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	22,000
1945 Measurement & testing equip	20,754
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1980 System supervisory equipment	-
1995 Capital contributions	-
20-78 Underground Lines - St Catharines Total	236,892
20-80 Supply Chain Management	
1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	12,150
1925 Computer software	2,000
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1980 System supervisory equipment	-
1995 Capital contributions	-
20-80 Supply Chain Management Total	14,150

20-81 Meter Assets & Inside Service

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	421,046
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	5,000
1925 Computer software	550
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1980 System supervisory equipment	-
1995 Capital contributions	-

20-81 Meter Assets & Inside Service Total**426,596****20-82 C&DM Costs (D&U) - Hamilton**

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	45,000
1908 General plnt buildngs & fixtrs	1,009,013
1915 Office furniture & equipment	-
1920 Computer hardware	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-

	1980 System supervisory equipment	-
	1995 Capital contributions	-
20-82 C&DM Costs (D&U) - Hamilton Total		1,054,013

20-83 C&DM Costs (D&U) - St Catharines

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	4,000
1908 General plnt buildngs & fixtrs	233,343
1915 Office furniture & equipment	-
1920 Computer hardware	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1980 System supervisory equipment	-
1995 Capital contributions	-

20-83 C&DM Costs (D&U) - St Catharines Total		237,343
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20-84 Revenue Protection

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	-
1925 Computer software	1,500
1930 Transportation equipment	-
1935 Stores equipment	-

	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	2,000
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1980 System supervisory equipment	-
	1995 Capital contributions	-
20-84 Revenue Protection Total		3,500

20-85 MV90

	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1825 Storage battery equipment	300
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	-
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	-
	1920 Computer hardware	10,000
	1925 Computer software	-
	1930 Transportation equipment	-
	1935 Stores equipment	-
	1940 Tools, shop & garage equipment	-
	1945 Measurement & testing equip	-
	1955 Communications equipment	-
	1960 Miscellaneous equipment	-
	1980 System supervisory equipment	-
	1995 Capital contributions	-
20-85 MV90 Total		10,300

20-86 Meter Services - Hamilton

	1808 Substatn buildings & fixtures	-
	1820 Distribution station equipment	-
	1825 Storage battery equipment	-
	1830 Poles, towers & fixtures	-
	1835 Overhead conductors & devices	-
	1840 Underground conduit	-
	1845 U/g conductors & devices	-
	1850 Line transformers	-
	1855 Services	-
	1860 Meters	1,268,580
	1908 General plnt buildngs & fixtrs	-
	1915 Office furniture & equipment	-

1920 Computer hardware	8,500
1925 Computer software	30,000
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	60,000
1955 Communications equipment	-
1960 Miscellaneous equipment	6,900
1980 System supervisory equipment	-
1995 Capital contributions	-
20-86 Meter Services - Hamilton Total	1,373,980

20-87 Meter Services - St Catharines

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	-
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	-
1840 Underground conduit	-
1845 U/g conductors & devices	-
1850 Line transformers	-
1855 Services	-
1860 Meters	997,054
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	4,500
1920 Computer hardware	3,200
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	1,552
1945 Measurement & testing equip	30,000
1955 Communications equipment	-
1960 Miscellaneous equipment	7,500
1980 System supervisory equipment	-
1995 Capital contributions	-

20-87 Meter Services - St Catharines Total **1,043,806**

20-88 Customer Requested Services - Hamilton

1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	5,352
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	23,088
1840 Underground conduit	-
1845 U/g conductors & devices	41,244
1850 Line transformers	-

1855 Services	-
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	8,200
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	-
1945 Measurement & testing equip	-
1955 Communications equipment	-
1960 Miscellaneous equipment	22,000
1980 System supervisory equipment	-
1995 Capital contributions	-
20-88 Customer Requested Services - Hamilton Total	99,884
20-89 Customer Requested Services - St Catharines	
1808 Substatn buildings & fixtures	-
1820 Distribution station equipment	3,162
1825 Storage battery equipment	-
1830 Poles, towers & fixtures	-
1835 Overhead conductors & devices	3,900
1840 Underground conduit	-
1845 U/g conductors & devices	1,660
1850 Line transformers	-
1855 Services	202,592
1860 Meters	-
1908 General plnt buildngs & fixtrs	-
1915 Office furniture & equipment	-
1920 Computer hardware	-
1925 Computer software	-
1930 Transportation equipment	-
1935 Stores equipment	-
1940 Tools, shop & garage equipment	12,500
1945 Measurement & testing equip	10,800
1955 Communications equipment	-
1960 Miscellaneous equipment	-
1980 System supervisory equipment	-
1995 Capital contributions	-
20-89 Customer Requested Services - St Catharines Total	234,614
Grand Total	39,301,118

ATTACHMENT C

REFERENCE: VECC QUESTION 44A

ATTACHMENT C1

REFERENCE: VECC QUESTION 44A

Horizon Utilities Corporation

***Hamilton Hydro Inc.
Conservation and Demand Management
2005 Annual Report***

Ontario Energy Board File No. RP-2004-0203

March 31, 2006

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APPENDIX A – Evaluation of the CDM Plan

APPENDIX B – Discussion of the Program

1. Introduction

On December 10, 2004 the Ontario Energy Board (“Board”) issued its oral decision in the RP-2004-0203 proceeding, with respect to six (6) applications filed by the Coalition of Large Distributors (“CLD”) comprising Enersource Hydro Mississauga, Horizon Utilities Corporation, Hydro Ottawa Limited, PowerStream Inc. Toronto Hydro-Electric System Limited and Veridian Connections. This report is a requirement of that decision. In respect of the application filed by Horizon Utilities Corporation, the Board issued its Final Order on February 3, 2005 under docket number RP-2004-0203/ EB-2004-0488

The Board’s decision indicated that annual reporting “should be done on a calendar year and should be filed with the Board no later than March 31st of the following year” and would be subject to a public review. On December 21, 2005 the Board issued a Guideline for Annual Reporting of CDM Initiatives that explained more full the requirements. This report has been prepared in accordance with those guidelines.

Currently, Horizon Utilities has two separate Conservation and Demand Management Plans filed with the OEB for the former Hamilton Hydro Inc. (HHI) RP 2004-0203 / EB-2004-0488 and St. Catharines Hydro Utility Services Inc. (SCHUSI) RP 2004-0203 / EB-2004-0523. Horizon will be filing a separate 2005 Annual Report for SCHUSI CDM activities, under separate cover to the OEB.

Horizon Utilities has been active in implementing many programs in the first year of its CDM program that delivered results in several customer segments. Highlights from 2005 include:

- o Established the powerWISE[®] brand and web site www.powerwise.ca along with the Coalition of Large Distributors.
- o Launched the “Lighten Your Electricity Bill” program, an initiative in which all of Horizon’s 208,000 residential customers received money-saving coupons through bill inserts, redeemable at Canadian Tire for in-store discounts on several energy-efficient projects including compact fluorescent lights (CFL’s), ceiling fans, outdoor and indoor timers, programmable thermostats and LED seasonal lights. The CLD was successful in leveraging this program with a total of 31 utilities, which collectively distributed 2.3 million retail coupons in Q4, 2005. The energy saving results from this program are now being collated by Canadian Tire and associated agencies for our annual report due to the OEB on March 31st, however early results from the entire 31 utility program indicate a demand reduction of 6 MW and savings of 16 million kWh’s.
- o Launched the powerWISE Business Incentive Program in which Horizon is providing financial incentives to qualifying commercial, industrial and institutional customers with an electricity demand of 50kW or more. The incentive level starts at \$150 per kW saved. To date, several applications have been processed for implementation in 2006.
- o Branded 100 Horizon vehicles with powerWISE energy conservation tips.
- o Engaged a pilot CFL retrofit project with Hamilton Community housing by installing over 23,000 bulbs into homes where people need to cut energy use and costs most.
- o Provided funding for 475 social housing units in the Social Housing Services Corporation provincial energy audit study.

- o Participated in 14 community events promoting energy conservation including a pilot of two Social Housing energy conservation workshops.
- o Installed 1000 Smart Meters and pilot tested two technologies.
- o Delivered an Energy Audit and Self Evaluation program with partners Green Venture at Community events. Provided energy tips, free electricity saving products and reduced cost energy audits through Green Venture (a local non-profit organization that promotes energy efficiency).
- o Participated in several public events that allowed us to spread the conservation message throughout the community. These events included the Locke Street Festival, Cactus Festival, Santa Claus Parade, McMaster Institute of Energy Studies Workshop, Port Authority Days and energy events sponsored by MPP's such as Judy Marsales, and Ted McMeekin.
- o Provided conservation messaging through varied energy conservation channels, including media interviews, regular billing inserts, online newspapers and public information sessions.

With 2005 being the first year of Horizon's three-year plan, our CDM programs are currently in the preliminary stage and initial results will be reported to the OEB at the end of Q1 2006. Horizon plans to utilize these results to help assess the most appropriate action regarding future potential rate applications to fund "second generation" CDM programs. Horizon Utilities is committed to helping the government build a sustainable long-term conservation culture in Ontario.

Ongoing Opportunities

As we develop a conservation culture in Ontario we must continue to balance the need for short-term results while fostering a long-term conservation attitude among the citizens and businesses in the province. The industry must continue to coordinate its efforts to ensure that program delivery is efficient and available to all customers. Our goal should be rapid program deployment and using the LDC's clear channel to market. Clarity regarding the roles of the LDC's, OPA, IESO, etc. would be beneficial in this regard.

Further, clarity on the topics of LDC cost recovery, lost revenues, and criteria for assessing prudence of CDM spending would also be helpful. This will lead to more aggressive applications for second generation funding. At all times, we must strive to minimize bureaucracy wherever possible. For example, the opportunity to determine and agree on effective conservation programs up front should minimize the measurement and verification efforts required to substantiate these same programs at their conclusion.

2. Evaluation of Overall Plan

Refer to Appendix A for an evaluation of Horizon's CDM activities during 2005.

In reviewing the information provided in both Appendix A and Appendix B, it should be noted that much of the work undertaken by Horizon during 2005 related to program development. A number of the programs initiated in 2005 will not yield measurable kWh or kW demand savings until 2006 and beyond. Therefore, the cost benefit analysis presented does not accurately reflect the effectiveness of Horizon's CDM expenditures.

Furthermore, some components of Horizon's CDM plans relate to the deployment of Smart meters, which is being undertaken to support provincial government policy direction. The impact of Smart meters on kWh consumption and kW demand has not been assessed. This further skews the overall cost benefit analysis provided in Appendix A.

3. Discussion of the Programs

Residential and Small Commercial (< 50 kW)

Co-branded Mass Market Program

Description

This flagship co-branded mass-market program (e.g. powerWISE®) is a multifaceted approach to fostering the conservation culture in Ontario. Through development of a significant cooperative effort amongst six of the largest municipal LDC's, this program will become synonymous with specific initiatives such as Compact Fluorescent Lighting (CFL) change out programs, LED Christmas Lights, Energy Star, Multi-Choice, energy audits, hot water heater blanket raps, school based education and a host of other programs aimed at providing customers with the tools and education needed to reduce their energy usage. Access to online services such as energy consumption calculators, an energy expert, and personalized energy audit services are contemplated as components of this program.

Target users

Mass-market including residential and small commercial <50 kW of monthly demand

Benefits

Increased awareness, improved product supply, culture shift, and significant demand and energy reductions.

Discussion of 2005 Activities

powerWISE® Brand

Action

- o Hamilton Utilities Corp. (HUC) registered the powerWISE mark prior to CDM activities.
- o During CLD CDM plan preparation, it was agreed that the CLD would collectively develop a co-brand. HUC offered powerWISE for joint ownership and the CLD agreed that we would use this mark.
- o As HUC owns the mark, the CLD needed to come up with a vehicle to transition the mark that would allow joint ownership. Legal counsel recommended the formation of a Joint Venture (JV) among other options. For expediency, and under the spirit of co-operation, the team recommended that we start with an MOU and a sub-license agreement and then based on the direction that the CLD CEO's determined over time, we would either continue the way we are, move to a more formal JV, transition the mark into some other entity that the CLD may create in the future, or pursue other options. Bottom line, the MOU and License were seen as a way to get things moving quickly.

- o Weekly conference call meetings are held with the communications sub-committee to coordinate all powerWISE and branding activities.
- o The ministry of energy (Director of Communications) participates on weekly conference calls
- o Two-way monthly update meetings are conducted with the Ontario Power Authority (OPA)

Results to Date

- o powerWISE trade mark MOU and powerWISE trade mark licenses were executed between each of Enersource, Horizon, Hydro Ottawa, PowerStream, Toronto Hydro and Veridian with HUC.
- o PowerWISE brand launched April 1st, 2005
- o powerWISE is being used extensively by the CLD to brand CLD conservation programs.
- o The powerWISE brand has also been translated to Eco-Consumer for French language purposes.
- o Interest in the powerWISE/Eco-Consumer brand has been expressed by the Ministry of Energy, the OPA, Hydro One and other utilities.

Next Steps

- o Extend the powerWISE brand to the Ministry of Energy, the OPA and Hydro One and other LDC's.

powerWISE Website

Action

- o The website www.powerwise.ca was jointly developed and announced on April 1st, 2005. This website is designed to provide one common location to direct customers to for general electricity conservation information and links. Links have also been provided to each of the CLD member home websites where LDC specific program information can be accessed.

Results to Date

- o Since its launch, powerwise.ca has received 37,000 visitors from April 1, 2005 – December 31, 2005.

Next Steps

- o Working with the Ministry of Energy continue to develop and promote powerwise.ca

powerWISE Retail Initiative

Action

- o To test an alternate approach to Toronto Hydro's business arrangements with the Home Depot retail chain, the other CLD members (Enersource, Horizon, Hydro Ottawa, PowerStream and Veridian) developed a major mass-market retail coupon campaign. The campaign was designed to advance energy efficient devices into the marketplace through point of purchase redeemable coupons (\$33 value per coupon) under the banner of "Lighten Your Electricity Load" which were distributed with the electrical utilities bills between October 1st and December 31st, 2005. Six products were selected for promotion including:

- o Compact Fluorescent Lights (\$3 off per pack)
 - o Seasonal LED lights (SLED's \$5 off)
 - o Ceiling Fans (\$5 off)
 - o Programmable Thermostats (\$15 off)
 - o Light and Appliances Timers (\$1 off)
 - o Pool and Hot Tub Timers (\$4 off)
- o As the program developed, other LDC's expressed an interest in participating.

Results to Date

- o Unprecedented cooperative effort between 31 participating utilities
- o 2.3 million coupons distributed
- o At Horizon over 227,000 coupons were distributed
- o Up to an estimated \$3.8M collective investment in moving the market through this initiative (at 5% coupon take up).
- o Over 8680 coupons redeemed were redeemed locally
- o Results and costs of this program were split 75% Hamilton and 25% St.Catharines based on coupon redemptions reported.

Next Steps

- o Conclude program, examine lessons learned to improve future programs
- o Finalize participation in campaign for 2006

Switch to Cold Water Wash Coupon Campaign

Action

- o Coupons were inserted into customer bills that promoted switching to cold water wash. These coupons contained information on energy and cost savings associated with washing approximately 6.2 loads of laundry a week in cold water. These coupons offered \$1.00 off the price of Tide cold water detergent. The delivery partner for this program was the Canadian Energy Efficiency Alliance.

Results to Date

- o At Horizon over 227,000 coupons were distributed through billing inserts.
- o Coupon redemption rates are approximately 3%.
- o Results and costs of this program were split 75% Hamilton and 25% St.Catharines based on coupon redemptions reported.

Next Steps

- o Conclude program and measure success
- o Determine next campaign

Kill A Watt Meter Library Loaner Project

Action

- o In conjunction with the Kill A Watt Meter Library Loaner Project established by Hydro Ottawa and Enersource, Horizon Utilities engaged in a similar program for Hamilton Public Library and St. Catharines Public Library System. Ninety one Kill A Watt Meters were ordered for this project in 2005. Meters were distributed as follows:
 - o 24 – St. Catharines Public Library
 - o 50 – Hamilton Public Library

- o 17 – Horizon Loaner Program
- o Horizon also set up a loaner program for staff internally so that they could gain some first hand experience with measuring energy consumption of their 120 Volt appliances.
- o The Kill A Watt meter library loaner program is demonstrated and promoted at local community events by Horizon and Green Venture.
- o In support of the library loaner program custom instruction cards bearing Horizon's logo and library contact information. These cards are used with the meter for instructions and given out as promotion materials.
- o Conservation handbooks are given out to the borrowers of the Kill A Watt meter so that they can compare their appliance energy use to the energy star appliance use listed in the handbook.

Results to Date

- o St. Catharines Public Library Loaned out meters 29 times in 2005.
- o This project was launched at the Hamilton Public Library on January 23rd and 24th, 2006 with 2500 - 13 Watt compact fluorescent bulbs given out to library patrons.
- o Hamilton Public Library reported the kill A Watt Meter has been loaned out 129 times with 65 persons on the waiting list since Jan 23, 2006.
- o Horizon's staff are able to borrow a Kill A Watt Meter as of March 6, 2006

Next Steps

- o Extend loaner program to other Horizon affiliates, including City of St. Catharines, City of Hamilton, and Social Housing providers etc.
- o Conclude program and measure success
- o Determine next promotion campaign

powerWISE fleet branding

Action

- o In an effort to increase conservation messaging to the mass market, the CLD embarked on a campaign announced November 3rd, 2005 to brand vehicles with energy conservation tips under the powerWISE brand.

Results to Date

- o There were 1113 vehicles branded with powerWISE in the Province.
- o To date, 100 Horizon vehicles have been branded with energy conservation messages.

Next Steps

- o Additional vehicle branding

powerWISE School Based Education Initiative

Action

- o Horizon has ordered a powerWISE Home multimedia Theatre for the Children's Discovery Centre in St. Catharines to promote energy conservation to primary school students. A second portable powerWISE Home model is to be used as a conservation prop at the community events and home shows.

- o Horizon ordered 1900 powerWISE smart paks to be distributed to grade 5 and 6 students in Hamilton. Students participating in the programs will receive these smart paks in February of 2006. Contents of the pack include 2 compact fluorescent lights, faucet aerators and information related to energy conservation.

Results to Date

- o One multimedia theatre edition of the powerWISE home conservation model ordered.
- o One powerWISE home conservation portable model ordered.
- o Over 1900 powerWISE smart paks ordered.

Next Steps

- o Prepare multimedia content for powerWISE Home model theatre edition.
- o Conduct staff training for use of the powerWISE Home portable model.
- o Assess results from the school powerWISE smart pak project.

Horizon Utilities Website (UPDATE)

Action

- o The website www.horizonutilities.com was revised to provide a stronger emphasis on conservation.
- o The website now offers two main conservation options; powerWISE for Homes, and powerWISE for Business information.
- o This conservation component of the website is designed to provide Horizon customers with immediate access to local conservation initiatives

Results to Date

- o Since its launch www.horizonutilities.com has received more than 315,372 visitors.

Next Steps

- o Continue to enhance the website with new materials, links and applications.

Horizon Conservation Champions “Call To Action” Contest

Action

- o A Conservation Champions committee made up of volunteers from Horizon Utilities staff designed an internal energy conservation awareness campaign for staff. Goals of the committee were as follows:
 1. Recommend ways to reduce Horizon’s demand by 5% and overall consumption by 10%.
 2. Create an energy and water use checklist to be used with our health and safety workplace inspections.
 3. Assist in creating an action plan around the IESO calls for reduced energy use, as part of preparation for 2006 summer peak.
 4. Design and implement an energy and water conservation awareness campaign at Horizon.
- o Each staff member was given a conservation starter kit consisting of the following:
 - Two 14 watt compact fluorescent bulbs
 - One powerWISE LED night light 1.3 watt

- One low flow shower head
- Refrigerator thermometer
- Hot Water test card
- powerWISE energy conservation handbook
- Self Evaluation Survey
- Adult pledge form
- Kids pledge form
- o Two grand prizes of a personal computer system were offered; one drawing made from the staff pledges, the other from the kids pledge forms. Contest closed January 31, 2006.

Results to Date

- o Four hundred conservation kits were given out to staff in December 2005.
- o 207 adult pledge forms received
- o 97 kids pledge forms were received.
- o 159 self evaluation surveys were returned.

Next Steps

- o All self evaluation surveys and pledge forms will be entered into a database to produce a report of the results
- o Offer of this program to others is to be explored.

Code Green

Action

- o The television show, entitled "Code Green Canada" is a six-part television series being sponsored in part by the CLD members.
- o It will be broadcast by CBC in the spring of 2006 and will provide homeowners across Canada with invaluable information on how to reduce energy consumption and save money.
- o Twelve contestants from across the country will compete to retrofit their homes in an effort to reduce their energy and water consumption, as well as their greenhouse gas emissions.
- o The homeowner who achieves the greatest reduction in consumption and emissions will win a gas-electric 2006 hybrid Prius, courtesy of Toyota Canada

Results to Date

- o Series production for the CLD is now completed and the program will be aired in 2006

Next Steps

- o Promote the broadcast to our local audiences when the network program schedule is finalized

Smart Meter Pilot

Description

A pilot program for residential SMART meters will be deployed to enable the assessment of metering, communications, settlement, load control and other technologies that may be used to accommodate the universal application of SMART meters in the future. Further, sub-metering opportunities for the purposes of customer information in bulk-metered situations (i.e. condominiums) may be considered.

This initiative will commence upon the release of a formal definition of a SMART meter by the Board.

Target users

Residential and small commercial customers.

Benefits

This program supports the Minister of Energy's commitment to the installation of 800,000 SMART meters across Ontario by 2007. It will provide Horizon with the experience and knowledge needed to efficiently expand the use of SMART meters over the next several years.

In conjunction with appropriate rate structures, the program will also provide customers participating in the pilot programs with an incentive to conserve or shift energy use.

Discussion of 2005 Activities

Horizon's approach to introducing smart metering pilots was to conservatively implement a few communications strategies to test. Clarification of smart meter technology requirements and further direction from the Ontario Energy Board was a barrier in the investment in technologies in 2005. Horizon is fully committed to spending its smart metering budget in 2006.

Action

- o Horizon Utilities has undertaken pilot testing two different communication systems and meter technologies.
- o System implementation and end to end testing of these technologies has been the priority for Horizon in 2005.
- o A wireless fidelity network is the communications protocol being tested in Hamilton.

Results to Date

- o There have been 500 meter points installed with two data collectors.

Next Steps

- o Horizon is planning more testing and study of deployment of smart metering in 2006.
- o The work management software will be purchased to support the deployment process of smart metering.

- o Study of customer electricity usage as it relates to load shifting will be the focus of communications with customers receiving a smart meter.
- o Pilot testing of remote disconnect capabilities will be completed in 2006.

Energy Audit Program

Description

Through visits to customers' homes or by working through existing service providers, Horizon Utilities will provide conservation information and make specific recommendations for energy savings in such areas as major appliances, lighting, air leakage, hot water, heating and cooling. Incentives may also be provided. Services could be further tailored for specific subsidized housing applications.

Target users

Residential and small commercial customers

Benefits

The consumer receives a clear, concise and prioritized report identifying opportunities for energy savings as well as the associated costs and payback period (as applicable).

Discussion of 2005 Activities

powerWISE for Homes – Energy Audit & Self Evaluation Pilot

Action

- o Horizon Utilities in partnership with Green Venture have designed a residential energy audit incentive program.
- o Customers fill out an energy use self evaluation survey and pledge form in exchange for a powerWISE power pack, consisting of two CFL's, an LED night light, powerWISE conservation handbook, \$50 off coupon on NRGuide for homes energy audit, and other water and electricity conservation information.
- o In addition to the NRGuide for homes energy audit, Green Venture added an electricity use component. Recommendations for reducing electricity use includes lighting and appliance review.
- o All self-evaluations and pledge forms are entered into a database to assist us in designing future energy conservation programs.

Results to Date

- o There were 1560 self-evaluation surveys completed by Horizon customers in exchange for the powerWISE power packs, as of Dec. 31, 2005.
- o Horizon has given out incentives for over 150 customers to receive the powerWISE for homes and NRGuide home energy audits.

Next Steps

- o Promotion of this project will continue in 2006 at our community events and home shows.

powerWISE Energy Conservation Handbook

Action

- o Horizon Utilities participated with the NEPPA utilities to develop an energy conservation handbook. This handbook contains hundreds of tips and features a seasonal checklist of energy saving activities.
- o This handbook was printed and distributed at: community events with our Energy Audit and Self Evaluation project, and public libraries with the Kill A Watt Meter loaner program.

Results to Date

- o Over 10,000 handbooks have been distributed to date.

Next Steps

- o Continue to distribute the powerWISE Energy Conservation Handbook at community events in 2006.
- o Update the handbook with new energy savings tips as required.

powerWISE PowerPack

Action

- o Horizon Utilities uses the powerWISE PowerPack for promotional purposes. The PowerPack consists of:
 - 2 Compact Fluorescent (CFL) bulbs
 - an LED nightlight
 - powerWISE Tips brochure
 - a series of other energy conservation pamphlets
 - \$50 coupon off a home energy audit
- o The powerWISE PowerPack is available for free pick-up at Green Venture
- o To qualify to receive a free powerWISE PowerPack (retail value \$20), Horizon Utilities customers must; participate in a Horizon conservation program like residential energy audit self-evaluation survey.
- o This offer was implemented in July 2005

Results to Date

- o Over 1500 powerWISE PowerPacks have been distributed
- o The powerWISE PowerPack concept is also used by other members of the CLD in a variety of promotional opportunities

Next Steps

- o Continue to promote the powerWISE PowerPacks
- o Use of a version of the power pack for a paperless ebilling campaign 2nd Qtr 2006
- o Use of a version of the power pack for a 2006 fridge bounty project 2nd Qtr 2006

Social Housing Program

Description

A province wide centralized energy management service for the social housing sector may be developed in collaboration with the Provincial Government, utilities (e.g. Enbridge, Union Gas) and others.

A pilot program will be conducted to determine feasibility with an expectation that a full-scale provincial program would follow.

Target users

Local social housing corporations, non-profit homes, co-op housing and low income housing.

Benefits

Synergies will be created through the combined initiatives of the various agencies.

Discussion of 2005 Activities

Horizon recognized that social housing is a sector that can least afford increases in energy costs and devoted efforts to accelerate spending and activity in this program. As a result Horizon overspent the 2005 budget by \$8,000 mainly due to the retrofit pilot with Hamilton Housing Corporation.

Action

- o Horizon Utilities in partnership with Green Venture conducted energy conservation workshop pilots at Victoria Park Homes with residents. Residents at the energy conservation workshops received a gift pack that included; two 28 CFL's, 1.3 Watt night light, an energy use reduction pledge form, and information on saving electricity and water use.
- o Horizon Utilities funded a pilot retrofit (CFL's, toilet dams, flow restrictors) for social housing units with Hamilton Housing Corporation.
- o A study and conservation program design was ordered by Horizon and performed by SeeLine Group. This study and prescriptive program design is the basis for social housing retrofit project incentives.

Results to Date

- o Horizon incented Hamilton Community Housing installation of 36,340 CFL's, 625 water dams, and 450 showerhead flow restrictors.
- o Conducted two pilot energy conservation workshops and shared the format and results with Social Housing Services Corporation.
- o Completed design of social housing program complete with prescriptive incentives to be used as a guideline for 2006 social housing retrofit projects.

Next Steps

- o Work with Social Housing Service Corporation to ensure program incentives are made available to service providers in Horizon's service area.
- o Create funding for low income housing conservation program.
- o Look for opportunities to assist with energy conservation education in low income housing and social housing.

Commercial, Industrial and Institutional (> 50 kW)

Energy Audits and Feasibility Studies

Description

A standard energy audit will be developed to assist in completion of audits. As well, a training program tailored to this specific sector will allow companies with a certified employee or outside consultants to perform the audit. Any cross-linkages with the residential audit project will be accessed where feasible. Strategic partnerships will be analyzed for incentives or other synergies. The audit model will be developed, tested and refined in co—operation with partners that will be involved with training, certifications, and management of the process. This standard checklist or procedure will be duplicated where possible.

Target users

Large consumers over 50 kW including schools, large commercial facilities, institutional facilities, industrial, and municipal facilities like recreation centres, arenas, and libraries.

Benefits

Include increased awareness, skills development, benchmarking energy data, establishing best practices, fostering the conservation culture within this sector and significant reductions in demand and energy consumption.

Discussion of 2005 Activities

Action

- o Horizon Utilities funded an energy audit study of 475 social housing units as part of a Provincial study undertaken by Social Housing Services Corporation.
- o Energy audit incentives and criteria were established by Horizon under the powerWISE for Business Energy Audit Incentive Program that was launched on October 5, 2005. See www.horizonutilities.com under the powerWISE for Business for more details.
- o Energy Audit companies that presented proposals to Horizon Utilities were advised of the incentives being offered.
- o Horizon Utilities created a request for proposal to audit their four main work centres as part of an objective to attempt a reduction in demand by 5% and energy use by 10%.

Results to Date

- o Provincial energy audit of social housing units audited 100 units at Victoria Park Community Homes, and 375 units for Hamilton Community Housing. Goal of the audit was to reduce energy use by 1250 kWhr/year or 200 Watts per unit.
- o On May 4, 2005, Horizon participated in Social Housing Service Corporation LDC Conservation Briefing Day to discuss results of the energy audits.

- o The powerWISE for Business, Energy Audit Incentive Program application forms were posted on the Horizon website in October of 2005.
- o Horizon participated in a request for proposal for Energy Audit Services with the NEPPA utilities. Presentations from Energy Audit Companies were received at a meeting held with the NEPPA members in August of 2005

Next Steps

- o Work with customers enquiring about energy audit incentives to complete their applications.
- o Work with energy auditors to ensure that applications for any eligible energy audit projects in Horizon's service territory are being submitted.
- o Results and recommendations from the energy audits conducted at Horizon's four main work centres are to be completed by March 31, 2006.

Smart Meter Program

Description

Horizon Utilities will make an investment to further the use of SMART or interval meters by commercial industrial and institutional customers.

This program will commence upon the release of a formal definition of a SMART meter by the Board.

Target users

Commercial, Industrial and Institutional customers larger than 50 kW's.

Benefits

This program supports the Minister of Energy's commitment to the installation of 800,000 SMART meters across Ontario by 2007. These meters are seen as an important means of establishing a 'conservation culture' in Ontario. In conjunction with appropriate rate structures, they will encourage customers to conserve or shift energy use.

Discussion of 2005 Activities

Action

- o Horizon Utilities 2005 expenditures in this program involved investigating cost effective communication technologies to be used for interval metering for customers >50 kW
- o Ordering of interval meters for a pilot project in 2006 was performed.

Results to Date

- o Installation of interval metering was performed at all Horizon's, four work centres.

Next Steps

- o Horizon is in the process of revising the conditions of service document to reflect the requirement of interval metering >50kw.
- o Seek standardization on the charging of communication costs for interval metering with the CLD group and OEB.
- o Continue to investigate cost effective communication systems for interval metered customers.

LED Retrofits for Traffic Lights

Description

This initiative involves replacing traffic signals at intersections to light-emitting diode (LED) technology, which is now fairly common in many U.S. municipalities.

Target users

Municipalities

Benefits

This program results in significant energy savings since the LED technology uses approximately 80% less electricity. Other benefits include reduced maintenance (LED's last longer) and improved visibility.

Discussion of 2005 Activities

Action

- o Horizon Utilities met with the City of Hamilton Traffic Control Department in June 2006 to discuss incentives for LED replacement of incandescent lighting.
- o City of Hamilton established a 2006 budget for LED replacement of incandescent lighting.

Results to Date

- o Report on retrofitting their traffic signals with LED bulbs was sent to City of Hamilton council for approval.
- o Target of \$150/kW in reduced demand was established as an incentive or 25% of the capital cost of an LED fixture.

Next Steps

- o The City of Hamilton is to report fixtures replaced along with supporting reduced electrical demand and consumption calculations for each location.
- o Horizon will verify the installations upon completion and process the request for incentives.
- o City of Hamilton Traffic Control Department will be submitting results of the 2006 installations.

Leveraging Energy Conservation and Load Management

powerWISE Business Incentive Program

Description

Existing energy conservation and/or load management programs such as NRCan's Energy Innovators Initiative, Enbridge initiatives etc. will be promoted and incentives may be provided to advance market uptake of these programs and implementation of the recommendations. The LDC's are well positioned to introduce such programs to their customer base. Work will be conducted with the existing program providers to maximize leverage opportunities. Promotion will potentially include face-to-face meetings, conferences and seminars.

Target Users

Large consumers over 50 kW including schools, large commercial facilities, institutional facilities, industrial, and municipal facilities.

Benefits

Customer awareness and additional incentives will help advance market uptake of audit services, feasibility studies and retrofit opportunities already established within the government program framework.

Discussion of 2005 Activities

Action

- o This program provides incentives of up to \$50K per customer to advance energy conservation projects
- o Two streams of funding are available; Prescriptive This program provides incentives for specific technologies on a predetermined cost per unit basis, i.e. retrofitting T12 lighting to T8 lighting. Custom Projects will be considered on an individual case basis with incentives starting at \$150 per kW.

Results to Date

- o This program was launched in October 2005
- o Five projects have been approved in 2006
- o Savings from these five projects are anticipated to achieve 92 kW of demand and 224,338 kWh's of consumption.

Next Steps

- o Horizon to continue to promote this program to customers and leverage the use of Energy Audit Companies to bring forward projects applications.

Load Control Initiative

Description

Load control uses a real time communications link to enable or disable customer loads at the discretion of the utility. These controls are usually engaged during system peak periods or when required to relieve pressure on the system grid and may include such “dispatchable” loads as electric hot water tanks, pool pumps, lighting, air conditioners, etc.

Target Users

Larger commercial, industrial, institutional, and residential customers.
Direct load control applies to all market segments. Though the control systems and technologies may vary by market segment, the methodology remains the same.

Benefits

Load control allows customers to respond quickly to external price signals. This also provides a mechanism for utilities to relieve pressure on constrained areas within the distribution grid and also reduces the need to bring on large peaking generators.

Discussion of 2005 Activities

Action

- o Horizon modified its Conservation and Demand Management plan descriptions to include residential customers as a target for this program.
- o A Gateway load control pilot project was undertaken by Horizon that deployed thermostat control technology.
- o A feasibility study of commissioning the mothballed Stoney Creek water heater load control system was undertaken.
- o Horizon Utilities is participating with other CLD members in the design and implementation of “peakSAVER”, a Load Control program targeting residential and small commercial customers’ central air conditioners with outside condensers.
- o In addition to central air conditioners, customers with electric water heaters and/or pool pumps will be encouraged to have controls installed on those devices.
- o A request for proposal has been issued for response mid January 2006.
- o Horizon anticipates spending the remaining portion of the 2005 budget in 2006, once the peakSAVER load control project is initiated.

Results to Date

- o Six homes were outfitted with communications devices that relied on high speed internet to interface with a thermostat and data collector. Home owners often would have communications issues with their internet gateway connections causing difficulties with the pilot.
- o After doing a cost analysis of commissioning the mothballed Stoney Creek Water Heater Control devices versus potential peak reductions through the peakSAVER

load control program. It was determined the best demand reduction results would be gained through peakSAVER at a lower deployment cost per point.

- o Evaluation of load control technology has been completed.
- o Selection of load control program marketing and implementation services has been completed.

Next Steps

- o An peakSAVER service provider will be contracted in Q1 2006
- o An RFP for control equipment will be issued and awarded in Q2 2006
- o Customers will be canvassed to sign up for the program in Q2 2006

Distribution Loss Reduction

Description

The Distribution Loss Reduction Program is a broad network based initiative to drive greater efficiencies within the distribution grid. This program will identify opportunities for system enhancements. Next steps will be to complete the engineering analysis and feasibility studies. Projects will be prioritized and selected based on the most attractive investment to results ratio. Items to be addressed may include, but are not limited to:

Power Factor Correction - Under the Power Factor Correction initiative, a power factor assessment will be completed which will identify locations for the installation of power factor correction capacitor banks. The results and available funding will determine which projects proceed.

Voltage Conversion - Voltage upgrades can save up to 90% of the losses associated with a feeder as higher voltages and lower current results in lower losses. This study will ascertain the locations and value of voltage conversions. This program could also involve changing out all the meters on a particular feeder to SMART Meters so that the exact losses can be determined.

Power System Load Balancing - This program is designed to ascertain where load shifting can occur within the grid to improve system efficiency including the location of optimized "open points". It is estimated that approximately 5% - 10% of system losses could be saved.

Voltage Profile Management - Changing voltage profiles at the distribution station level can result in a peak reduction at the controllable distribution stations. This is in addition to the IMO's voltage reduction program and will not interfere with the effectiveness of that program.

Line Loss Reductions - Replacement of conductors such as #6 AWG copper with #2 AWG aluminum can reduce line losses. An evaluation of where such opportunities exist may be undertaken. The results and available funding will determine which projects proceed.

Transformer and Other Losses - Using infrared scans of transformers this program will help to identify additional electricity losses including overloaded equipment. "Hot" transformers will be investigated further to determine operational improvement opportunities.

Target users

The results of this program will positively impact all of Horizon's customers.

Benefits

Reduced electricity distribution system delivery losses will reduce system demand, relieve network capacity to accommodate growth, and reduce the requirement for new generating capacity in the Province. Costs associated with distribution system delivery losses are recovered through electricity distribution charges. Reductions in these costs will therefore benefit all customers.

Discussion of 2005 Activities

Horizon did not spend its budget on this program in 2005, because the funding model of distribution system loss reduction was being developed. CDM incentives for projects like voltage conversion were still in development. Expenditures in this program were mainly due to creating plans for 2006. We anticipate spending the 2005 budget in 2006 or else we will move funding from this program to another.

Action

- o Horizon did not spend its budget on this program in 2005.
- o Horizon completed voltage conversion capital work (not funded by CDM) as follows;
 - o \$3,229,968 and demand reduction of 521 kW for Hamilton
 - o \$136,230 with demand reduction of 19 kW for St. Catharines,

Results to Date

- o Assessment of the TRC results of voltage conversion indicate that better results can be achieved by other programs.
- o Horizon did not to fund voltage conversion projects through CDM that were already part of our capital plan.
- o Horizon retained a Consultant to assist with planning CDM expenditures on distribution loss reduction.

Next Steps

- o Horizon will assess operating and capital funding to the Load Control or other programs that prove to provide a better TRC and offer more demand and energy reduction.
- o Distribution system optimization will be performed in 2006.

Distributed Energy

Load Displacement

Description

Distributed generation behind the customer's meter provides an excellent opportunity to displace load from the local distribution system's grid in a very effective manner. Load displacement technology, such as combined heat and power systems, provides increased power efficiency and thermal systems. Combined with an existing or new district heating distribution system this technology contributes to the development of sustainable energy networks within Ontario's communities.

Other technologies such as micro-turbines, wind, biomass fuels and solar provide additional options to meet the customer's needs. This initiative will facilitate the development and implementation of these opportunities. Financial incentives will be considered based on the project's viability.

Development of educational and technology programs in conjunction with local colleges and universities may be considered. Small pilots or demonstration projects to promote alternative and renewable energy sources may also be considered.

Target Users

Commercial, industrial, and residential, schools, colleges and universities.

Benefit

Benefits include additional capacity within the grid. Cleaner technologies result in reductions in Green House Gas (GHG) emissions. Other benefits include improved system reliability, reduced harmonics, back-up power possibilities, education and skills development.

Discussion of 2005 Activities

Action

- o Horizon Utilities is investigating a solar implementation pilot at a substation to charge the batteries and run station service heating.
- o A customer survey of behind the meter standby generation was conducted by Horizon. The focus was to look at the potential of creating load displacement through dispatching customer standby generation.
- o Solar panel technologies are being studied for Horizon work centre facilities.
- o Horizon is participating in a study with 5 CLD members on Demand Response business case and potential roles of LDC's in participating

Results to Date

- o No projects or installation activities have been undertaken to date.

- o Horizon is planning a pilot project with a customer to create load displacement from an existing standby generator with a capacity greater than 1 Megawatt.

Next Steps

- o Horizon will develop an incentive for residential, commercial, industrial, and institutional customer load displacement projects.
- o Horizon will be installing net metering and giving an incentive toward the construction of a 2.0 kW solar installation in a model home in Hamilton.

Stand-by Generators

Description

This program may provide for the use of customers' existing standby generators when required and/or economical. Environmentally friendly generators will be the primary focus of this initiative however all generators may be considered if needed during an emergency.

Target Users

Commercial and industrial customers with sufficiently sized standby generators.

Benefits

Reduction of customer and system peak demand and energy costs. This additional supply may be able to bid into the Ontario energy market in the future.

Discussion of 2005 Activities

Action

- o Horizon is planning to automate controls of an existing 375 kW generator at the Stoney Creek operations centre to be dispatched from the John Street Control Centre.
- o Horizon is installing new back up generation at the Nebo Road Facility.

Results to Date

- o Investigation of control system options for the Stoney Creek backup generator.
- o Preparation of a request for proposal for a back up generator for our Nebo Road operation centre.

Next Steps

- o Complete the installations
- o Capture the results

4. Lessons Learned

Evolution of Horizon

At the same time that our CDM plan was being carried out the merger of Hamilton Hydro Inc. and St. Catharines Hydro Utility Services Inc. evolved to become Horizon Utilities. The merger plans involved hiring a dedicated resource in March 2005 to manage Horizon's CDM plan going forward.

Working Together

During the past year, the members of the Coalition of Large Distributors (Toronto Hydro, Hydro Ottawa, Horizon Utilities, Veridian, Enersource Hydro Mississauga and Powerstream) have worked together on the execution of their individual CDM plans. A Steering Committee was established to oversee and coordinate joint actions, and program-specific working committees were constituted to promote the sharing of ideas, experiences and costs. The benefits of this joint action are numerous. For example:

- o Purchasing power:

Together, the CLD group represents about 40% of the Province's electricity load. Accordingly, the group commands the attention of the marketplace when seeking vendors to support its CDM programs. The joint purchasing power of the CLD has provided it with access to the most innovative products and services available, at very competitive costs.

- o Consistent messaging:

The adoption and promotion of the powerWISE brand by the CLD members will provide significant long-term benefits. The development of this single brand that is trusted by consumers and synonymous with energy efficiency can be leveraged to maximize the reach and penetration of future CDM initiatives, in a way that could not be achieved by each member LDC on its own.

- o Cost Sharing:

While local electricity markets and customer contacts often deserve and demand customized treatment, other aspects of CDM programs are common and lend themselves to cost sharing. The CLD members early on agreed to a standard cost sharing formula to ensure that benefits were fairly allocated. During 2005, CLD members jointly funded a number of initiatives such as the establishment of the powerwise.ca website, the development of the powerWISE Business Incentives Program and more. Sharing costs have enabled individual CLD members to help minimize program costs.

- o Exchange of Ideas/Approaches:

Customers' attitudes towards energy use are not homogeneous. Achieving a conservation culture in Ontario will require experimentation with varied and diverse approaches. Working in partnership with the CLD members has provided members the opportunity to learn from each other's successes and setbacks. For example, Toronto Hydro's launch of its peakSAVER program in late 2005 offered proof that many customers are willing to participate in an air conditioner load control program for very

little financial reward. This success will be translated into a broader scale program rollout across all CLD service areas in 2006.

Market Conditions

Horizon's interaction with customers, community partners and other LDC's we learned the following:

CDM program development does take time. In particular, procurement and legal issues must be thoroughly addressed up front in order to ensure long-term sustainable conservation success.

We found that simple, low cost incentives like the powerWISE Power Pack or free CFL's were very well received by residential customers, offered good TRC results and proved that customers did not require a lot of incentive to participate. In fact ease of participation accompanied by incentives with a perceived higher value to customers are the hallmarks of program success.

We learned that residential customers have varying degrees of knowledge with regard to energy conservation measures for their homes. Data from our Self-Evaluation Survey can be used for designing future conservation programs that address market needs.

Under the Social Housing Program, inclusion of the needs of low income housing customers must also be addressed. Social and low income housing customers are typically spending a greater percentage of their income on utilities or rent (that includes utilities) and can least afford to purchase retrofits or appliance upgrades. An education program for social and low income housing customers is critically important to ensure that conservation behaviour changes occur that are conducive to reducing energy use and embracing technologies that are designed to achieve this.

Public information and education is an important element of changing the consumers in Ontario to a culture of conservation yet there are no savings results recognized for these activities. This effectively penalizes Utilities for participating in this type of worthwhile initiative.

Conservation opportunities exist with residential and small commercial customers but the channel to this market has many challenges. These customers are overwhelmed by messages from all quarters and have no real opportunity to accurately assess their options or time and money to implement good solutions. Communication technology could be better used to access these customers and offer them ways to streamline the implementation of sound choices.

Attending community events to promote our conservation programs was very well received by our customers and was very rewarding for our staff volunteers.

Assisting customers with Energy Audit and Feasibility Study Incentives allowed an opportunity for customers to recognize the potential energy savings available to them and advance plans for implementing solutions or measures with confidence.

Our PowerWISE Business Incentive Program showed us that Commercial and Industrial customer timelines for conservation projects are often longer than we expected and with a lower sense of urgency than we would prefer.

Commercial Programs must address the needs of the customers at the National, Provincial or Corporate level to allow implementation across jurisdictions and beyond individual stores. Coordination is required to allow large Corporations to make programs available to all store locations regardless of location by City or Province.

It is important to offer Commercial and Industrial customers access to information through convenient forums such as trade shows or the Ministry of Economic Development Energy workshops. There are many emerging technologies and a proliferation of service providers in the marketplace. We need to concentrate our efforts on helping these customers to understand not only the technologies but the impact and value these technologies can have on their specific organizations. This will lead to increased participation and adoption of these new energy efficient technologies.

We completed voltage conversion projects on our distribution system as part of our capital budget and found that the TRC test results were very poor due to the high capital costs and limited energy and demand reductions achieved.

Regulatory Environment

Ontario's fast changing regulatory and policy environment has presented challenges for distributors. The number of entities promoting conservation is increasing with the Ministry of Energy, the OPA and the IESO all taking on roles in promoting a conservation culture. A cooperative effort among various agencies will be required to avoid customer confusion and overlapping, inefficient program execution.

Distributors have also been challenged by new Board requirements related to the delivery of CDM. For example, it was not anticipated in late 2004 that TRC analysis would be a requirement for this annual report, and the issue of whether 'non-incremental' LDC expenses should be deemed as eligible for inclusion in an LDC's spending obligation was not addressed until near the end of the year. Uncertainty continues to persist regarding the application of Shared Savings and Loss Revenue Adjustment mechanisms.

Recommendations by Program Area

Residential and Commercial <50kW	Successful / H/M/L	Continue	Notes
Co-Branded Mass Market	Yes – H	Yes	Identify credits for softer measures such as education programs that will encourage CLD to implement further
Smart Meter Pilot	Too early to tell	Too early to tell	Testing of the Wi-Fi communications system was challenging and problematic at times. Further testing is required to determine feasibility of Wi-Fi.
Energy Audit Program	Yes – H	Yes	Expand with specific incentives for TRC positive initiatives
Social & Low Income Housing Program	Yes – M	Yes	SHSC facilitated program will be effective. Individual initiative require more local support in being able to reach low income people and get their active engagement
Residential Load Control	Early indications are Positive	Yes	This program will deliver key summer peak reductions
Refrigerator Buy-Back	Too Early to Tell	Too Early to tell	This program can be expanded province wide and could include freezers.
Commercial Institutional and Industrial >5kW			
Smart Meter Program	Too early to tell	Too early to tell	
Energy Audits and Feasibility Studies	Yes – H	Yes	Customers serious about saving energy and developing a business case use this program as an important first step in developing their business cases.
LED Retrofits for Traffic Lights	Too early to tell	Too early to tell	Effective program but it is taking time to get Municipal approvals to commence an extensive program.
Leveraging Energy Conservation or Load Mgmt	Yes – H	Yes	
CI&I Load Control	Too early to tell	Yes	This program will deliver key summer peak reductions.
Distribution Loss Reduction			

Distribution Loss Reduction	N – L	No	As a CDM activity voltage conversion fails the TRC test.
Distributed Generation			
Load Displacement	Too early to tell	Yes	These programs have considerable potential to encourage new distributed generation as well as to utilize existing generators
Standby Generators	Too early to tell	Yes	
Overall Program Support			
Program Support Initiatives	Yes	Yes	These activities support all the program areas and assist with marketing and promotion

5. Conclusions

Horizon's efforts were focused on activities that produced results in the first year:

- o Customer recognition of the powerWISE brand as it relates to energy.
- o Spending on Horizon Hamilton programs was 13% of the overall budget (\$624,000 out of \$5.24 million)
- o Excellent exposure in the area of smart meter pilot technology testing, residential, social and low income housing, commercial and industrial customer segments
- o Horizon anticipates spending the majority of its overall CDM budget in 2006.
- o CDM Program development is complex and time consuming but we were able to maximize our results by working with the CLD, which provided a huge advantage in knowledge and resource sharing, efficiency and cost effectiveness.
- o A number programs had actual kW and kW results in 2005
- o Many projects poised for results in 2006
- o Programs that we achieved the most results in energy savings would be the "Lighten Your Electricity Bill" coupon program with Canadian Tire and our Social Housing Program.

Appendix A - Evaluation of the CDM Plan

	Total	Conservation and Demand Management Residential and Commercial (<50kW)	Conservation and Demand Management Commercial, Industrial and Institutional	Distributed Energy	Distribution Loss Reduction	Program Support
<i>Net TRC value (\$):</i>	\$1,525,288	\$1,525,288	\$0	\$0	\$0	\$0
<i>Benefit to cost ratio:</i>	7.73	7.73	n/a	n/a	n/a	n/a
<i>Number of participants or units delivered:</i>	46,030	46,030	0	0	0	0
<i>Total kWh to be saved over the lifecycle of the plan (kWh):</i>	30,029,074	30,029,074	0	0	0	0
<i>Total in year kWh saved (kWh):</i>	5,878,231	5,878,231	0	0	0	0
<i>Total peak demand saved (Summer kW):</i>	76	76	0	0	0	0
<i>Total kWh saved as a percentage of total kWh delivered (%):</i>	2.14%	2.14%	n/a	n/a	n/a	n/a
<i>Peak kW saved as a percentage of LDC peak kW load (%):</i>	0.94%	0.94%	n/a	n/a	n/a	n/a
<i>Gross in year C&DM expenditures (\$):</i>	\$ 671,442	\$511,880	\$49,438	\$850	\$0	\$109,274
<i>Expenditures per kWh saved (\$/kWh)*:</i>	\$ 0.11	\$ 0.09	n/a	n/a	n/a	n/a
<i>Expenditures per kW saved (\$/kW)**:</i>	\$ 8,878.87	\$ 6,768.88	n/a	n/a	n/a	n/a
<i>Utility discount rate (%):</i>	7.9					

*Expenditures include all utility program costs (direct and indirect) for all programs which primarily generate energy savings.

**Expenditures include all utility program costs (direct and indirect) for all programs which primarily generate capacity savings.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Co-branded Mass Market Program

Description of the program (including intent, design, delivery, partnerships and evaluation):

This flagship co-branded mass-market program (e.g. powerWISE®) is a multifaceted approach to fostering the conservation culture in Ontario. Through development of a significant cooperative effort amongst six of the largest municipal LDC's, this program will become synonymous with specific initiatives such as Compact Fluorescent Lighting (CFL) change out programs, LED Christmas Lights, Energy Star, Multi-Choice, energy audits, hot water heater blanket raps, school based education and a host of other programs aimed at providing customers with the tools and education needed to reduce their energy usage. Access to online services such as energy consumption calculators, an energy expert, and personalized energy audit services are contemplated as components of this program.

Measure(s):

	Retailer Program	Cold Water Wash	'Call to Action Contest'
<i>Base case technology:</i>	Incandescent Bulb, Do Nothing	Regular Detergent	Incandescent bulb, standard showerhead
<i>Efficient technology:</i>	Compact fluorescent bulb, LED Christmas Lights, Programmable Thermostat, Indoor Timer, Outdoor Timer, Ceiling Fan and Energuide for Existing Homes	Cold Water Wash Detergent	Compact fluorescent bulb, LED night light and efficient showerhead
<i>Number of participants or units delivered:</i>	3,618	484	1,002
<i>Measure life (years):</i>	4,30,18,20,20,20 and 25	1	4,30 and 12

B. **TRC Results:**

<i>TRC Benefits (\$):</i>	\$	617,492
<i>TRC Costs (\$):</i>		
<i>Utility program cost (less incentives):</i>	\$	15,267
<i>Participant cost:</i>	\$	59,504
<i>Total TRC costs:</i>	\$	74,771
<i>Net TRC (in year CDN \$):</i>	\$	542,721
<i>Benefit to Cost Ratio (TRC Benefits/TRC Costs):</i>	\$	8.26

C. **Results:** (one or more category may apply)

Conservation Programs:

<i>Demand savings (kW):</i>	Summer	75.62
	Winter	0.00
	<i>lifecycle</i>	<i>in year</i>
<i>Energy saved (kWh):</i>	11,644,648	1,418,366
<i>Other resources saved :</i>		
<i>Natural Gas (m3):</i>		
<i>Water (000's litres)</i>	29,436	2,453

Demand Management Programs:

<i>Controlled load (kW)</i>	
<i>Energy shifted On-peak to Mid-peak (kWh):</i>	
<i>Energy shifted On-peak to Off-peak (kWh):</i>	
<i>Energy shifted Mid-peak to Off-peak (kWh):</i>	

Demand Response Programs:

<i>Dispatchable load (kW):</i>	
<i>Peak hours dispatched in year (hours):</i>	

Power Factor Correction Programs:

<i>Amount of KVar installed (KVar):</i>	
<i>Distribution system power factor at beginning of year (%):</i>	
<i>Distribution system power factor at end of year (%):</i>	

Line Loss Reduction Programs:

<u>2015-2025 Reduction Programs:</u>		
Peak load savings (kW):		
	<i>lifecycle</i>	<i>in year</i>
Energy savings (kWh):		

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):

Energy generated (kWh):

Peak energy generated (kWh):

Fuel type:

Other Programs (specify):

Metric (specify):

D. Program Costs*:			
Utility direct costs (\$):	Incremental capital:	\$	2,629
	Incremental O&M:	\$	161,497
	Incentive:	\$	-
	Total:	\$	164,126
Utility indirect costs (\$):	Incremental capital:	\$	-
	Incremental O&M:	\$	-
	Total:	\$	-
Participant costs (\$):	Incremental equipment:	\$	-
	Incremental O&M:	\$	-
	Total:	\$	-

E. Comments:
1. powerWISE Brand

■ powerWISE trade mark MOU and powerWISE trade mark licenses were executed between each of Enersource, Horizon, Hydro Ottawa, PowerStream, Toronto Hydro and Veridian with HUC.

■ powerWISE is being used extensively by the CLD to brand CLD conservation programs.

■ The powerWISE brand has also been translated to Eco-Consumer for French language purposes.

■ Interest in the powerWISE/Eco-Consumer brand has been expressed by the Ministry of Energy, the OPA, Hydro One and other utilities.

Next Steps

■ Extend the powerWISE brand to the Ministry of Energy, the OPA and Hydro One and other LDC's.

2. powerWISE Website

■ Since it's launch, powerwise.ca has received 37,000 hits from April 1, 2005 - Dec. 31, 2005.

Next Steps

■ Working with the Ministry of Energy continue to develop and promote powerwise.ca

3. powerWISE Retail Initiative

■ 2.3 million coupons distributed

■ At Horizon over 227,000 coupons were distributed

■ Up to an estimated \$3.8M collective investment in moving the market through this initiative (at 5% coupon take up). Horizon ranked 3rd overall in coupon redemptions, with over 8680 coupons redeemed on purchases that result in over \$411k in net TRC value.

■ Results and costs of this program were split 75% Hamilton and 25% St.Catharines based on coupon redemptions reported.

Next Steps

■ Conclude program and measure success

■ Determine next campaign

4. Switch to Cold Water Wash Coupon Campaign

■ At Horizon over 227,000 coupons were distributed through billing inserts.

■ Results and costs of this program were split 75% Hamilton and 25% St.Catharines based on coupon redemptions reported.

Next Steps

■ Conclude program and measure success

■ Determine next campaign

5. Kill A Watt Meter Library Loaner Project

■ St. Catharines Public Library Loaned out meters 29 times in 2005.

■ This project was launched at the Hamilton Public Library on January 23rd and 24th, 2006 with 2500 - 13 Watt compact fluorescent bulbs given out to library patrons.

■ Horizon's staff are able to borrow a Kill A Watt Meter as of March 6, 2006

Next Steps

■ Extend loaner program to other Horizon affiliates, including City of St. Catharines, City of Hamilton, and Social Housing providers etc.

■ Determine next promotion campaign

6. powerWISE fleet branding

■ 1,113 vehicles branded across the province. To date, 100 Horizon vehicles have been branded with energy conservation messages.

Next Steps

■ Additional vehicle branding

7. powerWISE School Based Education Initiative

■ One multimedia theatre edition of the powerWISE home conservation model ordered.

■ One powerWISE home conservation portable model ordered.

Next Steps

■ Prepare multimedia content for powerWISE Home model theatre edition.

■ Conduct staff training for use of the powerWISE Home portable model.

8. Horizon Utilities Website (UPDATE)

■ Since it's launch www.horizonutilities.com has received more than 315,372 visitors.

Next Steps

■ Continue to enhance the website with new materials, links and applications.

9. Horizon Conservation Champions "Call To Action" Contest

■ Four hundred conservation kits were given out to staff in December 2005.

■ 207 adult pledge forms received

■ 97 kids pledge forms were received.

■ 159 self evaluation surveys were returned.

Next Steps

■ All self evaluation surveys and pledge forms will be entered into a database to produce a report of the results

■ Offer of this program to others is to be explored.

10. Code Green

■ Series production for the CLD is now completed and the program will be aired in 2006

Next Steps

■ Promote the broadcast to our local audiences when the network program schedule is finalized

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Smart Meter Pilot

Description of the program (including intent, design, delivery, partnerships and evaluation):

A pilot program for residential SMART meters will be deployed to enable the assessment of metering, communications, settlement, load control and other technologies that may be used to accommodate the universal application of SMART meters in the future. Further, sub-metering opportunities for the purposes of customer information in bulk-metered situations (i.e. condominiums) may be considered.

This initiative will commence upon the release of a formal definition of a SMART meter by the Board.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:	0	0	0
Measure life (years):			

B. **TRC Results:**

TRC Benefits (\$):	\$	-
TRC Costs (\$):		
Utility program cost (less incentives):	\$	-
Participant cost:	\$	-
Total TRC costs:	\$	-
Net TRC (in year CDN \$):	\$	-
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	#DIV/0!	

C. **Results:** (one or more category may apply)

Conservation Programs:

Demand savings (kW):	Summer	0.00
	Winter	0.00
	lifecycle	in year
Energy saved (kWh):	0.00	0.00
Other resources saved:		
Natural Gas (m3):		
Other (specify):		

Demand Management Programs:

Controlled load (kW)	
Energy shifted On-peak to Mid-peak (kWh):	
Energy shifted On-peak to Off-peak (kWh):	
Energy shifted Mid-peak to Off-peak (kWh):	

Demand Response Programs:

Dispatchable load (kW):	
Peak hours dispatched in year (hours):	

Power Factor Correction Programs:

Amount of KVar installed (KVar):	
Distribution system power factor at beginning of year (%):	
Distribution system power factor at end of year (%):	

Line Loss Reduction Programs:

Peak load savings (kW):		
	<i>lifecycle</i>	<i>in year</i>
Energy savings (kWh):		

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):

Energy generated (kWh):

Peak energy generated (kW):

Fuel type:

Other Programs (specify):

Metric (specify):

D. Program Costs*:

Utility direct costs (\$):	Incremental capital:	\$	181,449
	Incremental O&M:	\$	14,365
	Incentive:	\$	-
	Total:	\$	195,814
Utility indirect costs (\$):	Incremental capital:		
	Incremental O&M:		
	Total:		
Participant costs (\$):	Incremental equipment:		
	Incremental O&M:		
	Total:		

E. Comments:

- Horizon tested 500 meter points with a Wireless Fidelity communications network in Hamilton.

Next Steps

- Horizon is planning more testing and study of deployment of smart metering in 2006.
- The work management software will be purchased to support the deployment process of smart metering.
- Study of customer electricity usage as it relates to load shifting will be the focus of communications with customers receiving a smart meter.
- Development of our billing software, and web data presentment applications will be undertaken to accommodate smart meter data.

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Energy Audit and Support

Description of the program (including intent, design, delivery, partnerships and evaluation):

Through visits to customers homes or by working through existing service providers, Horizon Utilities will provide conservation information and make specific recommendations for energy savings in such areas as major appliances, lighting, air leakage, hot water, heating and cooling. Incentives may also be provided. Services could be further tailored for specific subsidized housing applications.

Measure(s):

	Powerwise Powerpack	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	Incandescent bulb		
Efficient technology:	Compact fluorescent bulb, LED night light		
Number of participants or units delivered:	3,511	0	0
Measure life (years):	4 and 30 years		

B. **TRC Results:**

TRC Benefits (\$):	\$	100,704
TRC Costs (\$):		
Utility program cost (less incentives):	\$	48,022
Participant cost:	\$	-
Total TRC costs:	\$	48,022
Net TRC (in year CDN \$):	\$	52,682
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	\$	2.10

C. **Results:** (one or more category may apply)

Conservation Programs:

Demand savings (kW):	Summer	0.00
	Winter	0.00
	lifecycle	in year
Energy saved (kWh):	1,912,585	368,634
Other resources saved :		
Natural Gas (m3):		
Other (specify):		

Demand Management Programs:

Controlled load (kW)	
Energy shifted On-peak to Mid-peak (kWh):	
Energy shifted On-peak to Off-peak (kWh):	
Energy shifted Mid-peak to Off-peak (kWh):	

Demand Response Programs:

Dispatchable load (kW):	
Peak hours dispatched in year (hours):	

Power Factor Correction Programs:

Amount of KVar installed (KVar):	
Distribution system power factor at beginning of year (%):	
Distribution system power factor at end of year (%):	

Line Loss Reduction Programs:

Peak load savings (kW):		
	lifecycle	in year
Energy savings (kWh):		

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):	
Energy generated (kWh):	
Peak energy generated (kWh):	
Fuel type:	

Other Programs (specify):

Metric (specify):	
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D. Program Costs*:

<i>Utility direct costs (\$):</i>	<i>Incremental capital:</i>	\$ -
	<i>Incremental O&M:</i>	\$ 48,022
	<i>Incentive:</i>	\$ -
	<i>Total:</i>	\$ 48,022
<i>Utility indirect costs (\$):</i>	<i>Incremental capital:</i>	\$ -
	<i>Incremental O&M:</i>	\$ -
	<i>Total:</i>	\$ -
<i>Participant costs (\$):</i>	<i>Incremental equipment:</i>	\$ -
	<i>Incremental O&M:</i>	\$ -
	<i>Total:</i>	\$ -

E. Comments:
powerWISE for Homes – Energy Audit & Self Evaluation Pilot

- There were 1560 self-evaluation surveys completed by Horizon customers in exchange for the powerWISE power packs, as of Dec. 31, 2005.
- Horizon has given out incentives for over 150 customers to receive the powerWISE for homes and NRGuide home energy audits.

Next Steps

- Promotion of this project will continue in 2006 at our community events and home shows.

powerWISE Energy Conservation Handbook

- Over 10,000 handbooks have been distributed to date.

Next Steps

- Continue to distribute the powerWISE Energy Conservation Handbook at community events in 2006.
- Update the handbook with new energy savings tips as required.

powerWISE PowerPack

- Over 1500 powerWISE PowerPacks have been distributed
- The powerWISE PowerPack concept is also used by other members of the CLD in a variety of promotional opportunities

Next Steps

- Continue to promote the powerWISE PowerPacks
- Use of a version of the power pack for a paperless ebilling campaign 2nd Qtr 2006
- Use of a version of the power pack for a 2006 fridge bounty project 2nd Qtr 2006

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Social Housing Program

Description of the program (including intent, design, delivery, partnerships and evaluation):

A province wide centralized energy management service for the social housing sector may be developed in collaboration with the Provincial Government, utilities (e.g. Enbridge, Union Gas) and others.

A pilot program will be conducted to determine feasibility with an expectation that a full-scale provincial program would follow.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	Incandescent bulb, Regular flow faucet, Do nothing		
Efficient technology:	CFLs (13 & 23 W), Water dams, and Flow restrictors		
Number of participants or units delivered:	37,415	0	0
Measure life (years):	4,4,4 and 12		

B. **TRC Results:**

TRC Benefits (\$):	\$ 1,033,802.00
TRC Costs (\$):	
Utility program cost (less incentives):	\$ 103,918.00
Participant cost:	\$ -
Total TRC costs:	\$ 103,918
Net TRC (in year CDN \$):	\$ 929,884
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	\$ 9.95

C. **Results:** (one or more category may apply)

Conservation Programs:

Demand savings (kW):	Summer	0.00
	Winter	0.00
	lifecycle	in year
Energy saved (kWh):	16,471,841.47	4,091,230.37
Other resources saved:		
Natural Gas (m3):		
Water (000's litres)	43,524	6,764

Demand Management Programs:

Controlled load (kW)	
Energy shifted On-peak to Mid-peak (kWh):	
Energy shifted On-peak to Off-peak (kWh):	
Energy shifted Mid-peak to Off-peak (kWh):	

Demand Response Programs:

Dispatchable load (kW):	
Peak hours dispatched in year (hours):	

Power Factor Correction Programs:

Amount of KVar installed (KVar):	
Distribution system power factor at beginning of year (%):	
Distribution system power factor at end of year (%):	

Line Loss Reduction Programs:

Peak load savings (kW):	
	lifecycle
	in year
Energy savings (kWh):	

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):	
Energy generated (kWh):	
Peak energy generated (kWh):	
Fuel type:	

Other Programs (specify):

Metric (specify):	
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D. Program Costs*:

<i>Utility direct costs (\$):</i>	<i>Incremental capital:</i>	\$ -
	<i>Incremental O&M:</i>	\$ 103,918.00
	<i>Incentive:</i>	\$ -
	<i>Total:</i>	\$ 103,918.00
<i>Utility indirect costs (\$):</i>	<i>Incremental capital:</i>	\$ -
	<i>Incremental O&M:</i>	\$ -
	<i>Total:</i>	\$ -
<i>Participant costs (\$):</i>	<i>Incremental equipment:</i>	\$ -
	<i>Incremental O&M:</i>	\$ -
	<i>Total:</i>	\$ -

E. Comments:

- Plans for retrofits in 2006 with Niagara Regional Housing Authority were completed.
- Incentive levels for the prescriptive program were established.
- Horizon incented Hamilton Community Housing installation of 36,340 CFL's, 625 water dams, and 450 shower flow restrictors.
- Conducted two pilot energy conservation workshops and shared the format and results with Social Housing Services Corporation.
- Completed design of social housing program complete with incentives to be used as a guideline for 2006 social housing retrofit projects.

Next Steps

- Work with Social Housing Service Corporation to ensure program incentives are made available to service providers in Horizon's service area.
- Create funding for a low income housing conservation program.
- Look for opportunities to assist with energy conservation education in the low income housing and social housing.

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Energy Audit and Feasibility Studies

Description of the program (including intent, design, delivery, partnerships and evaluation):

A standard energy audit will be developed to assist in completion of audits. As well, a training program tailored to this specific sector will allow companies with a certified employee or outside consultants to perform the audit. Any cross-linkages with the residential audit project will be accessed where feasible. Strategic partnerships will be analyzed for incentives or other synergies. The audit model will be developed, tested and refined in co—operation with partners that will be involved with training, certifications, and management of the process. This standard checklist or procedure will be duplicated where possible.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			

B. **TRC Results:**

TRC Benefits (\$):	\$ -
TRC Costs (\$):	
Utility program cost (less incentives):	\$ -
Participant cost:	\$ -
Total TRC costs:	\$ -
Net TRC (in year CDN \$):	\$ -
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	#DIV/0!

C. **Results:** (one or more category may apply)

Conservation Programs:

Demand savings (kW):	Summer	
	Winter	
	lifecycle	in year
Energy saved (kWh):		
Other resources saved :		
Natural Gas (m3):		
Other (specify):		

Demand Management Programs:

Controlled load (kW)	
Energy shifted On-peak to Mid-peak (kWh):	
Energy shifted On-peak to Off-peak (kWh):	
Energy shifted Mid-peak to Off-peak (kWh):	

Demand Response Programs:

Dispatchable load (kW):	
Peak hours dispatched in year (hours):	

Power Factor Correction Programs:

Amount of KVar installed (KVar):	
Distribution system power factor at beginning of year (%):	
Distribution system power factor at end of year (%):	

Line Loss Reduction Programs:

Peak load savings (kW):	
	lifecycle
	in year
Energy savings (kWh):	

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):	
Energy generated (kWh):	
Peak energy generated (kWh):	
Fuel type:	

Other Programs (specify):

Metric (specify):	
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D. **Program Costs*:**

Utility direct costs (\$):	Incremental capital:	\$ -
	Incremental O&M:	\$ 23,750
	Incentive:	\$ -
	Total:	\$ 23,750
Utility indirect costs (\$):	Incremental capital:	\$ -
	Incremental O&M:	\$ -
	Total:	\$ -
Participant costs (\$):	Incremental equipment:	\$ -
	Incremental O&M:	\$ -
	Total:	\$ -

E. **Comments:**

- The powerWISE Energy Audit Incentive program forms hit the Horizon website in October or 2005.
- Horizon participated in a request for proposal for Energy Audit Services with the NEPPA utilities. Presentations from Energy Audit Companies were received at a meeting held with the NEPPA members in August of 2005
- Energy Audit applications were approved for TRW Automotive in St. Catharines, and Mohawk College in Hamilton.
- Another 11 application enquiries have been received to date.

Next Steps

- Work with customers enquiring about energy audit incentives to complete their applications.
- Work with energy auditors to ensure that applications for any eligible energy audit projects in Horizon's service territory are being submitted.
- Receive results and recommendations from the energy audits conducted at Horizon's four main work centres.

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Commercial, Industrial and Institutional Smart Meter Program

Description of the program (including intent, design, delivery, partnerships and evaluation):

Horizon Utilities will make an investment to further the use of SMART or interval meters by commercial industrial and institutional customers.

This program will commence upon the release of a formal definition of a SMART meter by the Board.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			

B. **TRC Results:**

TRC Benefits (\$):	\$	-
TRC Costs (\$):		
Utility program cost (less incentives):	\$	-
Participant cost:	\$	-
Total TRC costs:	\$	-
Net TRC (in year CDN \$):	\$	-
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	#DIV/0!	

C. **Results:** (one or more category may apply)

Conservation Programs:

Demand savings (kW):	Summer	0.00
	Winter	0.00
	lifecycle	in year
Energy saved (kWh):	0.00	0.00
Other resources saved :		
Natural Gas (m3):		
Other (specify):		

Demand Management Programs:

Controlled load (kW)	
Energy shifted On-peak to Mid-peak (kWh):	
Energy shifted On-peak to Off-peak (kWh):	
Energy shifted Mid-peak to Off-peak (kWh):	

Demand Response Programs:

Dispatchable load (kW):	
Peak hours dispatched in year (hours):	

Power Factor Correction Programs:

Amount of KVar installed (KVar):	
Distribution system power factor at beginning of year (%):	
Distribution system power factor at end of year (%):	

Line Loss Reduction Programs:

Peak load savings (kW):	
	lifecycle
	in year
Energy savngs (kWh):	

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):	
Energy generated (kWh):	
Peak energy generated (kWh):	
Fuel type:	

Other Programs (specify):

Metric (specify):	
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D. **Program Costs*:**

<i>Utility direct costs (\$):</i>	<i>Incremental capital:</i>	\$ -
	<i>Incremental O&M:</i>	\$ -
	<i>Incentive:</i>	\$ -
	<i>Total:</i>	\$ -
<i>Utility indirect costs (\$):</i>	<i>Incremental capital:</i>	\$ -
	<i>Incremental O&M:</i>	\$ -
	<i>Total:</i>	\$ -
<i>Participant costs (\$):</i>	<i>Incremental equipment:</i>	\$ -
	<i>Incremental O&M:</i>	\$ -
	<i>Total:</i>	\$ -

E. **Comments:**

- Installation of interval metering was performed at all Horizon's, four work centres.

Next Steps

- Horizon is in the process of revising the conditions of service document to reflect the requirement of interval metering >50kw.
- Seek standardization on the charging of communication costs for interval metering with the CLD group and OEB.
- Continue to investigate cost effective communication systems for interval metered customers.

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** LED Retrofits for Traffic Lights

Description of the program (including intent, design, delivery, partnerships and evaluation):

This initiative involves replacing traffic signals at intersections to light-emitting diode (LED) technology, which is now fairly common in many U.S. municipalities.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			

B. **TRC Results:**

TRC Benefits (\$):	\$	-
TRC Costs (\$):		
Utility program cost (less incentives):	\$	-
Participant cost:	\$	-
Total TRC costs:	\$	-
Net TRC (in year CDN \$):	\$	-
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	#DIV/0!	

C. **Results:** (one or more category may apply)

Conservation Programs:

Demand savings (kW):	Summer	
	Winter	
	lifecycle	in year
Energy saved (kWh):		
Other resources saved :		
Natural Gas (m3):		
Other (specify):		

Demand Management Programs:

Controlled load (kW)	
Energy shifted On-peak to Mid-peak (kWh):	
Energy shifted On-peak to Off-peak (kWh):	
Energy shifted Mid-peak to Off-peak (kWh):	

Demand Response Programs:

Dispatchable load (kW):	
Peak hours dispatched in year (hours):	

Power Factor Correction Programs:

Amount of KVar installed (KVar):	
Distribution system power factor at beginning of year (%):	
Distribution system power factor at end of year (%):	

Line Loss Reduction Programs:

Peak load savings (kW):	
	lifecycle
	in year
Energy savings (kWh):	

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):	
Energy generated (kWh):	
Peak energy generated (kWh):	
Fuel type:	

Other Programs (specify):

Metric (specify):	
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D. **Program Costs*:**

<i>Utility direct costs (\$):</i>	<i>Incremental capital:</i>	\$ -
	<i>Incremental O&M:</i>	\$ -
	<i>Incentive:</i>	\$ -
	<i>Total:</i>	\$ -
<i>Utility indirect costs (\$):</i>	<i>Incremental capital:</i>	\$ -
	<i>Incremental O&M:</i>	\$ -
	<i>Total:</i>	\$ -
<i>Participant costs (\$):</i>	<i>Incremental equipment:</i>	\$ -
	<i>Incremental O&M:</i>	\$ -
	<i>Total:</i>	\$ -

E. **Comments:**

Action

- Horizon Utilities met with the City of Hamilton Traffic Control Department in June 2006 to discuss incentives for LED replacement of incandescent lighting.
- City of Hamilton established a 2006 budget for LED replacement of incandescent lighting.

Results to Date

- Report on retrofitting their traffic signals with LED bulbs was sent to City of Hamilton council for approval.
- Target of \$150/kW in reduced demand was established as an incentive or 25% of the capital cost of an LED fixture.

Next Steps

- The City of Hamilton is to report fixtures replaced along with supporting reduced electrical demand and consumption calculations for each location.
- Horizon will verify the installations upon completion and process the request for incentives.

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Leveraging Energy Conservation and Load Management

Description of the program (including intent, design, delivery, partnerships and evaluation):

Existing energy conservation and/or load management programs such as NRCan's Energy Innovators Initiative, Enbridge initiatives etc. will be promoted and incentives may be provided to advance market uptake of these programs and implementation of the recommendations

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			

B. **TRC Results:**

TRC Benefits (\$):	\$	-
TRC Costs (\$):		
Utility program cost (less incentives):	\$	-
Participant cost:	\$	-
Total TRC costs:	\$	-
Net TRC (in year CDN \$):	\$	-
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	#DIV/0!	

C. **Results:** (one or more category may apply)

Conservation Programs:

Demand savings (kW):	Summer	
	Winter	
	lifecycle	in year
Energy saved (kWh):		
Other resources saved:		
Natural Gas (m3):		
Other (specify):		

Demand Management Programs:

Controlled load (kW)	
Energy shifted On-peak to Mid-peak (kWh):	
Energy shifted On-peak to Off-peak (kWh):	
Energy shifted Mid-peak to Off-peak (kWh):	

Demand Response Programs:

Dispatchable load (kW):	
Peak hours dispatched in year (hours):	

Power Factor Correction Programs:

Amount of KVar installed (KVar):	
Distribution system power factor at beginning of year (%):	
Distribution system power factor at end of year (%):	

Line Loss Reduction Programs:

Peak load savings (kW):	
	lifecycle
	in year
Energy savngs (kWh):	

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):	
Energy generated (kWh):	
Peak energy generated (kWh):	
Fuel type:	

Other Programs (specify):

Metric (specify):	
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D. **Program Costs*:**

<i>Utility direct costs (\$):</i>	<i>Incremental capital:</i>	\$ -
	<i>Incremental O&M:</i>	\$ 9,488
	<i>Incentive:</i>	\$ -
	<i>Total:</i>	\$ 9,488
<i>Utility indirect costs (\$):</i>	<i>Incremental capital:</i>	\$ -
	<i>Incremental O&M:</i>	\$ -
	<i>Total:</i>	\$ -
<i>Participant costs (\$):</i>	<i>Incremental equipment:</i>	\$ -
	<i>Incremental O&M:</i>	\$ -
	<i>Total:</i>	\$ -

E. **Comments:**

- This program was launched in October 2005
- There have been no incentives paid to St. Catharines customers through this program to date.
- 5 project applications have been received to date and 2 enquiries.
- Savings from these projects are expected to reach 92 kW of demand and 224,338 kWh's of consumption.

Next Steps

- Horizon to continue to promote this program to customers and leverage Energy Audit Companies to bring forward projects applications.

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Load Control Initiative

Description of the program (including intent, design, delivery, partnerships and evaluation):

Load control uses a real time communications link to enable or disable customer loads at the discretion of the utility. These controls are usually engaged during system peak periods or when required to relieve pressure on the system grid and may include such "dispatchable" loads as electric hot water tanks, pool pumps, lighting, air conditioners, etc.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			

B. **TRC Results:**

TRC Benefits (\$):		\$	-
TRC Costs (\$):			
Utility program cost (less incentives):		\$	-
Participant cost:		\$	-
Total TRC costs:		\$	-
<u>Net TRC (in year CDN \$):</u>		<u>\$</u>	<u>-</u>
Benefit to Cost Ratio (TRC Benefits/TRC Costs):			#DIV/0!

C. **Results:** (one or more category may apply)

Conservation Programs:

Demand savings (kW):	Summer		0.00
	Winter		0.00
	lifecycle	in year	
Energy saved (kWh):	0.00		0.00
Other resources saved :			
Natural Gas (m3):			
Other (specify):			

Demand Management Programs:

Controlled load (kW):	
Energy shifted On-peak to Mid-peak (kWh):	
Energy shifted On-peak to Off-peak (kWh):	
Energy shifted Mid-peak to Off-peak (kWh):	

Demand Response Programs:

Dispatchable load (kW):	
Peak hours dispatched in year (hours):	

Power Factor Correction Programs:

Amount of KVar installed (KVar):	
Distribution system power factor at beginning of year (%):	
Distribution system power factor at end of year (%):	

Line Loss Reduction Programs:

Peak load savings (kW):			
	lifecycle	in year	
Energy savngs (kWh):			

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):	
Energy generated (kWh):	
Peak energy generated (kWh):	
Fuel type:	

Other Programs (specify):

Metric (specify):	
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D. **Program Costs*:**

Utility direct costs (\$):	Incremental capital:	\$ -
	Incremental O&M:	\$ 16,200
	Incentive:	\$ -
	Total:	\$ 16,200
Utility indirect costs (\$):	Incremental capital:	\$ -
	Incremental O&M:	\$ -
	Total:	\$ -
Participant costs (\$):	Incremental equipment:	\$ -
	Incremental O&M:	\$ -
	Total:	\$ -

E. **Comments:**

- Selection of load control program marketing and implementation services has been completed.

Next Steps

- An integrator will be contracted in Q2 2006
- An RFP for control equipment will be issued and awarded in Q2 2006
- Customers will be canvassed to sign up for the program in Q2 2006

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Load Displacement Program

Description of the program (including intent, design, delivery, partnerships and evaluation):

Distributed generation behind the customer's meter provides an excellent opportunity to displace load from the local distribution system's grid in a very effective manner. Load displacement technology, such as combined heat and power systems, provides increased power efficiency and thermal systems. Combined with an existing or new district heating distribution system this technology contributes to the development of sustainable energy networks within Ontario's communities.

Other technologies such as micro-turbines, wind, biomass fuels and solar provide additional options to meet the customer's needs. This initiative will facilitate the development and implementation of these opportunities. Financial incentives will be considered based on the project's viability.

Development of educational and technology programs in conjunction with local colleges and universities may be considered. Small pilots or demonstration projects to promote alternative and renewable energy sources may also be considered.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			

B. **TRC Results:**

TRC Benefits (\$):	\$	-
TRC Costs (\$):		
Utility program cost (less incentives):	\$	-
Participant cost:	\$	-
Total TRC costs:	\$	-
Net TRC (in year CDN \$):	\$	-
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	#DIV/0!	

C. **Results:** (one or more category may apply)

Conservation Programs:

Demand savings (kW):	Summer	
	Winter	
	lifecycle	in year
Energy saved (kWh):		
Other resources saved:		
Natural Gas (m3):		
Other (specify):		

Demand Management Programs:

Controlled load (kW)	
Energy shifted On-peak to Mid-peak (kWh):	
Energy shifted On-peak to Off-peak (kWh):	
Energy shifted Mid-peak to Off-peak (kWh):	

Demand Response Programs:

Dispatchable load (kW):	
Peak hours dispatched in year (hours):	

Power Factor Correction Programs:

Amount of KVar installed (KVar):	
Distribution system power factor at beginning of year (%):	
Distribution system power factor at end of year (%):	

Line Loss Reduction Programs:

Peak load savings (kW):	
	lifecycle
Energy savings (kWh):	in year

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):	
Energy generated (kWh):	
Peak energy generated (kWh):	
Fuel type:	

Other Programs (specify):

Metric (specify):	
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D. **Program Costs*:**

<i>Utility direct costs (\$):</i>	<i>Incremental capital:</i>	\$ -
	<i>Incremental O&M:</i>	\$ 850
	<i>Incentive:</i>	\$ -
	<i>Total:</i>	\$ 850
<i>Utility indirect costs (\$):</i>	<i>Incremental capital:</i>	\$ -
	<i>Incremental O&M:</i>	\$ -
	<i>Total:</i>	\$ -
<i>Participant costs (\$):</i>	<i>Incremental equipment:</i>	\$ -
	<i>Incremental O&M:</i>	\$ -
	<i>Total:</i>	\$ -

E. **Comments:**

- No projects or installation activities have been undertaken to date.

Next Steps

- An RFP for Horizon Standby generation will be issued in 2nd Quarter 2006.
- Horizon will develop an incentive for residential, commercial, industrial, and institutional customer load displacement projects.

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Stand By Generators

Description of the program (including intent, design, delivery, partnerships and evaluation):

This program may provide for the use of customers' existing standby generators when required and/or economical. Environmentally friendly generators will be the primary focus of this initiative however all generators may be considered if needed during an emergency.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			

B. **TRC Results:**

TRC Benefits (\$):	\$	-
TRC Costs (\$):		
Utility program cost (less incentives):	\$	-
Participant cost:	\$	-
Total TRC costs:	\$	-
Net TRC (in year CDN \$):	\$	-
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	#DIV/0!	

C. **Results:** (one or more category may apply)

Conservation Programs:

Demand savings (kW):	Summer		0.00
	Winter		0.00
	lifecycle		in year
Energy saved (kWh):	0.00		0.00
Other resources saved:			
Natural Gas (m3):			
Other (specify):			

Demand Management Programs:

Controlled load (kW):	
Energy shifted On-peak to Mid-peak (kWh):	
Energy shifted On-peak to Off-peak (kWh):	
Energy shifted Mid-peak to Off-peak (kWh):	

Demand Response Programs:

Dispatchable load (kW):	
Peak hours dispatched in year (hours):	

Power Factor Correction Programs:

Amount of KVar installed (KVar):	
Distribution system power factor at beginning of year (%):	
Distribution system power factor at end of year (%):	

Line Loss Reduction Programs:

Peak load savings (kW):		
	lifecycle	in year
Energy savings (kWh):		

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):	
Energy generated (kWh):	
Peak energy generated (kWh):	
Fuel type:	

Other Programs (specify):

Metric (specify):	
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D. **Program Costs*:**

<i>Utility direct costs (\$):</i>	<i>Incremental capital:</i>	\$ -
	<i>Incremental O&M:</i>	\$ -
	<i>Incentive:</i>	\$ -
	<i>Total:</i>	\$ -
<i>Utility indirect costs (\$):</i>	<i>Incremental capital:</i>	\$ -
	<i>Incremental O&M:</i>	\$ -
	<i>Total:</i>	\$ -
<i>Participant costs (\$):</i>	<i>Incremental equipment:</i>	\$ -
	<i>Incremental O&M:</i>	\$ -
	<i>Total:</i>	\$ -

E. **Comments:**

Action	
■ Horizon is planning to automate controls of an existing 375 kW generator at the Stoney Creek operations centre to be dispatched from the John Street Control Centre.	
■ Horizon is installing new back up generation at the Nebo Road Facility.	
Results to Date	
■ Investigation of control system options for the Stoney Creek backup generator.	
■ Preparation of a request for proposal for a back up generator for our Nebo Road operation centre.	
Next Steps	
■ Complete the installations	
■ Capture the results	

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Distribution Loss Reduction

Description of the program (including intent, design, delivery, partnerships and evaluation):

The Distribution Loss Reduction Program is a broad network based initiative to drive greater efficiencies within the distribution grid. This program will identify opportunities for system enhancements. Next steps will be to complete the engineering analysis and feasibility studies. Projects will be prioritized and selected based on the most attractive investment to results ratio. Items to be addressed may include, but are not limited to:

Power Factor Correction - Under the Power Factor Correction initiative, a power factor assessment will be completed which will identify locations for the installation of power factor correction capacitor banks. The results and available funding will determine which projects proceed.

Voltage Conversion - Voltage upgrades can save up to 90% of the losses associated with a feeder as higher voltages and lower current results in lower losses. This study will ascertain the locations and value of voltage conversions. This program could also involve changing out all the meters on a particular feeder to SMART Meters so that the exact losses can be determined.

Power System Load Balancing - This program is designed to ascertain where load shifting can occur within the grid to improve system efficiency include

Voltage Profile Management - Changing voltage profiles at the distribution station level can result in a peak reduction at the controllable distribution station

Line Loss Reductions - Replacement of conductors such as #6 AWG copper with #2 AWG aluminum can reduce line losses. An evaluation of where such

Transformer and Other Losses - Using infrared scans of transformers this program will help to identify additional electricity losses including overloaded equipment

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			

B. **TRC Results:**

TRC Benefits (\$):	\$	-
TRC Costs (\$):		
Utility program cost (less incentives):	\$	-
Participant cost:	\$	-
Total TRC costs:	\$	-
Net TRC (in year CDN \$):	\$	-
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	#DIV/0!	

C. **Results:** (one or more category may apply)

Conservation Programs:

Demand savings (kW):	Summer	0.00
	Winter	0.00
	lifecycle	in year
Energy saved (kWh):	0.00	0.00
Other resources saved:		
Natural Gas (m3):		
Other (specify):		

Demand Management Programs:

Controlled load (kW)	
Energy shifted On-peak to Mid-peak (kWh):	
Energy shifted On-peak to Off-peak (kWh):	
Energy shifted Mid-peak to Off-peak (kWh):	

Demand Response Programs:

Dispatchable load (kW)	
Peak hours dispatched in year (hours):	

Power Factor Correction Programs:

Amount of KVar installed (KVar):	
Distribution system power factor at beginning of year (%):	
Distribution system power factor at end of year (%):	

Line Loss Reduction Programs:

Peak load savings (kW):	
	lifecycle in year
Energy savings (kWh):	

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):	
Energy generated (kWh):	
Peak energy generated (kWh):	
Fuel type:	

Other Programs (specify):

Metric (specify):	
-------------------	--

D. **Program Costs*:**

Utility direct costs (\$):	Incremental capital:	\$ -
	Incremental O&M:	\$ -
	Incentive:	\$ -
	Total:	\$ -
Utility indirect costs (\$):	Incremental capital:	\$ -
	Incremental O&M:	\$ -
	Total:	\$ -
Participant costs (\$):	Incremental equipment:	\$ -
	Incremental O&M:	\$ -
	Total:	\$ -

E. **Comments:**

Next Steps

- Horizon may be looking to move operating and capital funding to the Load Control or other programs that prove to provide a better TRC and offer more demand and energy reduction.
- Distribution system optimization will be performed in 2006.

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Portfolio Administration

Description of the program (including intent, design, delivery, partnerships and evaluation):

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			

B. **TRC Results:**

TRC Benefits (\$):	\$	-
TRC Costs (\$):		
Utility program cost (less incentives):	\$	-
Participant cost:	\$	-
Total TRC costs:	\$	-
Net TRC (in year CDN \$):	\$	-
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	#DIV/0!	

C. **Results:** (one or more category may apply)

Conservation Programs:

Demand savings (kW):	Summer		0.00
	Winter		0.00
	lifecycle		in year
Energy saved (kWh):	0.00		0.00
Other resources saved :			
Natural Gas (m3):			
Other (specify):			

Demand Management Programs:

Controlled load (kW)	
Energy shifted On-peak to Mid-peak (kWh):	
Energy shifted On-peak to Off-peak (kWh):	
Energy shifted Mid-peak to Off-peak (kWh):	

Demand Response Programs:

Dispatchable load (kW):	
Peak hours dispatched in year (hours):	

Power Factor Correction Programs:

Amount of KVar installed (KVar):	
Distribution system power factor at beginning of year (%):	
Distribution system power factor at end of year (%):	

Line Loss Reduction Programs:

Peak load savings (kW):		
	<i>lifecycle</i>	<i>in year</i>
Energy savings (kWh):		

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):	
Energy generated (kWh):	
Peak energy generated (kWh):	
Fuel type:	

Other Programs (specify):

Metric (specify):	
-------------------	--

D. **Program Costs*:**

<i>Utility direct costs (\$):</i>	<i>Incremental capital:</i>	\$ -
	<i>Incremental O&M:</i>	\$ -
	<i>Incentive:</i>	\$ -
	<i>Total:</i>	\$ -
<i>Utility indirect costs (\$):</i>	<i>Incremental capital:</i>	\$ -
	<i>Incremental O&M:</i>	\$ 109,274
	<i>Total:</i>	\$ 109,274
<i>Participant costs (\$):</i>	<i>Incremental equipment:</i>	\$ -
	<i>Incremental O&M:</i>	\$ -
	<i>Total:</i>	\$ -

E. **Comments:**

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

TRC SUMMARY

TRC Net Benefits, \$	TRC Benefits, \$	TRC Costs, \$	Benefit / Cost Ratio	kWh saved in 2005	kWh saved over life of measure	Peak demand saved (kW)	Utility Costs	SSM
\$ 542,721	\$ 617,492	\$ 74,771	8.26	1,418,366	11,644,648	76	\$ 164,126	\$ 27,136
\$ -	\$ -	\$ -	#DIV/0!	-	-	-	\$ 195,814	\$ -
\$ 52,682	\$ 100,704	\$ 48,022	2.10	368,634	1,912,585	-	\$ 48,022	\$ 2,634
\$ 929,884	\$ 1,033,802	\$ 103,918	9.95	4,091,230	16,471,841	-	\$ 103,918	\$ 46,494
\$ 1,525,288	\$ 1,751,998	\$ 226,711	7.73	5,878,231	30,029,074	76	\$ 511,880	\$ 76,264
\$ -	\$ -	\$ -	#DIV/0!	-	-	-	\$ -	\$ -
\$ -	\$ -	\$ -	#DIV/0!	-	-	-	\$ 23,750	\$ -
\$ -	\$ -	\$ -	#DIV/0!	-	-	-	\$ -	\$ -
\$ -	\$ -	\$ -	#DIV/0!	-	-	-	\$ 9,488	\$ -
\$ -	\$ -	\$ -	#DIV/0!	-	-	-	\$ 16,200	\$ -
\$ -	\$ -	\$ -	#DIV/0!	-	-	-	\$ 49,438	\$ -
\$ -	\$ -	\$ -	#DIV/0!	-	-	-	\$ 850	\$ -
\$ -	\$ -	\$ -	#DIV/0!	-	-	-	\$ -	\$ -
\$ -	\$ -	\$ -	#DIV/0!	-	-	-	\$ 850	\$ -
\$ -	\$ -	\$ -	#DIV/0!	-	-	-	\$ -	\$ -
\$ -	\$ -	\$ -	#DIV/0!	-	-	-	\$ -	\$ -
\$ -	\$ -	\$ -	#DIV/0!	-	-	-	\$ 109,274	\$ -
\$ -	\$ -	\$ -	#DIV/0!	-	-	-	\$ 109,274	\$ -
\$ 1,525,288	\$ 1,751,998	\$ 226,711	7.73	5,878,231	30,029,074	76	\$ 671,442	\$ 76,264

ATTACHMENT C2

REFERENCE: VECC QUESTION 44A



Horizon Utilities Corporation

***St. Catharines Hydro Utility Services Inc.
Conservation and Demand Management
2005 Annual Report***

Ontario Energy Board File No. RP-2004-0203

March 31, 2006

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APPENDIX A – Evaluation of the CDM Plan

APPENDIX B – Discussion of the Program

1. Introduction

On December 9, 2004 the Ontario Energy Board (“Board”) issued its Notice of Application and Written Hearing in the RP-2004-0203 proceeding, with respect to Niagara Erie Public Power Alliance (NEPPA) Coalition nine (9) applications filed by NEPPA comprising Canadian Niagara Power Inc. Grimsby Power Inc., Haldimand County Hydro Inc. Niagara Falls Hydro Inc., Niagara On The Lake Hydro Inc. , Norfolk Power Distribution Inc., Peninsula West Utilities Limited Inc., St. Catharines Hydro Utility Services Inc., and Welland Hydro-Electric System Corp. This report is a requirement of that decision. In respect of the application filed by the former St. Catharines Hydro Utility Services Inc. the Board issued its Final Order on February 18, 2005 under docket number RP-2004-0203 / EB 2004-0523.

The Board’s decision indicated that annual reporting “should be done on a calendar year and should be filed with the Board no later than March 31st of the following year” and would be subject to a public review. On December 21, 2005 the Board issued a Guideline for Annual Reporting of CDM Initiatives that explained more fully the requirements. This report has been prepared in accordance with those guidelines.

Currently, Horizon Utilities has two separate Conservation and Demand Management Plans filed with the OEB for the former Hamilton Hydro Inc. (HHI) RP-2004-0203 / EB-2004-0488 and St. Catharines Hydro Utility Services Inc. (SCHUSI) RP-2004-0203 / EB-2004-0523. Horizon will be filing a separate 2005 Annual Report for HHI CDM activities, under separate cover with the Coalition of Large Distributors to the OEB.

Horizon Utilities has been active in implementing many programs in the first year of its CDM program that delivered results in several customer segments. Highlights from 2005 include:

- o Established the powerWISE® brand and web site www.powerwise.ca along with the Coalition of Large Distributors.
- o Launched the “Lighten Your Electricity Bill” program, an initiative in which all of Horizon’s 208,000 residential customers received money-saving coupons through bill inserts, redeemable at Canadian Tire for in-store discounts on several energy-efficient projects including compact fluorescent lights (CFL’s), ceiling fans, outdoor and indoor timers, programmable thermostats and LED seasonal lights. The CLD was successful in leveraging this program with a total of 31 utilities, which collectively distributed 2.3 million retail coupons in Q4, 2005. The energy saving results from this program are now being collated by Canadian Tire and associated agencies for our annual report due to the OEB on March 31st, however early results from the entire 31 utility program indicate a demand reduction of 6 MW and savings of 16 million kWh’s.
- o Launched the powerWISE Business Incentive Program in which Horizon is providing financial incentives to qualifying commercial, industrial and institutional customers with an electricity demand of 50kW or more. The incentive level starts at \$150 per kW saved. To date, several applications have been processed for implementation in 2006.

- o Branded 100 Horizon vehicles with powerWISE energy conservation tips.
- o Engaged a pilot CFL retrofit project with Hamilton Community housing by installing over 23,000 bulbs into homes where people need to cut energy use and costs most.
- o Provided funding for 475 social housing units in the Social Housing Services Corporation provincial energy audit study.
- o Participated in 14 community events promoting energy conservation including a pilot of two Social Housing energy conservation workshops.
- o Installed 1000 Smart Meters and pilot tested two technologies.
- o Delivered an Energy Audit and Self Evaluation program with partners Green Venture at Community events. Provided energy tips, free electricity saving products and reduced cost energy audits through Green Venture (a local non-profit organization that promotes energy efficiency).
- o Participated in several public events that allowed us to spread the conservation message throughout the community. These events included the St. Catharines Rotary Rib Fest, Santa Claus Parade, Hamilton Locke Street Festival, Dundas Cactus Festival, McMaster Institute of Energy Studies Workshop, Port Authority Days and energy events sponsored by MPP's such as Judy Marsales, and Ted McMeekin.
- o Provided conservation messaging through varied energy conservation channels, including media interviews, regular billing inserts, online newspapers and public information sessions.

With 2005 being the first year of Horizon's three-year plan, our CDM programs are currently in the preliminary stage and initial results will be reported to the OEB at the end of Q1 2006. Horizon plans to utilize these results to help assess the most appropriate action regarding future potential rate applications to fund "second generation" CDM programs. Horizon Utilities is committed to helping the government build a sustainable long-term conservation culture in Ontario.

Ongoing Opportunities

As we develop a conservation culture in Ontario we must continue to balance the need for short-term results while fostering a long-term conservation attitude among the citizens and businesses in the province. The industry must continue to coordinate its efforts to ensure that program delivery is efficient and available to all customers. Our goal should be rapid program deployment and using the LDC's clear channel to market. Clarity regarding the roles of the LDC's, OPA, IESO, etc. would be beneficial in this regard.

Further, clarity on the topics of LDC cost recovery, lost revenues, and criteria for assessing prudence of CDM spending would also be helpful. This will lead to more aggressive applications for second generation funding. At all times, we must strive to minimize bureaucracy wherever possible. For example, the opportunity to determine and agree on effective conservation programs up front should minimize the measurement and verification efforts required to substantiate these same programs at their conclusion.

2. Evaluation of Overall Plan

Refer to Appendix A for an evaluation of Horizon's CDM activities during 2005.

In reviewing the information provided in both Appendix A and Appendix B, it should be noted that much of the work undertaken by Horizon during 2005 related to program development. A number of the programs initiated in 2005 will not yield measurable kWh or kW demand savings until 2006 and beyond. Therefore, the cost benefit analysis presented does not accurately reflect the effectiveness of Horizon's CDM expenditures.

Furthermore, some components of Horizon's CDM plans relate to the deployment of Smart meters, which is being undertaken to support provincial government policy direction. The impact of Smart meters on kWh consumption and kW demand has not been assessed. This further skews the overall cost benefit analysis provided in Appendix A.

3. Discussion of Overall Programs

Residential and Small Commercial (< 50 kW)

Co-branded Mass Market Program

Description

This flagship co-branded mass-market program (e.g. powerWISE®) is a multifaceted approach to fostering the conservation culture in Ontario. Through development of a significant cooperative effort amongst six of the largest municipal LDC's, this program will become synonymous with specific initiatives such as Compact Fluorescent Lighting (CFL) change out programs, LED Christmas Lights, Energy Star, Multi-Choice, energy audits, hot water heater blanket raps, school based education and a host of other programs aimed at providing customers with the tools and education needed to reduce their energy usage. Access to online services such as energy consumption calculators, an energy expert, and personalized energy audit services are contemplated as components of this program.

Target users

Mass-market including residential and small commercial <50 kW of monthly demand

Benefits

Increased awareness, improved product supply, culture shift, and significant demand and energy reductions.

Discussion of 2005 Activities

powerWISE® Brand

Action

- o Hamilton Utilities Corp. (HUC) registered the powerWISE mark prior to CDM activities.
- o During CLD CDM plan preparation, it was agreed that the CLD would collectively develop a co-brand. HUC offered powerWISE for joint ownership and the CLD agreed that we would use this mark.
- o As HUC owns the mark, the CLD needed to come up with a vehicle to transition the mark that would allow joint ownership. Legal counsel recommended the formation of a Joint Venture (JV) among other options. For expediency, and under the spirit of co-operation, the team recommended that we start with an MOU and a sub-license agreement and then based on the direction that the CLD CEO's determined over time, we would either continue the way we are, move to a more formal JV, transition the mark into some other entity that the CLD may create in the future, or pursue

other options. Bottom line, the MOU and License were seen as a way to get things moving quickly.

- o Weekly conference call meetings are held with the communications sub-committee to coordinate all powerWISE and branding activities.
- o The ministry of energy (Director of Communications) participates on weekly conference calls
- o Two-way monthly update meetings are conducted with the Ontario Power Authority (OPA)

Results to Date

- o powerWISE trade mark MOU and powerWISE trade mark licenses were executed between each of Enersource, Horizon, Hydro Ottawa, PowerStream, Toronto Hydro and Veridian with HUC.
- o PowerWISE brand launched April 1st, 2005
- o powerWISE is being used extensively by the CLD to brand CLD conservation programs.
- o The powerWISE brand has also been translated to Eco-Consumer for French language purposes.
- o Interest in the powerWISE/Eco-Consumer brand has been expressed by the Ministry of Energy, the OPA, Hydro One and other utilities.

Next Steps

- o Extend the powerWISE brand to the Ministry of Energy, the OPA and Hydro One and other LDC's.

powerWISE Website

Action

- o The website www.powerwise.ca was jointly developed and announced on April 1st, 2005. This website is designed to provide one common location to direct customers to for general electricity conservation information and links. Links have also been provided to each of the CLD member home websites where LDC specific program information can be accessed.

Results to Date

- o Since its launch, powerwise.ca has received 37,000 visitors from April 1, 2005 – December 31, 2005.

Next Steps

- o Working with the Ministry of Energy continue to develop and promote powerwise.ca

powerWISE Retail Initiative

Action

- o To test an alternate approach to Toronto Hydro's business arrangements with the Home Depot retail chain, the other CLD members (Enersource, Horizon, Hydro Ottawa, PowerStream and Veridian) developed a major mass-market retail coupon campaign. The campaign was designed to advance energy efficient devices into the



marketplace through point of purchase redeemable coupons (\$33 value per coupon) under the banner of “Lighten Your Electricity Load” which were distributed with the electrical utilities bills between October 1st and December 31st, 2005. Six products were selected for promotion including:

- o Compact Fluorescent Lights (\$3 off per pack)
- o Seasonal LED lights (SLED's \$5 off)
- o Ceiling Fans (\$5 off)
- o Programmable Thermostats (\$15 off)
- o Light and Appliances Timers (\$1 off)
- o Pool and Hot Tub Timers (\$4 off)
- o As the program developed, other LDC's expressed an interest in participating.

Results to Date

- o Unprecedented cooperative effort between 31 participating utilities
- o 2.3 million coupons distributed
- o At Horizon over 227,000 coupons were distributed
- o Up to an estimated \$3.8M collective investment in moving the market through this initiative (at 5% coupon take up).
- o Over 8680 coupons redeemed were redeemed locally
- o Results and costs of this program were split 75% Hamilton and 25% St.Catharines based on coupon redemptions reported.

Next Steps

- o Conclude program, examine lessons learned to improve future programs
- o Finalize participation in campaign for 2006

Switch to Cold Water Wash Coupon Campaign

Action

- o Coupons were inserted into customer bills that promoted switching to cold water wash. These coupons contained information on energy and cost savings associated with washing approximately 6.2 loads of laundry a week in cold water. These coupons offered \$1.00 off the price of Tide cold water detergent. The delivery partner for this program was the Canadian Energy Efficiency Alliance.

Results to Date

- o At Horizon over 227,000 coupons were distributed through billing inserts.
- o Coupon redemption rates are approximately 3%.
- o Results and costs of this program were split 75% Hamilton and 25% St.Catharines based on coupon redemptions reported.

Next Steps

- o Conclude program and measure success
- o Determine next campaign



Kill A Watt Meter Library Loaner Project

Action

- o In conjunction with the Kill A Watt Meter Library Loaner Project established by Hydro Ottawa and Enersource, Horizon Utilities engaged in a similar program for Hamilton Public Library and St. Catharines Public Library System. Ninety one Kill A Watt Meters were ordered for this project in 2005. Meters were distributed as follows:
 - o 24 – St. Catharines Public Library
 - o 50 – Hamilton Public Library
 - o 17 – Horizon Loaner Program
- o Horizon also set up a loaner program for staff internally so that they could gain some first hand experience with measuring energy consumption of their 120 Volt appliances.
- o The Kill A Watt meter library loaner program is demonstrated and promoted at local community events by Horizon and Green Venture.
- o In support of the library loaner program custom instruction cards bearing Horizon's logo and library contact information. These cards are used with the meter for instructions and given out as promotion materials.
- o Conservation handbooks are given out to the borrowers of the Kill A Watt meter so that they can compare their appliance energy use to the energy star appliance use listed in the handbook.

Results to Date

- o St. Catharines Public Library Loaned out meters 29 times in 2005.
- o This project was launched at the Hamilton Public Library on January 23rd and 24th, 2006 with 2500 - 13 Watt compact fluorescent bulbs given out to library patrons.
- o Hamilton Public Library reported the kill A Watt Meter has been loaned out 129 times with 65 persons on the waiting list since Jan 23, 2006.
- o Horizon's staff are able to borrow a Kill A Watt Meter as of March 6, 2006

Next Steps

- o Extend loaner program to other Horizon affiliates, including City of St. Catharines, City of Hamilton, and Social Housing providers etc.
- o Conclude program and measure success
- o Determine next promotion campaign

powerWISE fleet branding

Action

- o In an effort to increase conservation messaging to the mass market, the CLD embarked on a campaign announced November 3rd, 2005 to brand vehicles with energy conservation tips under the powerWISE brand.

Results to Date

- o There were 1113 vehicles branded with powerWISE in the Province.
- o To date, 100 Horizon vehicles have been branded with powerWISE and energy conservation messages.



Next Steps

- o Additional vehicle branding

powerWISE School Based Education Initiative

Action

- o Horizon has ordered a powerWISE Home multimedia Theatre for the Children's Discovery Centre in St. Catharines to promote energy conservation to primary school students. A second portable powerWISE Home model is to be used as a conservation prop at the community events and home shows.
- o Horizon ordered 1900 powerWISE smart paks to be distributed to grade 5 and 6 students in Hamilton. Students participating in the programs will receive these smart paks in February of 2006. Contents of the pack include 2 compact fluorescent lights, faucet aerators and information related to energy conservation.

Results to Date

- o One multimedia theatre edition of the powerWISE home conservation model ordered.
- o One powerWISE home conservation portable model ordered.
- o Over 1900 powerWISE smart paks ordered.

Next Steps

- o Prepare multimedia content for powerWISE Home model theatre edition.
- o Conduct staff training for use of the powerWISE Home portable model.
- o Assess results from the school powerWISE smart pak project.

Horizon Utilities Website (UPDATE)

Action

- o The website www.horizonutilities.com was revised to provide a stronger emphasis on conservation.
- o The website now offers two main conservation options; powerWISE for Homes, and powerWISE for Business information.
- o This conservation component of the website is designed to provide Horizon customers with immediate access to local conservation initiatives

Results to Date

- o Since its launch www.horizonutilities.com has received more than 315,372 visitors.

Next Steps

- o Continue to enhance the website with new materials, links and applications.

Horizon Conservation Champions "Call To Action" Contest

Action

- o A Conservation Champions committee made up of volunteers from Horizon Utilities staff designed an internal energy conservation awareness campaign for staff. Goals of the committee were as follows:

1. Recommend ways to reduce Horizon's demand by 5% and overall consumption by 10%.
 2. Create an energy and water use checklist to be used with our health and safety workplace inspections.
 3. Assist in creating an action plan around the IESO calls for reduced energy use, as part of preparation for 2006 summer peak.
 4. Design and implement an energy and water conservation awareness campaign at Horizon.
- o Each staff member was given a conservation starter kit consisting of the following:
 - Two 14 watt compact fluorescent bulbs
 - One powerWISE LED night light 1.3 watt
 - One low flow shower head
 - Refrigerator thermometer
 - Hot Water test card
 - powerWISE energy conservation handbook
 - Self Evaluation Survey
 - Adult pledge form
 - Kids pledge form
 - o Two grand prizes of a personal computer system were offered; one drawing made from the staff pledges, the other from the kids pledge forms. Contest closed January 31, 2006.

Results to Date

- o Four hundred conservation kits were given out to staff in December 2005.
- o 207 adult pledge forms received
- o 97 kids pledge forms were received.
- o 159 self evaluation surveys were returned.

Next Steps

- o All self evaluation surveys and pledge forms will be entered into a database to produce a report of the results
- o Offer of this program to others is to be explored.

Code Green

Action

- o The television show, entitled "Code Green Canada" is a six-part television series being sponsored in part by the CLD members.
- o It will be broadcast by CBC in the spring of 2006 and will provide homeowners across Canada with invaluable information on how to reduce energy consumption and save money.
- o Twelve contestants from across the country will compete to retrofit their homes in an effort to reduce their energy and water consumption, as well as their greenhouse gas emissions.
- o The homeowner who achieves the greatest reduction in consumption and emissions will win a gas-electric 2006 hybrid Prius, courtesy of Toyota Canada



Results to Date

- o Series production for the CLD is now completed and the program will be aired in 2006

Next Steps

- o Promote the broadcast to our local audiences when the network program schedule is finalized

Smart Meter Pilot

Description

A pilot program for residential SMART meters will be deployed to enable the assessment of metering, communications, settlement, load control and other technologies that may be used to accommodate the universal application of SMART meters in the future. Further, sub-metering opportunities for the purposes of customer information in bulk-metered situations (i.e. condominiums) may be considered. This initiative will commence upon the release of a formal definition of a SMART meter by the Board.

Target users

Residential and small commercial customers.

Benefits

This program supports the Minister of Energy's commitment to the installation of 800,000 SMART meters across Ontario by 2007. It will provide Horizon with the experience and knowledge needed to efficiently expand the use of SMART meters over the next several years.

In conjunction with appropriate rate structures, the program will also provide customers participating in the pilot programs with an incentive to conserve or shift energy use.

Discussion of 2005 Activities

Horizon's approach to introducing smart metering pilots was to conservatively implement a few communications strategies to test. Clarification of smart meter technology requirements and further direction from the Ontario Energy Board was a barrier in the investment in technologies in 2005. Horizon is fully committed to spending its smart metering budget in 2006.

Action

- o Horizon Utilities has undertaken pilot testing two different communication systems and meter technologies.
- o System implementation and end to end testing of these technologies has been the priority for Horizon in 2005.
- o A Tantalus TUNET mesh network communications system is being tested in St. Catharines.

Results to Date

- o There have been 500 meter points installed in St. Catharines that are currently functioning.



Next Steps

- o Horizon is planning more testing and study of deployment of smart metering in 2006.
- o The work management software will be purchased to support the deployment process of smart metering.
- o Study of customer electricity usage as it relates to load shifting will be the focus of communications with customers receiving a smart meter.
- o Pilot testing of remote disconnect capabilities will be completed in 2006.

Energy Audit Program

Description

Through visits to customers' homes or by working through existing service providers, Horizon Utilities will provide conservation information and make specific recommendations for energy savings in such areas as major appliances, lighting, air leakage, hot water, heating and cooling. Incentives may also be provided. Services could be further tailored for specific subsidized housing applications.

Target users

Residential and small commercial customers

Benefits

The consumer receives a clear, concise and prioritized report identifying opportunities for energy savings as well as the associated costs and payback period (as applicable).

Discussion of 2005 Activities

powerWISE for Homes – Energy Audit & Self Evaluation Pilot

Action

- o Horizon Utilities in partnership with Green Venture have designed a residential energy audit incentive program.
- o Customers fill out an energy use self evaluation survey and pledge form in exchange for a powerWISE power pack, consisting of two CFL's, an LED night light, powerWISE conservation handbook, \$50 off coupon on NRGuide for homes energy audit, and other water and electricity conservation information.
- o In addition to the NRGuide for homes energy audit, Green Venture added an electricity use component. Recommendations for reducing electricity use includes lighting and appliance review.
- o All self-evaluations and pledge forms are entered into a database to assist us in designing future energy conservation programs.

Results to Date

- o There were 1560 self-evaluation surveys completed by Horizon customers in exchange for the powerWISE power packs, as of Dec. 31, 2005.
- o Horizon has given out incentives for over 150 customers to receive the powerWISE for homes and NRGuide home energy audits.

Next Steps

- o Promotion of this project will continue in 2006 at our community events and home shows.



powerWISE Energy Conservation Handbook

Action

- o Horizon Utilities participated with the NEPPA utilities to develop an energy conservation handbook. This handbook contains hundreds of tips and features a seasonal checklist of energy saving activities.
- o This handbook was printed and distributed at: community events with our Energy Audit and Self Evaluation project, and public libraries with the Kill A Watt Meter loaner program.

Results to Date

- o Over 10,000 handbooks have been distributed to date.

Next Steps

- o Continue to distribute the powerWISE Energy Conservation Handbook at community events in 2006.
- o Update the handbook with new energy savings tips as required.

powerWISE PowerPack

Action

- o Horizon Utilities uses the powerWISE PowerPack for promotional purposes. The PowerPack consists of:
 - 2 Compact Fluorescent (CFL) bulbs
 - an LED nightlight
 - powerWISE Tips brochure
 - a series of other energy conservation pamphlets
 - \$50 coupon off a home energy audit
- o The powerWISE PowerPack is available for free pick-up at Green Venture
- o To qualify to receive a free powerWISE PowerPack (retail value \$20), Horizon Utilities customers must; participate in a Horizon conservation program like residential energy audit self-evaluation survey.
- o This offer was implemented in July 2005

Results to Date

- o Over 1500 powerWISE PowerPacks have been distributed
- o The powerWISE PowerPack concept is also used by other members of the CLD in a variety of promotional opportunities

Next Steps

- o Continue to promote the powerWISE PowerPacks
- o Use of a version of the power pack for a paperless ebilling campaign 2nd Qtr 2006
- o Use of a version of the power pack for a 2006 fridge bounty project 2nd Qtr 2006

Social Housing Program

Description

A province wide centralized energy management service for the social housing sector may be developed in collaboration with the Provincial Government, utilities (e.g. Enbridge, Union Gas) and others.

A pilot program will be conducted to determine feasibility with an expectation that a full-scale provincial program would follow.

Target users

Local social housing corporations, non-profit homes, co-op housing and low income housing.

Benefits

Synergies will be created through the combined initiatives of the various agencies.

Discussion of 2005 Activities

Horizon recognized that social housing is a sector that can least afford increases in energy costs and devoted efforts to accelerate spending and activity in this program. Discussions with the Niagara Regional Housing Authority on 2006 retrofit projects for St. Catharines were held in 2005.

Action

- o Planning activities with Niagara Regional Housing Authority were carried out in 2005.
- o A study and conservation program design was ordered by Horizon and performed by SeeLine Group. This study and prescriptive program design is the basis for social housing retrofit project incentives.

Results to Date

- o Plans for retrofits in 2006 with Niagara Regional Housing Authority were completed.
- o Incentive levels for the prescriptive program were established.
- o Horizon incented Hamilton Community Housing installation of 36,340 CFL's, 625 water dams, and 450 showerhead flow restrictors.
- o Conducted two pilot energy conservation workshops and shared the format and results with Social Housing Services Corporation.
- o Completed design of social housing program complete with incentives to be used as a guideline for 2006 social housing retrofit projects.

Next Steps

- o Work with Social Housing Service Corporation to ensure program incentives are made available to service providers in Horizon's service area.



- o Create funding for low income housing conservation program.
- o Look for opportunities to assist with energy conservation education in low income housing and social housing.

Commercial, Industrial and Institutional (> 50 kW)

Energy Audits and Feasibility Studies

Description

A standard energy audit will be developed to assist in completion of audits. As well, a training program tailored to this specific sector will allow companies with a certified employee or outside consultants to perform the audit. Any cross-linkages with the residential audit project will be accessed where feasible. Strategic partnerships will be analyzed for incentives or other synergies. The audit model will be developed, tested and refined in co—operation with partners that will be involved with training, certifications, and management of the process. This standard checklist or procedure will be duplicated where possible.

Target users

Large consumers over 50 kW including schools, large commercial facilities, institutional facilities, industrial, and municipal facilities like recreation centres, arenas, and libraries.

Benefits

Include increased awareness, skills development, benchmarking energy data, establishing best practices, fostering the conservation culture within this sector and significant reductions in demand and energy consumption.

Discussion of 2005 Activities

Horizon created the powerWISE for Business, Energy Audit Incentive Program to assist customers with their efforts to explore opportunities for achieving energy efficiency. Promotion of this program has been mainly accomplished through advising energy auditors of this offering. Customers wishing to participate in this program must complete an application available on the Horizon Utilities website.

Action

- o Energy audit incentives and criteria were established by Horizon under the powerWISE Energy Audit Incentive Program that was launched on October 5, 2005. See www.horizonutilities.com under the powerWISE for Business for more details.
- o Energy Audit companies that presented proposals to Horizon Utilities were advised of the incentives being offered.
- o Horizon Utilities created a request for proposal to audit their four main work centres as part of an objective to attempt a reduction in demand by 5% and energy use by 10%.



Results to Date

- o Horizon participated in a request for proposal for Energy Audit Services with the NEPPA utilities. Presentations from Energy Audit Companies were received at a meeting held with the NEPPA members in August of 2005
- o The powerWISE for Business, Energy Audit Incentive Program application forms were posted on the Horizon website in October of 2005.
- o Energy audit applications were approved for TRW Automotive in St. Catharines, and Mohawk College in Hamilton.
- o Another 11 application enquiries have been received to date.

Next Steps

- o Work with customers enquiring about energy audit incentives to complete their applications.
- o Work with energy auditors to ensure that applications for any eligible energy audit projects in Horizon's service territory are being submitted.
- o Results and recommendations from the energy audits conducted at Horizon's four main work centres, which includes the St. Catharines work centre at 340 Vansickle Road, are to be completed by March 31, 2006.

Smart Meter Program

Description

Horizon Utilities will make an investment to further the use of SMART or interval meters by commercial industrial and institutional customers.

This program will commence upon the release of a formal definition of a SMART meter by the Board.

Target users

Commercial, Industrial and Institutional customers larger than 50 kW's.

Benefits

This program supports the Minister of Energy's commitment to the installation of 800,000 SMART meters across Ontario by 2007. These meters are seen as an important means of establishing a 'conservation culture' in Ontario. In conjunction with appropriate rate structures, they will encourage customers to conserve or shift energy use.

Discussion of 2005 Activities

Action

- o Horizon Utilities 2005 expenditures in this program involved investigating cost effective communication technologies to be used for interval metering for customers >50 kW
- o Ordering of interval meters for a pilot project in 2006 was performed.

Results to Date

- o Installation of interval metering was performed at all Horizon's, four work centres.

Next Steps

- o Horizon is in the process of revising the conditions of service document to reflect the requirement of interval metering >50kw.
- o Seek standardization on the charging of communication costs for interval metering with the CLD group and OEB.
- o Continue to investigate cost effective communication systems for interval metered customers.

LED Retrofits for Traffic Lights

Description

This initiative involves replacing traffic signals at intersections to light-emitting diode (LED) technology, which is now fairly common in many U.S. municipalities.

Target users

Municipalities

Benefits

This program results in significant energy savings since the LED technology uses approximately 80% less electricity. Other benefits include reduced maintenance (LED's last longer) and improved visibility.

Discussion of 2005 Activities

Action

- o Horizon Utilities met with the City of St. Catharines and Regional Niagara Traffic Control Department in June 2006 to discuss incentives for LED replacement of incandescent lighting.
- o A letter of proposal for cost sharing and incentives was sent to the City of St. Catharines and Regional Niagara Traffic Control Department.

Results to Date

- o Regional Niagara Traffic Control have not reported the 2005 LED retrofit or replacement of fixtures performed as a requirement to become eligible for the incentives offered by Horizon.
- o Target of \$150/kW in reduced demand was established as an incentive or 25% of the capital cost of an LED fixture.

Next Steps

- o The Regional Niagara is to report fixtures replaced along with supporting reduced electrical demand and consumption calculations for each location.
- o Horizon will verify the installations upon completion and process the request for incentives.
- o Regional Niagara Traffic Control will be submitting results of the 2006 installations.

Leveraging Energy Conservation and Load Management

powerWISE Business Incentive Program

Description

Existing energy conservation and/or load management programs such as NRCan's Energy Innovators Initiative, Enbridge initiatives etc. will be promoted and incentives may be provided to advance market uptake of these programs and implementation of the recommendations. The LDC's are well positioned to introduce such programs to their customer base. Work will be conducted with the existing program providers to maximize leverage opportunities. Promotion will potentially include face-to-face meetings, conferences and seminars.

Target Users

Large consumers over 50 kW including schools, large commercial facilities, institutional facilities, industrial, and municipal facilities.

Benefits

Customer awareness and additional incentives will help advance market uptake of audit services, feasibility studies and retrofit opportunities already established within the government program framework.

Discussion of 2005 Activities

Currently there is not funding specified in the SCHUSI CDM plan for a Leveraging Energy Conservation and Load Management Program. Horizon in conjunction with the CLD developed the powerWISE for Business Incentive Program. This program provides incentives of up to \$50K per customer to advance energy conservation projects.

Two streams of funding are available:

Prescriptive: This program provides incentives for specific technologies on a predetermined cost per unit basis, i.e. retrofitting T12 lighting to T8 lighting.

Custom Projects will be considered on an individual case basis with incentives starting at \$150 per kW

Action

- o Horizon is evaluating St. Catharines customer needs for the powerWISE for Business Incentive Program.

Results to Date

- o This program was launched in October 2005
- o Two St. Catharines customers have expressed an interest in this program to date.



Next Steps

- o Horizon to continue to promote this program to customers and leverage Energy Audit Companies to bring forward projects applications.

Load Control Initiative

Description

Load control uses a real time communications link to enable or disable customer loads at the discretion of the utility. These controls are usually engaged during system peak periods or when required to relieve pressure on the system grid and may include such “dispatchable” loads as electric hot water tanks, pool pumps, lighting, air conditioners, etc.

Target Users

Larger commercial, industrial, institutional, and residential customers.
Direct load control applies to all market segments. Though the control systems and technologies may vary by market segment, the methodology remains the same.

Benefits

Load control allows customers to respond quickly to external price signals. This also provides a mechanism for utilities to relieve pressure on constrained areas within the distribution grid and also reduces the need to bring on large peaking generators.

Discussion of 2005 Activities

There was no load control initiatives carried out in St. Catharines in 2005. Preparation for the peakSAVER residential load control program was the focus in 2005. Horizon anticipates spending the majority of the CDM budget on this program in 2006.

Action

- o Horizon modified its Conservation and Demand Management plan descriptions to include residential customers as a target for this program.
- o A Gateway load control pilot project was undertaken by Horizon that deployed thermostat control technology.
- o A feasibility study of commissioning the mothballed Stoney Creek water heater load control system was undertaken.
- o Horizon Utilities is participating with other CLD members in the design and implementation of “peakSAVER”, a Load Control program targeting residential and small commercial customers’ central air conditioners with outside condensers.
- o In addition to central air conditioners, customers with electric water heaters and/or pool pumps will be encouraged to have controls installed on those devices.
- o A request for proposal has been issued for response mid January 2006.
- o Horizon anticipates spending the remaining portion of the 2005 budget in 2006, once the peakSAVER load control project is initiated.

Results to Date



- o Selection of load control program marketing and implementation services has been completed.

Next Steps

- o A peakSAVER service provider will be contracted in Q2 2006
- o An RFP for control equipment will be issued and awarded in Q2 2006
- o Customers will be canvassed to sign up for the program in Q2 2006

Distribution Loss Reduction

Description

The Distribution Loss Reduction Program is a broad network based initiative to drive greater efficiencies within the distribution grid. This program will identify opportunities for system enhancements. Next steps will be to complete the engineering analysis and feasibility studies. Projects will be prioritized and selected based on the most attractive investment to results ratio. Items to be addressed may include, but are not limited to:

Power Factor Correction - Under the Power Factor Correction initiative, a power factor assessment will be completed which will identify locations for the installation of power factor correction capacitor banks. The results and available funding will determine which projects proceed.

Voltage Conversion - Voltage upgrades can save up to 90% of the losses associated with a feeder as higher voltages and lower current results in lower losses. This study will ascertain the locations and value of voltage conversions. This program could also involve changing out all the meters on a particular feeder to SMART Meters so that the exact losses can be determined.

Power System Load Balancing - This program is designed to ascertain where load shifting can occur within the grid to improve system efficiency including the location of optimized "open points". It is estimated that approximately 5% - 10% of system losses could be saved.

Voltage Profile Management - Changing voltage profiles at the distribution station level can result in a peak reduction at the controllable distribution stations. This is in addition to the IMO's voltage reduction program and will not interfere with the effectiveness of that program.

Line Loss Reductions - Replacement of conductors such as #6 AWG copper with #2 AWG aluminum can reduce line losses. An evaluation of where such opportunities exist may be undertaken. The results and available funding will determine which projects proceed.

Transformer and Other Losses – Using infrared scans of transformers this program will help to identify additional electricity losses including overloaded equipment. "Hot" transformers will be investigated further to determine operational improvement opportunities.

Target users

The results of this program will positively impact all of Horizon's customers.

Benefits

Reduced electricity distribution system delivery losses will reduce system demand, relieve network capacity to accommodate growth, and reduce the requirement for new generating capacity in the Province. Costs associated with distribution system delivery losses are recovered through electricity distribution charges. Reductions in these costs will therefore benefit all customers.

Discussion of 2005 Activities

Horizon did not spend its budget on this program in 2005, because the funding model of distribution system loss reduction was being developed. CDM incentives for projects like voltage conversion were still in development. Expenditures in this program were mainly due to creating plans for 2006. We anticipate spending the 2005 budget in 2006 or else we will move funding from this program to another.

Action

- o Horizon did not spend its budget on this program in 2005.
- o Horizon completed voltage conversion capital work (not funded by CDM) as follows:
 - o \$3,229,968 and demand reduction of 521 kW for Hamilton
 - o \$136,230 with demand reduction of 19 kW for St. Catharines,

Results to Date

- o Assessment of the TRC results for voltage conversion projects indicate that better results can be achieved by other programs.
- o Horizon did not use CDM funds for voltage conversion projects that were already part of our capital plan but used them as study cases for TRC.
- o Horizon retained a Consultant to assist with planning CDM expenditures on distribution loss reduction.

Next Steps

- o Horizon will assess operating and capital funding to the Load Control or other programs that prove to provide a better TRC and offer more demand and energy reduction.
- o Distribution system optimization will be performed in 2006.

Distributed Energy

Load Displacement

Description

Distributed generation behind the customer's meter provides an excellent opportunity to displace load from the local distribution system's grid in a very effective manner. Load displacement technology, such as combined heat and power systems, provides increased power efficiency and thermal systems. Combined with an existing or new district heating distribution system this technology contributes to the development of sustainable energy networks within Ontario's communities.

Other technologies such as micro-turbines, wind, biomass fuels and solar provide additional options to meet the customer's needs. This initiative will facilitate the development and implementation of these opportunities. Financial incentives will be considered based on the project's viability.

Development of educational and technology programs in conjunction with local colleges and universities may be considered. Small pilots or demonstration projects to promote alternative and renewable energy sources may also be considered.

Target Users

Commercial, industrial, and residential, schools, colleges and universities.

Benefit

Benefits include additional capacity within the grid. Cleaner technologies result in reductions in Green House Gas (GHG) emissions. Other benefits include improved system reliability, reduced harmonics, back-up power possibilities, education and skills development.

Discussion of 2005 Activities

Action

- o Horizon Utilities is investigating a solar implementation pilot at a substation to charge the batteries and run station service heating.
- o A customer survey of behind the meter standby generation was conducted by Horizon. The focus was to look at the potential of creating load displacement through dispatching customer standby generation.
- o Solar panel technologies are being studied for Horizon work centre facilities.
- o Replacement of the St. Catharines work centre standby generation is required. The intention would be to make this standby unit available to our control room to operate in times of peak demand and pricing.



Results to Date

- o No projects or installation activities have been undertaken to date.

Next Steps

- o An RFP for Horizon Standby generation will be issued in 2nd Quarter 2006.
- o Horizon will develop an incentive for residential, commercial, industrial, and institutional customer load displacement projects.

4. Lessons Learned

Evolution of Horizon

At the same time that our CDM plan was being carried out the merger of Hamilton Hydro Inc. and St. Catharines Hydro Utility Services Inc. evolved to become Horizon Utilities. The merger plans involved hiring a dedicated resource in March 2005 to manage Horizon's CDM plan going forward.

Working Together

From the outset in the fall of 2004, St. Catharines Utility Services Inc. worked with the NEPPA member LDC's to plan CDM activities including the joint plan filing by nine members. On March 1, 2005 the merger took place and Horizon Utilities focused on looking for opportunities to implement activities that fit both the HHI and SCHUSI CDM plans. The SCHUSI plan activities were also influenced by the work of the Coalition of Large Distributors (Toronto Hydro, Hydro Ottawa, Horizon Utilities, Veridian, Enersource Hydro Mississauga and Powerstream). This group, representing 40% of the Province's load has shared experiences, jointly prepared and delivered programs and launched the powerWISE brand. We are learning as we go and have accomplished much to date by working with and leveraging various partnerships and relationships, by leveraging healthy individual LDC thought and innovation, and by developing programs at the "grassroots" level. We believe that these initiatives are now starting to pay significant dividends as the programs start to roll out in earnest. The benefits of this joint action are numerous. For example:

- o Purchasing power:

Together, the CLD group represents about 40% of the Province's electricity load. Accordingly, the group commands the attention of the marketplace when seeking vendors to support its CDM programs. The joint purchasing power of the CLD has provided it with access to the most innovative products and services available, at very competitive costs.

- o Consistent messaging:

The adoption and promotion of the powerWISE brand by the CLD members will provide significant long-term benefits. The development of this single brand that is trusted by consumers and synonymous with energy efficiency can be leveraged to maximize the reach and penetration of future CDM initiatives, in a way that could not be achieved by each member LDC on its own.

- o Cost Sharing:

While local electricity markets and customer contacts often deserve and demand customized treatment, other aspects of CDM programs are common and lend themselves to cost sharing. The CLD members early on agreed to a standard cost sharing formula to ensure that benefits were fairly allocated. During 2005, CLD members jointly funded a number of initiatives such as the establishment of the powerwise.ca website, the development of the powerWISE Business Incentives Program and more.



Sharing costs have enabled individual CLD members to help minimize program costs.

o Exchange of Ideas/Approaches:

Customers' attitudes towards energy use are not homogeneous. Achieving a conservation culture in Ontario will require experimentation with varied and diverse approaches. Working in partnership with the CLD members has provided members the opportunity to learn from each other's successes and setbacks. For example, Toronto Hydro's launch of its peakSAVER program in late 2005 offered proof that many customers are willing to participate in an air conditioner load control program for very little financial reward. This success will be translated into a broader scale program rollout across all CLD service areas in 2006.

Market Conditions

Horizon's interaction with customers, community partners and other LDC's we learned the following:

CDM program development does take time. In particular, procurement and legal issues must be thoroughly addressed up front in order to ensure long-term sustainable conservation success.

We found that simple, low cost incentives like the powerWISE Power Pack or free CFL's were very well received by residential customers, offered good TRC results and proved that customers did not require a lot of incentive to participate. In fact ease of participation accompanied by incentives with a perceived higher value to customers are the hallmarks of program success.

We learned that residential customers have varying degrees of knowledge with regard to energy conservation measures for their homes. Data from our Self-Evaluation Survey can be used for designing future conservation programs that address market needs.

Under the Social Housing Program, inclusion of the needs of low income housing customers must also be addressed. Social and low income housing customers are typically spending a greater percentage of their income on utilities or rent (that includes utilities) and can least afford to purchase retrofits or appliance upgrades. An education program for social and low income housing customers is critically important to ensure that conservation behaviour changes occur that are conducive to reducing energy use and embracing technologies that are designed to achieve this.

Public information and education is an important element of changing the consumers in Ontario to a culture of conservation yet there are no savings results recognized for these activities. This effectively penalizes Utilities for participating in this type of worthwhile initiative.

Conservation opportunities exist with residential and small commercial customers but the channel to this market has many challenges. These customers are overwhelmed by messages from all quarters and have no real opportunity to accurately assess their options or time and money to implement good solutions. Communication technology



could be better used to access these customers and offer them ways to streamline the implementation of sound choices.

Attending community events to promote our conservation programs was very well received by our customers and was very rewarding for our staff volunteers.

Assisting customers with Energy Audit and Feasibility Study Incentives allowed an opportunity for customers to recognize the potential energy savings available to them and advance plans for implementing solutions or measures with confidence.

Our PowerWISE Business Incentive Program showed us that Commercial and Industrial customer timelines for conservation projects are often longer than we expected and with a lower sense of urgency than we would prefer.

Commercial Programs must address the needs of the customers at the National, Provincial or Corporate level to allow implementation across jurisdictions and beyond individual stores. Coordination is required to allow large Corporations to make programs available to all store locations regardless of location by City or Province.

It is important to offer Commercial and Industrial customers access to information through convenient forums such as trade shows or the Ministry of Economic Development Energy workshops. There are many emerging technologies and a proliferation of service providers in the marketplace. We need to concentrate our efforts on helping these customers to understand not only the technologies but the impact and value these technologies can have on their specific organizations. This will lead to increased participation and adoption of these new energy efficient technologies.

We completed voltage conversion projects on our distribution system as part of our capital budget and found that the TRC test results were very poor due to the high capital costs and limited energy and demand reductions achieved.

Regulatory Environment

It has been a challenge to adapt to new regulations as they have emerged relative to CDM. For example, it was not anticipated in late 2004 that TRC analysis would be a requirement for this annual report. It was necessary to build the capability to conduct this type of reporting.

The energy conservation “choices” are increasing with both the Ministry of Energy and the OPA entering the market, following the LDCs. A cooperative effort among various agencies will be required or customer confusion will result.

Recommendations By Program Area

Residential and Commercial <50kW	Successful / H/M/L	Continue	Notes
Co-Branded Mass Market	Yes – H	Yes	Identify credits for softer measures such as education programs that will encourage CLD to implement further
Smart Meter Pilot	Too early to tell	Too early to tell	Testing of the Tantalus TUNET communications system and data exchange with our billing and settlement systems is ongoing.
Energy Audit Program	Yes – H	Yes	Expand with specific incentives for TRC positive initiatives
Social & Low Income Housing Program	Yes – M	Yes	SHSC facilitated program will be effective. Individual initiative require more local support in being able to reach low income people and get their active engagement
Residential Load Control	Early indications are Positive	Yes	This program will deliver key summer peak reductions
Refrigerator Buy-Back	Too Early to Tell	Too Early to tell	This program can be expanded province wide and could include freezers.
Commercial Institutional and Industrial >5kW			
Smart Meter Program	Too early to tell	Too early to tell	
Energy Audits and Feasibility Studies	Yes – H	Yes	Customers serious about saving energy and developing a business case use this program as an important first step in developing their business cases.
LED Retrofits for Traffic Lights	Too early to tell	Too early to tell	Program relies on the budget and work completed by the Niagara Regional Traffic Control. More work is anticipated in 2006.
Leveraging Energy Conservation or Load Mgmt	Too early to tell	Yes	Horizon to evaluate demands for this program in St. Catharines to assess funding requirements in 2006.
CI&I Load Control	Too early to tell	Yes	This program will deliver key summer peak reductions.
Distribution Loss			

Reduction			
Distribution Loss Reduction	N – L	No	As a CDM activity voltage conversion fails the TRC test.
Distributed Generation			
Load Displacement	Too early to tell	Yes	These programs have considerable potential to encourage new distributed generation as well as to utilize existing generators
Standby Generators	Too early to tell	Yes	
Overall Program Support			
Program Support Initiatives	Yes	Yes	These activities support all the program areas and assist with marketing and promotion

5. Conclusions

Horizon's efforts were focused on activities that produced results in the first year:

- o Customer recognition of the powerWISE brand as it relates to energy.
- o Spending on Horizon St. Catharines programs was 14% of the overall budget (\$253,000 out of \$1.83 million)
- o Excellent exposure in the area of smart meter pilot technology testing, residential, social and low income housing, commercial and industrial customer segments
- o Horizon anticipates spending the majority of its overall CDM budget in 2006.
- o CDM Program development is complex and time consuming but we were able to maximize our results by working with the CLD, which provided a huge advantage in knowledge and resource sharing, efficiency and cost effectiveness.
- o A number programs had actual kW and kW results in 2005
- o Many projects poised for results in 2006

Appendix A - Evaluation of the CDM Plan

	Total	Conservation and Demand Management Residential and Commercial (<50kW)	Conservation and Demand Management Commercial, Industrial and Institutional	Distributed Energy	Distribution Loss Reduction	Program Support
<i>Net TRC value (\$):</i>	\$197,959	\$197,959	\$0	\$0	\$0	\$0
<i>Benefit to cost ratio:</i>		5.85	n/a	n/a	n/a	n/a
<i>Number of participants or units delivered:</i>	5,264	5,264	0	0	0	0
<i>Total kWh to be saved over the lifecycle of the plan (kWh):</i>	4,509,547	4,509,547	0	0	0	0
<i>Total in year kWh saved (kWh):</i>	586,136	586,136	0	0	0	0
<i>Total peak demand saved (Summer kW):</i>	25	25	0	0	0	0
<i>Total kWh saved as a percentage of total kWh delivered (%):</i>	0.13%	0.13%				
<i>Peak kW saved as a percentage of LDC peak kW load (%):</i>	10%	10%				
<i>Gross in year C&DM expenditures (\$):</i>	\$ 252,945	\$225,243	\$3,163	\$283	\$0	\$24,256
<i>Expenditures per kWh saved (\$/kWh)*:</i>	\$ 0.43	\$ 0.38	n/a	n/a	n/a	n/a
<i>Expenditures per kW saved (\$/kW)**:</i>	\$ 10,163.54	\$ 9,050.45	n/a	n/a	n/a	n/a
<i>Utility discount rate (%):</i>	7.9					

*Expenditures include all utility program costs (direct and indirect) for all programs which primarily generate energy savings.

**Expenditures include all utility program costs (direct and indirect) for all programs which primarily generate capacity savings.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Co-branded Mass Market Program

Description of the program (including intent, design, delivery, partnerships and evaluation):

This flagship co-branded mass-market program (e.g. powerWISE®) is a multifaceted approach to fostering the conservation culture in Ontario. Through development of a significant cooperative effort amongst six of the largest municipal LDC's, this program will become synonymous with specific initiatives such as Compact Fluorescent Lighting (CFL) change out programs, LED Christmas Lights, Energy Star, Multi-Choice, energy audits, hot water heater blanket raps, school based education and a host of other programs aimed at providing customers with the tools and education needed to reduce their energy usage. Access to online services such as energy consumption calculators, an energy expert, and personalized energy audit services are contemplated as components of this program.

Measure(s):

	Retailer Program	Cold Water Wash	'Call to Action Contest'
Base case technology:	Incandescent Bulb, Do Nothing	Regular Detergent	Incandescent bulb, standard
Efficient technology:	Compact fluorescent bulb, LED Christmas Lights, Programmable Thermostat, Indoor Timer, Outdoor Timer, Ceiling Fan and Energuide for Existing Homes	Cold Water Wash Detergent	Compact fluorescent bulb, LED night light and efficient showerhead
Number of participants or units delivered:	3,618	141	334
Measure life (years):	4,30,18,20,20,20 and 25	1	4,30 and 12

B. **TRC Results:**

TRC Benefits (\$):	\$ 205,198
TRC Costs (\$):	
Utility program cost (less incentives):	\$ 5,089
Participant cost:	\$ 19,697
Total TRC costs:	\$ 24,786
Net TRC (in year CDN \$):	\$ 180,412
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	\$ 8.28

C. **Results:** (one or more category may apply)

Conservation Programs:

Demand savings (kW):	Summer	24.89
	Winter	0.00
	lifecycle	in year
Energy saved (kWh):	3,872,019	463,258
Other resources saved:		
Natural Gas (m3):		
Other (Water m3):	9812.04	817.67

Demand Management Programs:

Controlled load (kW)	
Energy shifted On-peak to Mid-peak (kWh):	
Energy shifted On-peak to Off-peak (kWh):	
Energy shifted Mid-peak to Off-peak (kWh):	

Demand Response Programs:

Dispatchable load (kW):	
Peak hours dispatched in year (hours):	

Power Factor Correction Programs:

Amount of KVar installed (KVar):	
Distribution system power factor at beginning of year (%):	
Distribution system power factor at end of year (%):	

Line Loss Reduction Programs:

Peak load savings (kW):	
	lifecycle
Energy savings (kWh):	in year

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):	
Energy generated (kWh):	
Peak energy generated (kWh):	
Fuel type:	

Other Programs (specify):

Metric (specify):	
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D. **Program Costs:**

Utility direct costs (\$):	Incremental capital:	\$ 234
	Incremental O&M:	\$ 38,851
	Incentive:	\$ -
	Total:	\$ 39,085
Utility indirect costs (\$):	Incremental capital:	\$ -
	Incremental O&M:	\$ -
	Total:	\$ -
Participant costs (\$):	Incremental equipment:	\$ -
	Incremental O&M:	\$ -
	Total:	\$ -

E. Comments:

1. powerWISE Brand

- powerWISE trade mark MOU and powerWISE trade mark licenses were executed between each of Enersource, Horizon, Hydro Ottawa, PowerStream, Toronto Hydro and Veridian with HUC.
 - powerWISE is being used extensively by the CLD to brand CLD conservation programs.
 - The powerWISE brand has also been translated to Eco-Consumer for French language purposes.
 - Interest in the powerWISE/Eco-Consumer brand has been expressed by the Ministry of Energy, the OPA, Hydro One and other utilities.
- Next Steps
- Extend the powerWISE brand to the Ministry of Energy, the OPA and Hydro One and other LDC's.

2. powerWISE Website

- Since its launch, powerwise.ca has received 37,000 hits from April 1, 2005 - Dec. 31, 2005.
- Next Steps
- Working with the Ministry of Energy continue to develop and promote powerwise.ca

3. powerWISE Retail Initiative

- 2.3 million coupons distributed
 - At Horizon over 227,000 coupons were distributed
 - Up to an estimated \$3.8M collective investment in moving the market through this initiative (at 5% coupon take up). Horizon ranked 3rd overall in coupon redemptions, with over 8680 coupons redeemed on purchases that result in over \$411k in net TRC value.
 - Results and costs of this program were split 75% Hamilton and 25% St. Catharines based on coupon redemptions reported.
- Next Steps
- Conclude program and measure success
 - Determine next campaign

4. Switch to Cold Water Wash Coupon Campaign

- At Horizon over 227,000 coupons were distributed through billing inserts.
 - Results and costs of this program were split 75% Hamilton and 25% St. Catharines based on coupon redemptions reported.
- Next Steps
- Conclude program and measure success
 - Determine next campaign

5. Kill A Watt Meter Library Loaner Project

- St. Catharines Public Library Loaned out meters 29 times in 2005.
- This project was launched at the Hamilton Public Library on January 23rd and 24th, 2006 with 2500 - 13 Watt compact fluorescent bulbs given out to library patrons.
- Horizon's staff are able to borrow a Kill A Watt Meter as of March 6, 2006

Next Steps

- Extend loaner program to other Horizon affiliates, including City of St. Catharines, City of Hamilton, and Social Housing providers etc.
- Determine next promotion campaign

6. powerWISE fleet branding

- 1,113 vehicles to be branded across the province. To date, 100 Horizon vehicles have been branded with energy conservation messages.
- Next Steps
- Additional vehicle branding

7. powerWISE School Based Education Initiative

- One multimedia theatre edition of the powerWISE home conservation model ordered.
- One powerWISE home conservation portable model ordered.

Next Steps

- Prepare multimedia content for powerWISE Home model theatre edition.
- Conduct staff training for use of the powerWISE Home portable model.

8. Horizon Utilities Website (UPDATE)

- Since its launch www.horizonutilities.com has received more than 315,372 visitors.

Next Steps

- Continue to enhance the website with new materials, links and applications.

9. Horizon Conservation Champions "Call To Action" Contest

- Four hundred conservation kits were given out to staff in December 2005.
- 207 adult pledge forms received
- 97 kids pledge forms were received.
- 159 self evaluation surveys were returned.

Next Steps

- All self evaluation surveys and pledge forms will be entered into a database to produce a report of the results
- Offer of this program to others is to be explored.

10. Code Green

- Series production for the CLD is now completed and the program will be aired in 2006

Next Steps

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. Name of the Program:		Smart Meter Pilot	
Description of the program (including intent, design, delivery, partnerships and evaluation):			
A pilot program for residential SMART meters will be deployed to enable the assessment of metering, communications, settlement, load control and other technologies that may be used to accommodate the universal application of SMART meters in the future. Further, sub-metering opportunities for the purposes of customer information in bulk-metered situations (i.e. condominiums) may be considered. This initiative will commence upon the release of a formal definition of a SMART meter by the Board.			
Measure(s):		Measure 1	Measure 2 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:		0	0
Measure life (years):			
B. TRC Results:			
TRC Benefits (\$):		\$ -	
TRC Costs (\$):			
Utility program cost (less incentives):		\$ -	
Participant cost:		\$ -	
Total TRC costs:		\$ -	
Net TRC (in year CDN \$):		\$ -	
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		#DIV/0!	
C. Results: (one or more category may apply)			
Conservation Programs:			
Demand savings (kW):		Summer	0.00
		Winter	0.00
		lifecycle	in year
Energy saved (kWh):		0.00	0.00
Other resources saved :			
Natural Gas (m3):			
Other (specify):			
Demand Management Programs:			
Controlled load (kW):			
Energy shifted On-peak to Mid-peak (kWh):			
Energy shifted On-peak to Off-peak (kWh):			
Energy shifted Mid-peak to Off-peak (kWh):			
Demand Response Programs:			
Dispatchable load (kW):			
Peak hours dispatched in year (hours):			
Power Factor Correction Programs:			
Amount of KVar installed (KVar):			
Distribution system power factor at beginning of year (%):			
Distribution system power factor at end of year (%):			
Line Loss Reduction Programs:			
Peak load savings (kW):			
		lifecycle	in year
Energy savings (kWh):			
Distributed Generation and Load Displacement Programs:			
Amount of DG installed (kW):			
Energy generated (kWh):			
Peak energy generated (kWh):			
Fuel type:			
Other Programs (specify):			
Metric (specify):			
D. Program Costs:			
Utility direct costs (\$):		Incremental capital:	\$ 162,932
		Incremental O&M:	\$ 7,205
		Incentive:	\$ -
		Total:	\$ 170,137
Utility indirect costs (\$):		Incremental capital:	
		Incremental O&M:	
		Total:	
Participant costs (\$):		Incremental equipment:	
		Incremental O&M:	
		Total:	
E. Comments:			
■ A Tantalus TUNET system was implemented in St. Catharines with 500 meter points installed in 2005.			
Next Steps			
■ Horizon is planning more testing and study of deployment of smart metering in 2006.			
■ The work management software will be purchased to support the deployment process of smart metering.			
■ Study of customer electricity usage as it relates to load shifting will be the focus of communications with customers receiving a smart meter.			
■ Development of our billing software, and web data presentation applications will be undertaken to accommodate smart meter data.			

Appendix B - Discussion of the Program

(complete this section for each program)

A. Name of the Program:		Energy Audit and Support	
Description of the program (including intent, design, delivery, partnerships and evaluation):			
Through visits to customers homes or by working through existing service providers, Horizon Utilities will provide conservation information and make specific recommendations for energy savings in such areas as major appliances, lighting, air leakage, hot water, heating and cooling. Incentives may also be provided. Services could be further tailored for specific subsidized housing applications.			
Measure(s):			
	Powerwise Powerpack	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	Incandescent bulb		
Efficient technology:	Compact fluorescent bulb, LED night light		
Number of participants or units delivered:	1,171	0	0
Measure life (years):	4 and 30 years		
B. TRC Results:			
TRC Benefits (\$):		\$	33,568
TRC Costs (\$):			
	Utility program cost (less incentives):	\$	16,021
	Participant cost:	\$	-
	Total TRC costs:	\$	16,021
Net TRC (in year CDN \$):		\$	17,547
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		\$	2.10
C. Results: (one or more category may apply)			
Conservation Programs:			
Demand savings (kW):	Summer		0.00
	Winter		0.00
	lifecycle		in year
Energy saved (kWh):	637,528		122,878
Other resources saved:			
Natural Gas (m3):			
Other (specify):			
Demand Management Programs:			
Controlled load (kW):			
Energy shifted On-peak to Mid-peak (kWh):			
Energy shifted On-peak to Off-peak (kWh):			
Energy shifted Mid-peak to Off-peak (kWh):			
Demand Response Programs:			
Dispatchable load (kW):			
Peak hours dispatched in year (hours):			
Power Factor Correction Programs:			
Amount of KVar installed (KVar):			
Distribution system power factor at beginning of year (%):			
Distribution system power factor at end of year (%):			
Line Loss Reduction Programs:			
Peak load savings (kW):			
	lifecycle		in year
Energy savings (kWh):			
Distributed Generation and Load Displacement Programs:			
Amount of DG installed (kW):			
Energy generated (kWh):			
Peak energy generated (kWh):			
Fuel type:			
Other Programs (specify):			
Metric (specify):			
D. Program Costs:			
Utility direct costs (\$):	Incremental capital:	\$	-
	Incremental O&M:	\$	16,021
	Incentive:	\$	-
	Total:	\$	16,021
Utility indirect costs (\$):	Incremental capital:	\$	-
	Incremental O&M:	\$	-
	Total:	\$	-
Participant costs (\$):	Incremental equipment:	\$	-
	Incremental O&M:	\$	-
	Total:	\$	-

E. **Comments:**

powerWISE for Homes – Energy Audit & Self Evaluation Pilot

- There were 1560 self-evaluation surveys completed by Horizon customers in exchange for the powerWISE power packs, as of Dec. 31, 2005.
- Horizon has given out incentives for over 150 customers to receive the powerWISE for homes and NRGuide home energy audits.

Next Steps

- Promotion of this project will continue in 2006 at our community events and home shows.

powerWISE Energy Conservation Handbook

- Over 10,000 handbooks have been distributed to date.

Next Steps

- Continue to distribute the powerWISE Energy Conservation Handbook at community events in 2006.
- Update the handbook with new energy savings tips as required.

powerWISE PowerPack

- Over 1500 powerWISE PowerPacks have been distributed
- The powerWISE PowerPack concept is also used by other members of the CLD in a variety of promotional opportunities

Next Steps

- Continue to promote the powerWISE PowerPacks
- Use of a version of the power pack for a paperless e-billing campaign 2nd Qtr 2006
- Use of a version of the power pack for a 2006 fridge bounty project 2nd Qtr 2006

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Social Housing Program

Description of the program (including intent, design, delivery, partnerships and evaluation):

A province wide centralized energy management service for the social housing sector may be developed in collaboration with the Provincial Government, utilities (e.g. Enbridge, Union Gas) and others.

A pilot program will be conducted to determine feasibility with an expectation that a full-scale provincial program would follow.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:	0	0	0
Measure life (years):			

B. **TRC Results:**

TRC Benefits (\$):		\$ -
TRC Costs (\$):		
Utility program cost (less incentives):	\$ -	
Participant cost:	\$ -	
Total TRC costs:	\$ -	
Net TRC (in year CDN \$):	\$ -	
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	#DIV/0!	

C. **Results:** (one or more category may apply)

Conservation Programs:

Demand savings (kW):	Summer	0.00
	Winter	0.00
	lifecycle	
Energy saved (kWh):	0.00	in year 0.00
Other resources saved:		
Natural Gas (m3):		
Other (specify):		

Demand Management Programs:

Controlled load (kW):	
Energy shifted On-peak to Mid-peak (kWh):	
Energy shifted On-peak to Off-peak (kWh):	
Energy shifted Mid-peak to Off-peak (kWh):	

Demand Response Programs:

Dispatchable load (kW):	
Peak hours dispatched in year (hours):	

Power Factor Correction Programs:

Amount of KVar installed (KVar):	
Distribution system power factor at beginning of year (%):	
Distribution system power factor at end of year (%):	

Line Loss Reduction Programs:

Peak load savings (kW):	
	lifecycle
	in year
Energy savings (kWh):	

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):	
Energy generated (kWh):	
Peak energy generated (kWh):	
Fuel type:	

Other Programs (specify):

Metric (specify):	
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D. **Program Costs*:**

Utility direct costs (\$):	Incremental capital:	\$ -
	Incremental O&M:	\$ -
	Incentive:	\$ -
	Total:	\$ -
Utility indirect costs (\$):	Incremental capital:	\$ -
	Incremental O&M:	\$ -
	Total:	\$ -
Participant costs (\$):	Incremental equipment:	\$ -
	Incremental O&M:	\$ -
	Total:	\$ -

E. **Comments:**

- Plans for retrofits in 2006 with Niagara Regional Housing Authority were completed.
- Incentive levels for the prescriptive program were established.
- Horizon incited Hamilton Community Housing installation of 36,340 CFL's, 625 water dams, and 450 shower flow restrictors.
- Conducted two pilot energy conservation workshops and shared the format and results with Social Housing Services Corporation.
- 1XX residents attended the energy conservation workshop.
- Completed design of social housing program complete with incentives to be used as a guideline for 2006 social housing retrofit projects.

Next Steps

- Work with Social Housing Service Corporation to ensure program incentives are made available to service providers in Horizon's service area.
- Create funding for a low income housing conservation program.
- Look for opportunities to assist with energy conservation education in the low income housing and social housing.

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. Name of the Program:		Energy Audit and Feasibility Studies	
Description of the program (including intent, design, delivery, partnerships and evaluation):			
A standard energy audit will be developed to assist in completion of audits. As well, a training program tailored to this specific sector will allow companies with a certified employee or outside consultants to perform the audit. Any cross-linkages with the residential audit project will be accessed where feasible. Strategic partnerships will be analyzed for incentives or other synergies. The audit model will be developed, tested and refined in co-operation with partners that will be involved with training, certifications, and management of the process. This standard checklist or procedure will be duplicated where possible.			
Measure(s):		Measure 1	Measure 2 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			
B. TRC Results:			
TRC Benefits (\$):		\$	-
TRC Costs (\$):			
Utility program cost (less incentives):		\$	-
Participant cost:		\$	-
Total TRC costs:		\$	-
Net TRC (in year CDN \$):		\$	-
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		#DIV/0!	
C. Results: (one or more category may apply)			
Conservation Programs:			
Demand savings (kW):		Summer	
		Winter	
		lifecycle	in year
Energy saved (kWh):			
Other resources saved :			
Natural Gas (m3):			
Other (specify):			
Demand Management Programs:			
Controlled load (kW):			
Energy shifted On-peak to Mid-peak (kWh):			
Energy shifted On-peak to Off-peak (kWh):			
Energy shifted Mid-peak to Off-peak (kWh):			
Demand Response Programs:			
Dispatchable load (kW):			
Peak hours dispatched in year (hours):			
Power Factor Correction Programs:			
Amount of KVar installed (KVar):			
Distribution system power factor at beginning of year (%):			
Distribution system power factor at end of year (%):			
Line Loss Reduction Programs:			
Peak load savings (kW):			
		lifecycle	in year
Energy savings (kWh):			
Distributed Generation and Load Displacement Programs:			
Amount of DG installed (kW):			
Energy generated (kWh):			
Peak energy generated (kWh):			
Fuel type:			
Other Programs (specify):			
Metric (specify):			
D. Program Costs*:			
Utility direct costs (\$):		Incremental capital:	\$ -
		Incremental O&M:	\$ 3,163
		Incentive:	\$ -
		Total:	\$ 3,163
Utility indirect costs (\$):		Incremental capital:	\$ -
		Incremental O&M:	\$ -
		Total:	\$ -
Participant costs (\$):		Incremental equipment:	\$ -
		Incremental O&M:	\$ -
		Total:	\$ -

E. **Comments:**

- The powerWISE Energy Audit Incentive program forms hit the Horizon website in October or 2005.
- Horizon participated in a request for proposal for Energy Audit Services with the NEPPA utilities. Presentations from Energy Audit Companies were received at a meeting held with the NEPPA members in August of 2005
- Energy Audit applications were approved for TRW Automotive in St. Catharines, and Mohawk College in Hamilton.
- Another 11 application enquiries have been received to date.

Next Steps

- Work with customers enquiring about energy audit incentives to complete their applications.
- Work with energy auditors to ensure that applications for any eligible energy audit projects in Horizon's service territory are being submitted.
- Receive results and recommendations from the energy audits conducted at Horizon's four main work centres.

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Commercial, Industrial and Institutional Smart Meter Program

Description of the program (including intent, design, delivery, partnerships and evaluation):

Horizon Utilities will make an investment to further the use of SMART or interval meters by commercial industrial and institutional customers.

This program will commence upon the release of a formal definition of a SMART meter by the Board.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			

B. **TRC Results:**

TRC Benefits (\$):	\$	-
TRC Costs (\$):		
Utility program cost (less incentives):	\$	-
Participant cost:	\$	-
Total TRC costs:	\$	-
Net TRC (in year CDN \$):	\$	-
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	#DIV/0!	

C. **Results:** (one or more category may apply)

Conservation Programs:

Demand savings (kW):	Summer	0.00
	Winter	0.00
	lifecycle	
	in year	
Energy saved (kWh):	0.00	0.00
Other resources saved:		
Natural Gas (m3):		
Other (specify):		

Demand Management Programs:

Controlled load (kW)	
Energy shifted On-peak to Mid-peak (kWh):	
Energy shifted On-peak to Off-peak (kWh):	
Energy shifted Mid-peak to Off-peak (kWh):	

Demand Response Programs:

Dispatchable load (kW):	
Peak hours dispatched in year (hours):	

Power Factor Correction Programs:

Amount of KVar installed (KVar):	
Distribution system power factor at beginning of year (%):	
Distribution system power factor at end of year (%):	

Line Loss Reduction Programs:

Peak load savings (kW):	
	lifecycle
	in year
Energy savings (kWh):	

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):	
Energy generated (kWh):	
Peak energy generated (kWh):	
Fuel type:	

Other Programs (specify):

Metric (specify):	
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D. **Program Costs*:**

Utility direct costs (\$):	Incremental capital:	\$	-
	Incremental O&M:	\$	-
	Incentive:	\$	-
	Total:	\$	-
Utility indirect costs (\$):	Incremental capital:	\$	-
	Incremental O&M:	\$	-
	Total:	\$	-
Participant costs (\$):	Incremental equipment:	\$	-
	Incremental O&M:	\$	-
	Total:	\$	-

E. Comments:

- Installation of interval metering was performed at all Horizon's, four work centres.

Next Steps

- Horizon is in the process of revising the conditions of service document to reflect the requirement of interval metering >50kw.
- Seek standardization on the charging of communication costs for interval metering with the CLD group and OEB.
- Continue to investigate cost effective communication systems for interval metered customers.

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. Name of the Program: LED Retrofits for Traffic Lights			
Description of the program (including intent, design, delivery, partnerships and evaluation):			
This initiative involves replacing traffic signals at intersections to light-emitting diode (LED) technology, which is now fairly common in many U.S. municipalities.			
Measure(s):			
	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			
B. TRC Results:			
TRC Benefits (\$):		\$	-
TRC Costs (\$):			
	Utility program cost (less incentives):	\$	-
	Participant cost:	\$	-
	Total TRC costs:	\$	-
Net TRC (in year CDN \$):		\$	-
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		#DIV/0!	
C. Results: (one or more category may apply)			
Conservation Programs:			
Demand savings (kW):	Summer		
	Winter		
	lifecycle		in year
Energy saved (kWh):			
Other resources saved:			
	Natural Gas (m3):		
	Other (specify):		
Demand Management Programs:			
Controlled load (kW):			
Energy shifted On-peak to Mid-peak (kWh):			
Energy shifted On-peak to Off-peak (kWh):			
Energy shifted Mid-peak to Off-peak (kWh):			
Demand Response Programs:			
Dispatchable load (kW):			
Peak hours dispatched in year (hours):			
Power Factor Correction Programs:			
Amount of KVar installed (KVar):			
Distribution system power factor at beginning of year (%):			
Distribution system power factor at end of year (%):			
Line Loss Reduction Programs:			
Peak load savings (kW):			
	lifecycle		in year
Energy savings (kWh):			
Distributed Generation and Load Displacement Programs:			
Amount of DG installed (kW):			
Energy generated (kWh):			
Peak energy generated (kWh):			
Fuel type:			
Other Programs (specify):			
Metric (specify):			
D. Program Costs*:			
Utility direct costs (\$):	Incremental capital:	\$	-
	Incremental O&M:	\$	-
	Incentive:	\$	-
	Total:	\$	-
Utility indirect costs (\$):	Incremental capital:	\$	-
	Incremental O&M:	\$	-
	Total:	\$	-
Participant costs (\$):	Incremental equipment:	\$	-
	Incremental O&M:	\$	-
	Total:	\$	-

Appendix B - Discussion of the Program

(complete this section for each program)

A. Name of the Program:		LED Retrofits for Traffic Lights	
Description of the program (including intent, design, delivery, partnerships and evaluation):			
This initiative involves replacing traffic signals at intersections to light-emitting diode (LED) technology, which is now fairly common in many U.S. municipalities.			
Measure(s):			
	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			
B. TRC Results:			
TRC Benefits (\$):		\$	-
TRC Costs (\$):			
	Utility program cost (less incentives):	\$	-
	Participant cost:	\$	-
	Total TRC costs:	\$	-
Net TRC (in year CDN \$):		\$	-
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		#DIV/0!	
C. Results: (one or more category may apply)			
Conservation Programs:			
Demand savings (kW):	Summer		
	Winter		
	lifecycle		in year
Energy saved (kWh):			
Other resources saved:			
	Natural Gas (m3):		
	Other (specify):		
Demand Management Programs:			
Controlled load (kW):			
Energy shifted On-peak to Mid-peak (kWh):			
Energy shifted On-peak to Off-peak (kWh):			
Energy shifted Mid-peak to Off-peak (kWh):			
Demand Response Programs:			
Dispatchable load (kW):			
Peak hours dispatched in year (hours):			
Power Factor Correction Programs:			
Amount of KVar installed (KVar):			
Distribution system power factor at beginning of year (%):			
Distribution system power factor at end of year (%):			
Line Loss Reduction Programs:			
Peak load savings (kW):			
	lifecycle		in year
Energy savings (kWh):			
Distributed Generation and Load Displacement Programs:			
Amount of DG installed (kW):			
Energy generated (kWh):			
Peak energy generated (kWh):			
Fuel type:			
Other Programs (specify):			
Metric (specify):			
D. Program Costs:			
Utility direct costs (\$):	Incremental capital:	\$	-
	Incremental O&M:	\$	-
	Incentive:	\$	-
	Total:	\$	-
Utility indirect costs (\$):	Incremental capital:	\$	-
	Incremental O&M:	\$	-
	Total:	\$	-
Participant costs (\$):	Incremental equipment:	\$	-
	Incremental O&M:	\$	-
	Total:	\$	-

E. Comments:

- Regional Niagara Traffic Control have not reported the 2005 LED retrofit or replacement of fixtures performed as a requirement to become eligible for the incentives offered by Horizon.
- Target of \$150/kW in reduced demand was established as an incentive or 25% of the capital cost of an LED fixture.

Next Steps

- The Regional Niagara is to report fixtures replaced along with supporting reduced electrical demand and consumption calculations for each location.
- Horizon will verify the installations upon completion and process the request for incentives.
- Regional Niagara Traffic Control will be submitting results of the 2006 installations.

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. Name of the Program: Leveraging Energy Conservation and Load Management			
Description of the program (including intent, design, delivery, partnerships and evaluation):			
Existing energy conservation and/or load management programs such as NRCan's Energy Innovators Initiative, Enbridge initiatives etc. will be promoted and incentives may be provided to advance market uptake of these programs and implementation of the recom			
Measure(s):			
	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			
B. TRC Results:			
TRC Benefits (\$):		\$	-
TRC Costs (\$):			
	Utility program cost (less incentives):	\$	-
	Participant cost:	\$	-
	Total TRC costs:	\$	-
Net TRC (in year CDN \$):		\$	-
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		#DIV/0!	
C. Results: (one or more category may apply)			
Conservation Programs:			
Demand savings (kW):	Summer		
	Winter		
	lifecycle		in year
Energy saved (kWh):			
Other resources saved:			
Natural Gas (m3):			
Other (specify):			
Demand Management Programs:			
Controlled load (kW):			
Energy shifted On-peak to Mid-peak (kWh):			
Energy shifted On-peak to Off-peak (kWh):			
Energy shifted Mid-peak to Off-peak (kWh):			
Demand Response Programs:			
Dispatchable load (kW):			
Peak hours dispatched in year (hours):			
Power Factor Correction Programs:			
Amount of KVar installed (KVar):			
Distribution system power factor at beginning of year (%):			
Distribution system power factor at end of year (%):			
Line Loss Reduction Programs:			
Peak load savings (kW):			
	lifecycle		in year
Energy savings (kWh):			
Distributed Generation and Load Displacement Programs:			
Amount of DG installed (kW):			
Energy generated (kWh):			
Peak energy generated (kWh):			
Fuel type:			
Other Programs (specify):			
Metric (specify):			
D. Program Costs*:			
Utility direct costs (\$):	Incremental capital:	\$	-
	Incremental O&M:	\$	-
	Incentive:	\$	-
	Total:	\$	-
Utility indirect costs (\$):	Incremental capital:	\$	-
	Incremental O&M:	\$	-
	Total:	\$	-
Participant costs (\$):	Incremental equipment:	\$	-
	Incremental O&M:	\$	-
	Total:	\$	-

E. Comments:

- This program was launched in October 2005
- There have been no incentives paid to St. Catharines customers through this program to date.
- 5 project applications have been received to date and 2 enquiries.
- Savings from these projects are expected to reach 92 kW of demand and 224,338 kWh's of consumption.

Next Steps

- Horizon to evaluate the potential of this program for its St. Catharines customers and make CDM plan changes accordingly.
- Horizon to continue to promote this program to customers and leverage Energy Audit Companies to bring forward St. Catharines project applications.

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. Name of the Program:		Load Control Initiative	
Description of the program (including intent, design, delivery, partnerships and evaluation):			
Load control uses a real time communications link to enable or disable customer loads at the discretion of the utility. These controls are usually engaged during system peak periods or when required to relieve pressure on the system grid and may include such "dispatchable" loads as electric hot water tanks, pool pumps, lighting, air conditioners, etc.			
Measure(s):			
	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			
B. TRC Results:			
TRC Benefits (\$):		\$	-
TRC Costs (\$):			
	Utility program cost (less incentives):	\$	-
	Participant cost:	\$	-
	Total TRC costs:	\$	-
Net TRC (in year CDN \$):		\$	-
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		#DIV/0!	
C. Results: (one or more category may apply)			
Conservation Programs:			
Demand savings (kW):	Summer		0.00
	Winter		0.00
	lifecycle		in year
Energy saved (kWh):	0.00		0.00
Other resources saved :			
	Natural Gas (m3):		
	Other (specify):		
Demand Management Programs:			
Controlled load (kW):			
Energy shifted On-peak to Mid-peak (kWh):			
Energy shifted On-peak to Off-peak (kWh):			
Energy shifted Mid-peak to Off-peak (kWh):			
Demand Response Programs:			
Dispatchable load (kW):			
Peak hours dispatched in year (hours):			
Power Factor Correction Programs:			
Amount of KVar installed (KVar):			
Distribution system power factor at beginning of year (%):			
Distribution system power factor at end of year (%):			
Line Loss Reduction Programs:			
Peak load savings (kW):			
	lifecycle		in year
Energy savings (kWh):			
Distributed Generation and Load Displacement Programs:			
Amount of DG installed (kW):			
Energy generated (kWh):			
Peak energy generated (kWh):			
Fuel type:			
Other Programs (specify):			
Metric (specify):			
D. Program Costs:			
Utility direct costs (\$):	Incremental capital:	\$	-
	Incremental O&M:	\$	-
	Incentive:	\$	-
	Total:	\$	-
Utility indirect costs (\$):	Incremental capital:	\$	-
	Incremental O&M:	\$	-
	Total:	\$	-
Participant costs (\$):	Incremental equipment:	\$	-
	Incremental O&M:	\$	-
	Total:	\$	-

E. **Comments:**

- Selection of load control program marketing and implementation services has been completed.

Next Steps

- An integrator will be contracted in Q2 2006
- An RFP for control equipment will be issued and awarded in Q2 2006
- Customers will be canvassed to sign up for the program in Q2 2006

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. Name of the Program:		Load Displacement Program	
Description of the program (including intent, design, delivery, partnerships and evaluation):			
Distributed generation behind the customer's meter provides an excellent opportunity to displace load from the local distribution system's grid in a very effective manner. Load displacement technology, such as combined heat and power systems, provides increased power efficiency and thermal systems. Combined with an existing or new district heating distribution system this technology contributes to the development of sustainable energy networks within Ontario's communities. Other technologies such as micro-turbines, wind, biomass fuels and solar provide additional options to meet the customer's needs. This initiative will facilitate the development and implementation of these opportunities. Financial incentives will be considered based on the project's viability. Development of educational and technology programs in conjunction with local colleges and universities may be considered. Small pilots or demonstration projects to promote alternative and renewable energy sources may also be considered.			
Measure(s):		Measure 1	Measure 2 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			
B. TRC Results:			
TRC Benefits (\$):		\$ -	
TRC Costs (\$):			
Utility program cost (less incentives):		\$ -	
Participant cost:		\$ -	
Total TRC costs:		\$ -	
Net TRC (in year CDN \$):		\$ -	
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		#DIV/0!	
C. Results: (one or more category may apply)			
Conservation Programs:			
Demand savings (kW):		Summer	
		Winter	
		lifecycle	in year
Energy saved (kWh):			
Other resources saved:			
Natural Gas (m3):			
Other (specify):			
Demand Management Programs:			
Controlled load (kW):			
Energy shifted On-peak to Mid-peak (kWh):			
Energy shifted On-peak to Off-peak (kWh):			
Energy shifted Mid-peak to Off-peak (kWh):			
Demand Response Programs:			
Dispatchable load (kW):			
Peak hours dispatched in year (hours):			
Power Factor Correction Programs:			
Amount of KVar installed (KVar):			
Distribution system power factor at beginning of year (%):			
Distribution system power factor at end of year (%):			
Line Loss Reduction Programs:			
Peak load savings (kW):			
		lifecycle	in year
Energy savings (kWh):			
Distributed Generation and Load Displacement Programs:			
Amount of DG installed (kW):			
Energy generated (kWh):			
Peak energy generated (kWh):			
Fuel type:			
Other Programs (specify):			
Metric (specify):			
D. Program Costs:			
Utility direct costs (\$):		Incremental capital:	\$ -
		Incremental O&M:	\$ 283
		Incentive:	\$ -
		Total:	\$ 283
Utility indirect costs (\$):		Incremental capital:	\$ -
		Incremental O&M:	\$ -
		Total:	\$ -
Participant costs (\$):		Incremental equipment:	\$ -
		Incremental O&M:	\$ -
		Total:	\$ -

E. Comments:

- No projects or installation activities have been undertaken to date.

Next Steps

- An RFP for Horizon Standby generation will be issued in 2nd Quarter 2006.
- Horizon will develop an incentive for residential, commercial, industrial, and institutional customer load displacement projects.

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. Name of the Program:		Load Displacement Program	
Description of the program (including intent, design, delivery, partnerships and evaluation):			
Distributed generation behind the customer's meter provides an excellent opportunity to displace load from the local distribution system's grid in a very effective manner. Load displacement technology, such as combined heat and power systems, provides increased power efficiency and thermal systems. Combined with an existing or new district heating distribution system this technology contributes to the development of sustainable energy networks within Ontario's communities. Other technologies such as micro-turbines, wind, biomass fuels and solar provide additional options to meet the customer's needs. This initiative will facilitate the development and implementation of these opportunities. Financial incentives will be considered based on the project's viability. Development of educational and technology programs in conjunction with local colleges and universities may be considered. Small pilots or demonstration projects to promote alternative and renewable energy sources may also be considered.			
Measure(s):		Measure 1	Measure 2 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			
B. TRC Results:			
TRC Benefits (\$):		\$ -	
TRC Costs (\$):			
Utility program cost (less incentives):		\$ -	
Participant cost:		\$ -	
Total TRC costs:		\$ -	
Net TRC (in year CDN \$):		\$ -	
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		#DIV/0!	
C. Results: (one or more category may apply)			
Conservation Programs:			
Demand savings (kW):		Summer	
		Winter	
		lifecycle	in year
Energy saved (kWh):			
Other resources saved:			
Natural Gas (m3):			
Other (specify):			
Demand Management Programs:			
Controlled load (kW):			
Energy shifted On-peak to Mid-peak (kWh):			
Energy shifted On-peak to Off-peak (kWh):			
Energy shifted Mid-peak to Off-peak (kWh):			
Demand Response Programs:			
Dispatchable load (kW):			
Peak hours dispatched in year (hours):			
Power Factor Correction Programs:			
Amount of KVar installed (KVar):			
Distribution system power factor at beginning of year (%):			
Distribution system power factor at end of year (%):			
Line Loss Reduction Programs:			
Peak load savings (kW):			
		lifecycle	in year
Energy savings (kWh):			
Distributed Generation and Load Displacement Programs:			
Amount of DG installed (kW):			
Energy generated (kWh):			
Peak energy generated (kWh):			
Fuel type:			
Other Programs (specify):			
Metric (specify):			
D. Program Costs:			
Utility direct costs (\$):		Incremental capital:	\$ -
		Incremental O&M:	\$ 283
		Incentive:	\$ -
		Total:	\$ 283
Utility indirect costs (\$):		Incremental capital:	\$ -
		Incremental O&M:	\$ -
		Total:	\$ -
Participant costs (\$):		Incremental equipment:	\$ -
		Incremental O&M:	\$ -
		Total:	\$ -

E. **Comments:**

- No projects or installation activities have been undertaken to date.

Next Steps

- An RFP for Horizon Standby generation will be issued in 2nd Quarter 2006.
- Horizon will develop an incentive for residential, commercial, industrial, and institutional customer load displacement projects.

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

Appendix B - Discussion of the Program

(complete this section for each program)

A. Name of the Program:		Portfolio Administration	
Description of the program (including intent, design, delivery, partnerships and evaluation):			
Measure(s):	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			
B. TRC Results:			
TRC Benefits (\$):		\$	-
TRC Costs (\$):			
	Utility program cost (less incentives):	\$	-
	Participant cost:	\$	-
	Total TRC costs:	\$	-
Net TRC (in year CDN \$):		\$	-
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		#DIV/0!	
C. Results: (one or more category may apply)			
Conservation Programs:			
Demand savings (kW):	Summer		0.00
	Winter		0.00
	lifecycle		in year
Energy saved (kWh):		0.00	0.00
Other resources saved:			
	Natural Gas (m3):		
	Other (specify):		
Demand Management Programs:			
Controlled load (kW):			
Energy shifted On-peak to Mid-peak (kWh):			
Energy shifted On-peak to Off-peak (kWh):			
Energy shifted Mid-peak to Off-peak (kWh):			
Demand Response Programs:			
Dispatchable load (kW):			
Peak hours dispatched in year (hours):			
Power Factor Correction Programs:			
Amount of KVar installed (KVar):			
Distribution system power factor at beginning of year (%):			
Distribution system power factor at end of year (%):			
Line Loss Reduction Programs:			
Peak load savings (kW):			
	lifecycle		in year
Energy savings (kWh):			
Distributed Generation and Load Displacement Programs:			
Amount of DG installed (kW):			
Energy generated (kWh):			
Peak energy generated (kWh):			
Fuel type:			
Other Programs (specify):			
Metric (specify):			
D. Program Costs:			
Utility direct costs (\$):	Incremental capital:	\$	-
	Incremental O&M:	\$	-
	Incentive:	\$	-
	Total:	\$	-
Utility indirect costs (\$):	Incremental capital:	\$	-
	Incremental O&M:	\$	24,256
	Total:	\$	24,256
Participant costs (\$):	Incremental equipment:	\$	-
	Incremental O&M:	\$	-
	Total:	\$	-

E. Comments:

*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

		TRC Net Benefits, \$	TRC Benefits, \$	TRC Costs, \$	Benefit / Cost Ratio	kWh saved in 2005	kWh saved over life of measure	Peak demand saved (kW)	Utility Costs	SSM
Residential and Small Commercial (<50kW)										
	Mass Market	\$ 180,412	\$ 205,198	\$ 24,786	8.28	\$ 463,258	\$ 3,872,019	\$ 25	\$ 39,085	\$ 9,021
	SMART Meter	\$ -	\$ -	\$ -	#DIV/0!	\$ -	\$ -	\$ -	\$ 170,137	\$ -
	Energy Audit	\$ 17,547	\$ 33,568	\$ 16,021	2.10	\$ 122,878	\$ 637,528	\$ -	\$ 16,021	\$ 877
		\$ 197,959	\$ 238,766	\$ 40,807	5.85	586,136	4,509,547	25	\$ 225,243	\$ 9,898
Commercial, Industrial and Institutional										
	SMART Meter	\$ -	\$ -	\$ -	#DIV/0!	\$ -	\$ -	\$ -	\$ -	\$ -
	Energy Audit & Feasibility Studie	\$ -	\$ -	\$ -	#DIV/0!	\$ -	\$ -	\$ -	\$ 3,163	\$ -
	LED Traffic Lights	\$ -	\$ -	\$ -	#DIV/0!	\$ -	\$ -	\$ -	\$ -	\$ -
	Leveraging Energy Conservation	\$ -	\$ -	\$ -	#DIV/0!	\$ -	\$ -	\$ -	\$ -	\$ -
	Load Control	\$ -	\$ -	\$ -	#DIV/0!	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	#DIV/0!	-	-	-	\$ 3,163	\$ -
Distributed Energy										
	Distributed Energy	\$ -	\$ -	\$ -	#DIV/0!	\$ -	\$ -	\$ -	\$ 283	\$ -
		\$ -	\$ -	\$ -	#DIV/0!	-	-	-	\$ 283	\$ -
Distribution Loss Reduction										
	Distribution Loss Reduction	\$ -	\$ -	\$ -	#DIV/0!	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ -	\$ -	\$ -	#DIV/0!	-	-	-	\$ -	\$ -
Overall Program Support										
	Portfolio Administration	\$ -	\$ -	\$ -	#DIV/0!	\$ -	\$ -	\$ -	\$ 24,256	\$ -
		\$ -	\$ -	\$ -	#DIV/0!	-	-	-	\$ 24,256	\$ -
Total		\$ 197,959	\$ 238,766	\$ 40,807	5.85	586,136	4,509,547	25	\$ 252,945	\$ 9,898

ATTACHMENT C3

REFERENCE: VECC QUESTION 44A



Horizon Utilities Corporation

Conservation and Demand Management

2006 Annual Report

**Ontario Energy Board File No. RP-2004-0203
Distribution License ED 2006-0031**

March 31, 2007

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1. Introduction

On December 10, 2004 the Ontario Energy Board (“Board”) issued its oral decision in the RP-2004-0203 proceeding, with respect to six (6) applications filed by the Coalition of Large Distributors (“CLD”) comprising Enersource Hydro Mississauga, Horizon Utilities Corporation, Hydro Ottawa Limited, PowerStream Inc. Toronto Hydro-Electric System Limited and Veridian Connections. This report is a requirement of that decision. In respect of the application filed by Horizon Utilities Corporation, the Board issued its Final Order on February 3, 2005 under docket number RP-2004-0203/ EB-2004-0488.

The Board’s decision indicated that annual reporting “should be done on a calendar year and should be filed with the Board no later than March 31st of the following year” and would be subject to a public review. On December 21, 2005 the Board issued a Guideline for Annual Reporting of CDM Initiatives that explained the detailed requirements. The Board issued amended requirements for reporting CDM activities on March 1, 2007. This report has been prepared in accordance with those guidelines and amended requirements.

Currently, Horizon Utilities has two separate Conservation and Demand Management Plans filed with the OEB for the former Hamilton Hydro Inc. (HHI) RP 2004-0203 / EB-2004-0488 and St. Catharines Hydro Utility Services Inc. (SCHUSI) RP 2004-0203 / EB-2004-0523. On November 7, 2006, Board staff agreed with Horizon’s recommendation to account for CDM spending on a consolidated basis under the single Distribution License No. ED 2006-0031.

Horizon Utilities has been active in implementing many more programs in the second year of its CDM program that delivered results in several customer segments. Highlights from 2006 include:

- o A customer link from Horizon’s website to the site www.powerwise.ca.
- o Participated in the Refrigerator Retirement Program in conjunction with five NEPA LDC’s and the OPA. St. Catharines was a provincial pilot site but Horizon ran this program in Hamilton along with the NEPA participants using the same OPA delivery agents. This successful program removed 1,449 secondary fridges from Horizon’s service territory.
- o Horizon partnered with Honeywell to launch the **peaksaver**[™] program in September of 2006. By the end of 2006, 881 residential customers had load control thermostats professionally installed.
- o The powerWISE® Business Incentive Program gained popularity with our Industrial and Commercial customers in 2006 with 17 applications being received. Horizon’s incentive provided lighting solutions that delivered a reduction in energy use and more adequate illumination to facilities including the Pigott building in Hamilton.
- o In 2006 our events van hit the road bringing energy efficient ideas to our customers at community events. Horizon attended over 40 events to promote conservation.
- o In 2006, Horizon reached out to our social housing service providers including Victoria Park Homes, Niagara Housing, and the Hamilton Housing Authority. Project scopes varied. Victoria Park Homes retrofitted four buildings with 7,055

new CFL's for in-suite lighting. Niagara Housing completed their first energy efficient pilot retrofit project at Kenworth Acres Senior's complex. Meanwhile, Hamilton Community Housing carried on with in-suite CFL installations by installing 950 bulbs into homes where people need to cut energy use and costs most.

- o Horizon installed 7,306 smart meters in a pilot project that tested technologies and procedures to be used during full deployment.
- o Our Energy Audit and Self Evaluation program with partner Green Venture came to an end with the Federal government's funding cuts to the EnerGuide for Homes program. No new audits were conducted but Horizon did commit to provide funding for those residential customers completing follow-up audits by March 2007.
- o Horizon provided conservation messaging through various energy conservation channels including media interviews, billing inserts, online newspapers and public information sessions.

With 2006 being the second year of Horizon's three-year plan, many programs previously planned in 2005 were successfully delivered to Horizon customers. Horizon demonstrated the ability to deliver conservation programs in a resourceful and cooperative manner. Important partners, including the CLD, NEPA, OPA, local gas distributors and local community groups, enhanced the efforts of the Horizon CDM team. Horizon Utilities is committed to helping the government build a sustainable long-term conservation culture in Ontario.

1.1 Ongoing Opportunities

As Ontario develops the conservation culture, it is necessary to balance the need for short-term results while fostering a long-term conservation attitude among provincial citizens and businesses. The industry must continue to coordinate its efforts to ensure that program delivery is efficient and available to all customers. Our goal should be rapid program deployment using the LDC's clear channel to market. Horizon best serves its customers as the main channel for effective conservation programs. Horizon has finalized plans to finish conservation projects funded through Third Tranche MARR and has applied to the OEB for a transfer of funds on February 12, 2007 to carry out these plans. At this time, Horizon is investigating 2nd generation conservation program funding through the OPA application process. Besides participation in the Every Kilowatt Counts Spring Mailout, Horizon is preparing for the four upcoming OPA programs that include: Appliance Retirement, Business Incentive Program, Summer Challenge, and Residential Load Control.

2. Evaluation of Overall Plan

As noted in the Appendices, Horizon's 2006 CDM programs more than quadrupled 2005 energy savings, exceeding 29 million kWh (gross) and 2.25 MW in demand reduction. However, on a dollar per kilowatt-hour basis, the results remained steady at \$0.14 / kWh. In 2006, this equated to 0.5% of total electricity delivered. Considering peak demand, the 2.255 MW reduction cost just over \$1,607 / kW. This equated to 0.20 % of the maximum demand during 2006. Horizon's \$1.7 Mil investment in smart meter technologies must be factored into the cost per kwhr and kw demand reduced as it represented approximately 40% of the gross expenditures in 2006. Please refer to the Appendices for a detailed evaluation of Horizon's CDM activities during 2006.

Horizon's approach was to deliver the majority of conservation and demand management programs in 2006 in order to meet budget targets by September 30th, 2007. It should be noted that many of the tasks completed were critical ingredients in the development of the conservation culture within Horizon territory. However, many of these efforts do not contribute directly to the key performance benchmarks of \$/kWh and \$/kW. This included smart meter deployment, community events, energy audits, the Kill-A-Watt meter lending program, powerWISE® Smart Home conservation model, education, and many other initiatives that are critical when fostering the culture of conservation.

CDM program development is a complex and time-consuming process. Procurement and legal processes were more costly and time consuming than originally expected. Horizon was able to maximize our results by working with the Coalition of Large Distributors, which provided a significant advantage in knowledge and resource sharing, efficiency and cost effectiveness. As we gained market experience, we were able to fine-tune our individual CDM plans as well. Through continued efforts of the CLD, Horizon was able to offer residential customers the **peaksaver**™ program, installing 881 programmable thermostats in time to save energy on their winter heating bills.

In reviewing the information provided in both Appendices A, B and C, it should be noted that significant costs related to the residential smart meter pilot in 2006. This component of Horizon's CDM plan (i.e. deployment of smart meters), aligned with provincial government policy direction. The impact of smart meters on kWh consumption and kW demand has not been assessed, and therefore has not been included in this report. However, it should be noted that this significantly reduces the overall cost benefit analysis provided in Appendix A.

Horizon continued to foster relations and plan projects in 2006 with social housing service providers that have now resulted in a cumulative annual savings of 6,309,230 kWh. There are still more second generation opportunities to be explored with our local service providers.

Appearing at over 40 community events last year, Horizon offered a unique opportunity to engage over 50 staff volunteers in learning about conservation measures, then extending this knowledge and leadership to the public. An addition of the smart meter display has proven useful in preparing customers for time-of-use rates and introducing conservation concepts that will allow them to seek cost savings when those rates take effect.

Increasing awareness about key conservation concepts, including consumption (kWh), demand (kW) and underlying reasons for Ontario's CDM campaign has been challenging both internally and externally. Internally, the Conservation Champions Committee brings the message to each department. Externally, this message is shared with the community at events, programs and media channels.

Opportunities to deliver cost-effective conservation measures in the area of Distribution System Loss Reduction were not developed. Therefore, a request to transfer this funding was carried out on Feb 12, 2007. Since that time, the request has been approved.

Finally, the fact that the powerWISE® for Business Incentives Program (PBIP) customers must complete energy efficient projects within a specific timeframe poses some risk to Horizon. Although CDM funds are allocated to project applications received and pre-approved, projects must be completed and verified before payment is issued. Since many of the projects specified in the 2006 applications were not completed, Horizon is now taking steps to confirm completion dates and thereby reduce the potential of stranding funds.

Horizon is reviewing second-generation opportunities to carry this message further using established relationships with the CLD, Ontario Power Authority, NEPA, other LDC's and our local community partners.

3. Discussion of Programs & 2006 Activities

3.1 Residential and Small Commercial (< 50 kW)

3.1.1 Co-Branded Mass Market Program

Description

This flagship co-branded mass-market program (powerWISE®) is a multifaceted approach to fostering the conservation culture in Ontario. Through development of a significant cooperative effort among six of the largest municipal LDC's, this program has become aligned with specific initiatives such as Compact Fluorescent Lighting (CFL) change out programs, LED Christmas Light Exchanges, Energy Star, Multi-Choice, energy audits, hot water heater blanket wraps, school based education and a host of other programs aimed at providing customers with the tools and education needed to reduce their energy usage. Access to online services such as energy consumption calculators, an energy expert and personalized energy audit services are being considered as future components of this program.

Target users

Mass-market including residential and small commercial <50 kW of monthly demand

Benefits

Increased awareness, improved product supply, culture shift, and significant demand and energy reductions.

3.1.1.1 Activity with the powerWISE® brand

Action

- o Hamilton Utilities Corp. (HUC) registered the powerWISE® mark prior to Ontario's CDM activities.
- o During CLD CDM plan preparation, it was agreed that the CLD would collectively develop and use the brand. HUC offered powerWISE® for license and the CLD agreed that we would use this mark.
- o The Ministry of Energy requested a license to use the brand on television, radio and print advertising campaigns that were executed throughout 2006 to raise awareness of energy conservation and the brand.

Results to Date

- o Interest in the powerWISE® brand has been expressed by the OPA and other utilities.

Next Steps

- o Extend the powerWISE® brand to the OPA and other LDC's.

3.1.1.2 Activity with powerWISE® Website

Action

- o The powerWISE® website www.powerwise.ca was jointly developed and announced on April 1st, 2005.
- o This website provides one common location for general electricity conservation information and useful industry links.
- o Links have also been provided for customers to reach their CLD member's home website for specific local program information.
- o The site also has an archive of the various advertising campaigns that ran throughout the year
- o The website also features an "Ask the Expert" section.

Results to Date

- o In 2006 the powerWISE® website had over 181,000 visitors.
- o Since inception, the powerWISE® website has had over 218,000 visitors.

Next Steps

- o Continue to promote www.powerwise.ca as a source for conservation information

3.1.1.3 Children's Discovery Centre (Conservation Model)

Action

- o Horizon has purchased a powerWISE® Home for display at the Niagara Children's Discovery Centre in St. Catharines.
- o The model has been delivered and is a featured energy conservation educational teaching aid for primary school students.
- o The hardware for the interactive theatre is being developed.
- o A script is being developed based upon the conservation themes related to the model.
- o Creative media material will be developed around the conservation model script, and, once completed, will be interfaced with the theatre hardware to create an interactive education model.

Results to Date

- o The model is located permanently at the Children's Discovery Centre, and is being used to educate school children.
- o Basic educational curriculum has been developed to facilitate learning.

Next Steps

- o Complete all of the components to the interactive model and enhance the learning experience
- o Consider replicating and education material (DVD's) of classroom curriculum to maximize exposure and education.

3.1.1.4 Christmas Light Exchange

New LED Christmas lights are almost 90% more efficient than their incandescent counterparts. Programs in Hamilton include a municipal incentive of \$25,000, plus exchange programs for residential and small commercial customers.

Action

- o Horizon Utilities completed a 2-for-1 internal exchange with Horizon Employees.
- o Other scheduled public SLED (Seasonal Light Emitting Diode) string exchanges were cancelled due to a joint media advisory and product recall issued by the ESA and CSA.
- o Horizon has pledged to support the City of Hamilton's Seasonal LED program with a \$25,000 incentive during 2007.

Results to Date

- o As part of the 2 for 1 promotion, 2,000 old Christmas light strings were exchanged with 1,000 SLED strings. The exchanges were completed internally.

Next Steps

- o Work with our municipal entities to promote SLED's as an important conservation measure.
- o Consider future in-store or coupon promotion to minimize vulnerability due to product quality.

3.1.1.5 Code Green

Action

- o The television show titled "Code Green Canada", is a six-part television series sponsored in part by the CLD members.
- o It was broadcast by CBC in the spring of 2006 and provided homeowners across Canada with valuable information on how to reduce energy consumption and save money.
- o In Code Green, twelve contestants from across the country competed by retrofitting their homes to reduce electricity, gas, and water consumption. Each homeowner was given \$15,000 to complete the modifications.
- o The EnerGuide for Houses pre- and post-retrofit comprehensive energy audit also accounted for general energy measures plus building envelope improvements.
- o The homeowner who achieved the greatest conservation benefits won a gas-electric 2006 hybrid Prius, courtesy of Toyota Canada.

Results to Date

- o Series production for the CLD was completed and the program was aired in 2006.
- o The series was viewed at the Horizon Utilities John Street location over six lunch & learn sessions.

Next Steps

- o The Code Green series will be shown at the Horizon Utilities St. Catharines location on Vansickle Road over 6 lunch & learn sessions.
- o Determine other mechanisms to promote the education videos.

- o Promotion of the video is being considered in partnership with local libraries or other community partners.

3.1.1.6 Community Events

Action

- o Horizon Utilities participated in over 40 community events to bring the conservation message to our customers. Events included home shows, parades, festivals and neighbourhood activities.
- o Event management involved all logistics including volunteer management, ordering and provision of give-aways, registration, and co-ordination between all components.

Results to Date

- o Two summer students were hired to assist with this process.
- o The events van was purchased and decalated with conservation features to promote the message, and also enhance Horizon's presence at events.
- o A wheel of conservation measures was created to increase public engagement at the Horizon booth.
- o A light display was built to demonstrate the different styles of energy efficient light bulbs.
- o The conservation model was used to enhance the message at events.
- o High profile in the community has resulted in a demand for Horizon to attend and support numerous community events.

Next Steps

- o Continue to bring the conservation message to the public.
- o Evaluate future events to maximize promotion of 2007 conservation programs.

3.1.1.7 Conservation Model

Action

- o A powerWISE® Home model is being used as a conservation prop at the community events and home shows. This model is identical to the model situated at the Niagara Children's Discovery Centre.

Results to Date

- o The model enhances the conservation message at community events.
- o The model has also been featured internally at safety meetings and other corporate events as an educational tool.

Next Steps

- o Continue to display the model at community events. Once more curriculum is developed, deploy as an educational resource to complement other initiatives.

3.1.1.8 E-billing – Go Paperless

Action

This promotion encouraged customers to Go Paperless with Horizon by adopting e-billing and pre-authorized automatic billing. The incentives included:

- o For customers that adopt the e-billing services, a donation to support a local tree-planting initiative
- o Customers that select both options will receive a conservation kit.

Results to Date

- o 540 customers received conservation kits for participating in the Go Paperless campaign.

Next Steps

- o The Program is ongoing.
- o Conservation kits are currently mailed to customers. Consideration will be given to improve this process through a central pickup location or coupon mailout for redemption of conservation kit contents.

3.1.1.9 Environment Hamilton

Action

This project was performed in partnership with Environment Hamilton and the Hamilton Street Railway, as part of an existing project to gather transit information. The program was enhanced by Horizon Utilities providing free energy conservation kits to North Hamilton residents upon completion of conservation surveys.

Results to Date

- o The door-to-door survey being conducted by Environment Hamilton's street teams began in early June and continued until late August. The target areas were residential areas north of Barton Street.
- o 6,128 residences were visited, and 3,215 conservation surveys were completed.
- o For each conservation survey completed, the customer received a conservation package that included a re-usable cloth market bag, 4 compact fluorescent light bulbs and conservation literature. Participants with electric hot water heaters also received a low-flow showerhead.

Next Steps

- o Review opportunities for similar community outreach programs in the future.
- o Review survey results.

3.1.1.10 Events Van / Fleet Messaging

Action

- o In an effort to increase conservation messaging to the mass market, Horizon purchased an events van and decorated the vehicle with decals to promote the conservation message.

- o The rest of the Horizon Utilities fleet continues to promote the conservation culture through fleet messaging.

Results to Date

- o The events van was used to transport display materials and conservation giveaways at numerous events. Besides promoting conservation at public events, the conservation vehicle was also instrumental in general distribution of conservation materials for various programs in the community.
- o The van was also showcased in the St. Catharines and Hamilton Santa Claus Parades.
- o The license plate of the events van reads "POWRWISE".

Next Steps

- o Ongoing vehicle branding
- o Attend community events
- o Interest has been expressed by other LDC's to borrow the Horizon events van.

3.1.1.11 Fridge Retirement Program

Action

- o Horizon Utilities supported the OPA Fridge Retirement Pilot Project that involved the City of St. Catharines. As part of this program, participants received a free in-house pickup of their refrigerator pending verification that the appliance was in working condition. Canadian Tire coupons for a free six-pack of CFL bulbs and a timer were then mailed to these customers.
- o In an effort to maximize the program effectiveness, Horizon Utilities partnered with other NEPA members including; Niagara-on-the-Lake Hydro, Niagara Falls Hydro, Penwest Utilities, Grimsby Power and Welland Hydro, to support the same program in their respective communities. Since the OPA was already financing the pilot program in St. Catharines, Horizon used CDM funds to implement the program in the remaining Horizon territory (i.e. Hamilton).
- o The same delivery agent was used for these programs.

Results to Date

- o In St. Catharines, 830 refrigerators were retired.
- o In Hamilton, 619 fridges and 11 freezers were retired.
- o These results exceeded target expectations.

Next Steps

- o Work with the OPA to offer the Appliance Retirement Program in 2007.

3.1.1.12 Horizon Utilities Website

Action

- o The website www.horizonutilities.com was revised to provide a stronger emphasis on conservation.
- o The website now offers numerous conservation options, including; information for residential customers, business customers, and general conservation advice under the powerWISE® category.
- o This conservation component of the website is designed to provide Horizon customers with immediate access to local conservation initiatives

- o Another highlight is the “ask-the-expert” feature whereby experts within the Horizon Conservation and Demand Management Department answer questions related to conservation.
- o The website is also updated to provide links and details on active conservation programs.

Results to Date

- o Since its launch www.horizonutilities.com has received 191,896 visitors. Internally, the www.horizonutilities.net has received 156,433 site visits.
- o Horizon Utilities also answers conservation related questions from:
 - 1) Ask the Expert,
 - 2) Corporate Communications,
 - 3) Horizon Utilities Information communication channels, and:
 - 4) The general public.

Next Steps

- o Continue to enhance the website with new materials, links and applications.
- o Continue to respond to customer enquiries.

3.1.1.13 Horizon Conservation Champions Committee

Action

- o The Conservation Champions committee includes employee volunteers from many departments interested in energy conservation at Horizon Utilities. Regular meetings are held to discuss Horizon’s external programs and to develop internal initiatives. Goals of the committee are to:
 1. Recommend ways to reduce Horizon’s demand by 5% and overall consumption by 10%.
 2. Create an energy and water use checklist to be used with our health and safety workplace inspections.
 3. Assist in creating an action plan around the IESO calls for reduced energy use, as part of preparation for 2006 summer peak.
 4. Design and implement an energy and water conservation awareness campaign at Horizon.
- o In late 2005 / early 2006, the committee developed a Horizon staff “Call to Action” contest, whereby each staff member was given a conservation starter kit.
- o In January 2006, a personal computer system was offered for each of the staff and kids’ pledge categories.

Results to Date

- o Call to Action Program: 207 adult and 97 kids pledge forms, and 159 self-evaluation surveys were received.
- o Developed an internal energy conservation audit for Horizon Utilities Building
- o Conducted conservation audits of each facility
- o Tracked energy consumption of Horizon facilities (consumption and demand) at meetings
- o Managed internal viewing of Code Green video series in Hamilton
- o Provided volunteers and paid support at conservation events (including community events)

- o Leadership in promoting and participating with internal programs including the employee incandescent light bulb exchange, Christmas light exchange, Kill-A-Watt-meter lending program, and others.
- o Horizon's internal light bulb exchange retired 2,293 incandescent bulbs and exchanged these with CFL's.
- o Followed progress of the comprehensive building audits as completed by outside consultants.
- o Track conservation opportunities as per audit recommendations.
- o Met regularly to review conservation projects and bring that message back to respective departments.

Next Steps

- o The potential adoption of the Horizon program by other institutions is being explored.
- o Creation of a 'Code of Conduct' for Committee Members to encourage participation in the variety of conservation activities.
- o Encouraging Horizon employee and corporate leadership in embracing conservation opportunities.

3.1.1.14 Keep Cool

Action

This turnkey project managed by the Clean Air Foundation involved a room air conditioner drop-off program over three weekends at the three Home Depot locations within the Horizon Utilities territory (two locations in Hamilton, one in St. Catharines).

Results to Date

- o The event dates were: **June 10th/11th**, **June 17th/18th**, & **June 24th/ 25th**.
- o In total, 2,645 room air conditioners were dropped-off within Horizon territory. This greatly exceeded the target of 750 room A/C's.

Next Steps

- o Promote the benefits of exchanging old room A/C's for more efficient alternatives.
- o Participate and support a future program if funds are available. This includes the OPA Appliance Program.

3.1.1.15 Kill-A-Watt Meter Library Loaner Project

Action

- o In conjunction with the Kill-A-Watt Meter Library Loaner Project established by Hydro Ottawa and Enersource, Horizon Utilities developed a similar program in partnership with the Hamilton and St. Catharines Public Library Systems.
- o Horizon also set up a loaner program for internal staff in March 2006.
- o The Kill-A-Watt meter library loaner program is demonstrated and promoted at local community events by Horizon Utilities.
- o In support of the library loaner program, meter instruction cards were developed bearing Horizon's logo and appropriate library contact details. These cards are distributed with the meter.

Results to Date

- o Meters borrowed to date:
 - o 55 – St. Catharines Public Library
 - o 354 – Hamilton Public Library
 - o 50 – Horizon Loaner Program
- o This project was launched at the Downtown Hamilton Public Library on January 23rd & 24th, 2006, with 2,500 CFL bulbs given out to library patrons.
- o The internal Horizon lending program started on March 6, 2006, and the devices have been borrowed internally 50 times to date.

Next Steps

- o Extend loaner program to other Horizon affiliates, including City of St. Catharines, City of Hamilton, and Social Housing providers.
- o Promote participation results
- o Determine next promotional campaign

3.1.1.16 Ontario Power Authority – Every Kilowatt Counts

Action

- o The Conservation Bureau of the OPA developed a major mass-market retail campaign to advance the penetration of energy efficient devices into the marketplace through point of purchase redeemable coupons
- o Coupon and information booklets were distributed through the mail to all Ontario households for each campaign.
- o Horizon supported the OPA in its endeavor to reach all customers.
- o Horizon audited all participating retailers to ensure that all point of purchase materials were in order. Results were reported back to the program delivery agent.
- o Horizon promoted these mail-out programs on the website and at all community events.
- o Horizon promoted the program internally by distributing the coupon booklets with pay stubs.
- o Horizon promoted the program externally by providing related training to CSR's.
- o Horizon also cross-promoted this program with the City of Hamilton.

3.1.1.16.1 Spring Campaign May 1, 2006 to August 31, 2006

- Compact Fluorescent Light bulbs (CFL) (\$5.00 off each multi-pack)
- Indoor/outdoor timers (\$5.00 off)
- Ceiling fans (\$25.00 off)
- Programmable thermostats (\$15.00 off)
- Promoted Keep Cool – a Clean Air Foundation program
- Promoted Cool Savings Rebate program

3.1.1.16.2 Fall Campaign October 1, 2006 to November 30, 2006

- Compact Fluorescent Light bulbs (CFL) (\$3.00 off)
- Seasonal LED lights (SLEDs) (\$5.00 off string with 50 bulbs or more)
- Motion Sensor Switches (\$5.00 off)
- Programmable Thermostats (\$15.00 off)
- Programmable Baseboard Thermostats (\$15.00 off)
- Dimmer Switches (\$3.00 off)

- Promoted Hot Savings Rebate program

Results to Date

- o All Horizon Utilities residential and bulk metered customers received the coupon booklets for both the spring and fall campaigns
- o Over 67,000 coupons were redeemed locally
- o The Campaigns produced savings of greater than 185 kW and over 15 million kWh.

Next Steps

- o The Conservation Bureau will continue to operate this program.
- o The Spring 2007 EKC program will run April 16 to June 17.
- o A Fall 2007 EKC program is being planned.

3.1.1.17 Smart Pak (Education)

Action

- o Horizon ordered 1,900 powerWISE® Smart Paks for grade 5 and 6 students in Hamilton. Contents of the backpack included 2 compact fluorescent lights, faucet aerators, low flow showerhead, a nightlight and information related to energy conservation.

Results to Date

- o 1,900 powerWISE® smart paks were delivered to the primary school children in February 2006.

Next Steps

- o Continue to develop educational curriculum with educational and classroom / home components.
- o Participation depends upon future funding availability
- o Investigate existing provincial and local school board engagement with the comprehensive ECO-Schools curriculum. Co-ordination with existing safety training programs may be an option.

3.1.1.18 TAPS Program

Action

Enbridge was the delivery agent for this hot-water tank tune-up program that involved conservation measures including: CFL bulbs, low flow showerheads, pipe-wrap and faucet aerators. Enbridge is the gas utility for St. Catharines. However, since Union Gas services the Hamilton area, the two gas utilities reached an innovative agreement whereby Enbridge implemented the TAPS Program in Hamilton as well. Program delivery was achieved using third-party agents.

Results to Date

- o In Hamilton, 582 electric hot-water tune-ups were performed.
- o In St. Catharines, 60 electric hot-water tune-ups were performed, and 1,094 gas customers received CFL bulbs incented by Horizon Utilities.

Next Steps

- o Promote the results of the program
- o Participate in a future program related to TAPS.
- o Continually look for ways to cross-promote and integrate various programs.
- o Consider a program-in-a-box approach to the TAPS concept.

3.1.2 Smart Meter Pilot

Description

A pilot program for residential SMART meters will be deployed to enable the assessment of metering, communications, settlement, load control and other technologies that may be used to accommodate the universal application of SMART meters in the future. Further, sub-metering opportunities for the purposes of customer information in bulk-metered situations (i.e. condominiums) may be considered.

This initiative will commence upon the release of a formal definition of a SMART meter by the Board.

Target users

Residential and small commercial customers.

Benefits

This program supports the Minister of Energy's commitment to the installation of 800,000 SMART meters across Ontario by 2007. It will provide Horizon with the experience and knowledge needed to efficiently expand the use of SMART meters over the next several years.

In conjunction with appropriate rate structures, the program will also provide customers participating in the pilot programs with an incentive to conserve or shift energy use.

Action

- o A smart meter pilot of 7500 meters was undertaken in Hamilton in 2006. This purpose of this pilot project was to test technologies, systems and processes that would be required in a full deployment strategy.
- o A work management system was purchased to manage meter changes and data flow back to the CIS.
- o Customer education materials were issued to all customers receiving a smart meter.
- o End to end testing of these implemented technologies was tested in 2006.

Results to Date

- o There were 7,306 residential customers that received a smart meter and customer information package in 2006.
- o A smart meter display and information was created to train Horizon staff.
- o Customers visited the smart meter display and conservation booth at the Dundas Cactus Festival and Grape and Wine Festival in St. Catharines.

Next Steps

- o Finish installation of the balance of 194 smart meters to residential customers.
- o Evaluate the effectiveness of the work management software and processes used in the smart meter pilot project.
- o Prepare for first stage of smart meter full deployment to residential customers in 2007.

3.1.3 Energy Audit Program (Residential and Small Commercial)

Description

Horizon Utilities supports the completion of energy audits using existing auditors or service providers, to make specific recommendations for energy savings in such areas as major appliances, lighting, air leakage, hot water, heating and cooling. Incentives are also offered. Services could be further tailored to specific subsidized housing applications.

In this scenario, two projects were supported. 1) The EnerGuide for Houses Program through Green Venture whereby audits received a \$50 discount, and 2) the Cool Shops program offered by the Clean Air Foundation.

Target users

Residential and small commercial customers

Benefits

The consumer receives a clear, concise and prioritized report identifying opportunities for energy savings as well as the associated costs and payback period (as applicable).

3.1.3.1 powerWISE® for Homes – Energy Audit & Self Evaluation Pilot

Action

- o Horizon Utilities, in partnership with Green Venture, designed a residential energy audit incentive program.
- o Customers filled out an energy use self evaluation survey and pledge form in exchange for a powerWISE® power pack, consisting of two CFL's, an LED night light, powerWISE® conservation handbook, \$50 coupon for an EnerGuide for homes energy audit, and other water and electricity conservation information.
- o In addition to the EnerGuide for homes energy audit, Green Venture added an electricity component. Recommendations for reducing electricity use includes lighting and appliance review.
- o All self-evaluations and pledge forms are entered into a database to assist in the design of future energy conservation programs.

Results to Date

- o During 2006, Horizon customers, in exchange for the powerWISE® power packs, completed a total of 1,930 surveys self-evaluation surveys.
- o Horizon has given out incentives to 70 customers as part of the powerWISE® for homes and EnerGuide home energy audits. However, support ceased in mid-2006 when the Federal Government cancelled the program.
- o The initiative was stopped after the home shows in Hamilton and St. Catharines.

Next Steps

- o Determine if the program will be re-instated in another form by the Federal government. Announcements have been made, but the actualization of further details is still pending.

3.1.3.2 Cool Shops

Action

Cool Shops is a program offered by the Clean Air Foundation that targets small commercial enterprises within Business Improvement Areas (BIA's). Participating businesses receive an audit (conducted using a palm-pilot), several energy conservation gadgets, the option to order discounted conservation measures from Home Depot or Nedco, and decal of certification as a Cool Shops participant.

Results to Date

- o Within the Horizon Utilities territory, 561 audits were completed at participating small commercial locations in Hamilton and St. Catharines. The target of 500 was exceeded.
- o The program duration was May until August.
- o Attended the post-project Cool Shops forum in Toronto.

Next Steps

- o Participate and support a future program if funds are available.
- o Use the gathered information and increased awareness to enhance the small commercial market.

3.1.3.3 powerWISE® Energy Conservation Handbook

Action

- o Horizon Utilities participated with the NEPPA utilities to develop an energy conservation handbook. This handbook contains hundreds of tips and features a seasonal checklist of energy saving activities.
- o This handbook was printed and distributed at community events with our Energy Audit and Self Evaluation project, and public libraries with the Kill-A-Watt Meter loaner program.

Results to Date

- o Over 11,000 handbooks were distributed in 2006.

Next Steps

- o Continue to distribute the powerWISE® Energy Conservation Handbook at community events in 2007.
- o Update the handbook with new energy savings tips as required.

3.1.3.4 powerWISE® PowerPack

Action

- o Horizon Utilities used the powerWISE® PowerPack for promotional purposes. The PowerPack consists of:
 - 2 Compact Fluorescent (CFL) bulbs
 - an LED nightlight
 - powerWISE® Tips brochure
 - a series of other energy conservation pamphlets
 - \$50 coupon off a home energy audit
- o The powerWISE® PowerPack was available for free pick-up at local partner Green Venture
- o To qualify to receive a free powerWISE® PowerPack (retail value \$20), Horizon Utilities customers were required to participate in a Horizon conservation program such as the residential energy audit self-evaluation survey.
- o This offer was stopped in 2006 once the target number of surveys was completed.

Results to Date

- o 1,930 powerWISE® PowerPacks distributed in 2006. To date, a total of 3,340 have been given out.
- o The powerWISE® PowerPack concept is also used by other members of the CLD in a variety of promotional opportunities

Next Steps

- o Continue to promote powerWISE®
- o Continue to use the power pack version in Horizon's Go Paperless e-billing campaign
- o A version of the power pack was also used to support the City of Hamilton's Community Conservation Day.

3.1.4 Social Housing Program

Description

A province-wide centralized energy management service for the social housing sector may be developed in collaboration with the Provincial Government, utilities (e.g. Enbridge, Union Gas) and others.

A pilot program will be conducted to determine feasibility with an expectation that a full-scale provincial program would follow.

Target users

Local social housing corporations, non-profit homes, co-op housing and low-income housing.

Benefits

Synergies will be created through the combined initiatives of various agencies.

Action

- o Horizon expanded incentive offerings to social housing service providers.
- o Horizon Utilities continued funding of a pilot retrofit (CFL's, toilet dams, flow restrictors) for social housing units with Hamilton Housing Corporation.
- o A study and conservation program design was ordered by Horizon. This study and prescriptive program design is the basis for social housing retrofit project incentives.
- o Investigation of a low income energy conservation program was undertaken.

Results to Date

- o City of Hamilton Housing – handed out 475 conservation kits
- o Victoria Park Community Homes – prescriptive incentive for over 7,055 light bulbs
- o Niagara Regional Housing (Kenworth Acres Seniors Residence) – comprehensive conservation measures for 211 units under the prescriptive program design.
- o Used the Horizon social housing prescriptive incentive guidelines for various 2006 social housing retrofit projects.
- o Green Venture / Union Gas Low Income Housing Pilot Project – 39 audits

Next Steps

- o Work with Social Housing Service Corporation to ensure program incentives are made available to service providers in Horizon's service area.
- o Investigate opportunities for delivery and funding of low-income and social housing conservation programs.
- o Partner with the Green Communities Association (Green Venture as local partner) for their provincial low-income initiative.

3.2 Commercial, Industrial and Institutional (> 50 kW)

3.2.1 Energy Audits and Feasibility Studies

Description

The Energy Audits and Feasibility Studies program is being accomplished through the powerWISE® Energy Audit Incentive program. This program offers financial incentives to large customers for performing energy audits. Interested customers must submit an application along with the necessary documentation. All details for this program are available at www.horizonutilities.com.

Target users

Large customers with peak demand of at least 50 kW. This includes schools, large commercial facilities, institutional facilities, industrial facilities, and municipal facilities such as recreation centres, arenas, and libraries.

Benefits

Customers applying for the powerWISE® Energy Audit Incentive program can receive an incentive of up to \$5,000. Customers performing feasibility studies may be eligible for higher monetary incentives.

Actions:

- o Processed and organized powerWISE® Energy Audit Incentive applications.
- o Funded feasibility study for Horizon Utilities' four main facilities.
- o Worked with City of Hamilton and City of St. Catharines to encourage energy audits and feasibility studies.
- o Updated information and application at www.horizonutilities.com.

Results to Date:

- o Received eight powerWISE® Energy Audit Incentive applications, seven of which were approved for incentives totaling \$41,000.
- o Issued incentives totaling \$26,000 to four customers.
- o Approved incentive of \$12,000 to City of Hamilton for feasibility study to upgrade City Hall renovation design to a LEED standard.

Next Steps

- o Issue incentives for energy audits still remaining to be completed.
- o Verify status of existing applications.

3.2.2 Smart Meter Program

Description

Horizon Utilities will conduct a pilot to test Elster Smart Meter/Interval Meter technology by Commercial, Industrial and Institutional customers. The pilot will test meter technology, WAN backhaul capabilities and the integration to our current meter data collection computer and customer information system (CIS). Meters were ordered in 2006 for installation of meters in 2007. It is Horizon's intent to leverage the current Elster EnergyAxis Mesh technology in conjunction with an effective WAN backhaul communication technology for this pilot

Target users

Commercial, Industrial and Institutional customers larger than 50 kW's.

Benefits

This program supports the Minister of Energy's commitment to the installation of 800,000 SMART meters across Ontario by 2007. These meters are seen as an important means of establishing a 'conservation culture' in Ontario. Customers will be able to view their consumption patterns daily and be able to prepare their operation for future rate design. The Customer's ability to better understand the load profile and in conjunction with appropriate rate structures, will encourage customers to conserve or shift energy use.

Action

- o Horizon Utilities 2006 expenditures in this program involved investigating cost effective communication technologies to be used for interval metering for customers >50 kW
- o Ordering of Elster interval meters for a pilot project in 2006 was performed.

Results to Date

- o Installation of interval metering was performed at all Horizon's, four work centres.
- o 500 various forms of Elster Interval Meters have been received.
- o Project Plan has been developed and customer communication documents prepared for notification of pilot and deployment.
- o Interval meters were received in 4th Qtr of 2006 and planning an installation schedule for 2007 commenced.

Next Steps

- o Horizon is in the process of revising the conditions of service document to reflect the requirement of interval metering >50kw.
- o Seek standardization on the charging of communication costs for interval metering with the CLD group and OEB.
- o Continue to investigate cost effective communication systems for interval metered customers.
- o Installation of Interval Meters on customer locations.
- o Prepare internal web presentment tool for customers to access meter data
- o Planning of installation schedule and deployment of new interval meters.

3.2.3 LED Retrofits for Traffic Lights

Description

This initiative supports the replacement of existing traffic signals at intersections with new light-emitting diode (LED) technology.

Target users

Municipalities

Benefits

This program results in significant energy savings since the LED technology uses approximately 80% less electricity. Other benefits include reduced maintenance (LED's last longer) and improved visibility.

Action

- o Horizon Utilities provided an incentive to both the Cities of Hamilton and St. Catharines to encourage replacement of incandescent traffic lights with LED lighting fixtures.
- o The City of Hamilton established a 2006 budget for replacement of incandescent traffic lighting with LED technology.

Results to Date

- o The report on retrofitting their traffic signals with LED bulbs was sent to City of Hamilton council for approval. Now approved in principle, progress is conditional on provision of an individual assigned specifically to this project.
- o The target of \$150/kW in reduced demand was established as an incentive or 25% of the capital cost of an LED fixture.
- o The City of Hamilton upgraded 19 locations while the City of St. Catharines upgraded two locations.

Next Steps

- o The Cities of Hamilton and St. Catharines will report fixtures replaced and corresponding reduction in electrical demand / consumption for each location.
- o Horizon will verify the installations upon completion and process the request for incentives.
- o The City of Hamilton has gained approval on a major LED retrofit for the City of Hamilton and Horizon will endeavor to support them with incentives to complete this work.

3.2.4 Leveraging Energy Conservation and Load Management

3.2.4.1 powerWISE® Business Incentive Program

Description

Leveraging Energy Conservation is being accomplished through the powerWISE® Business Incentive Program. This program offers financial incentives to large customers for projects that improve electricity consumption and reduce peak demand. Interested customers must submit an application along with the necessary documentation. All details for this program are available on www.horizonutilities.com. All other CLD members are participating in this program.

There are two application paths for customers: prescriptive and custom. The prescriptive path is for common measures and lighting retrofits. The custom path offers flexibility for customers performing retrofits that do not fall under the prescriptive path, and requires that the project reduces peak demand by at least 10 kW.

Target Users

Large customers with peak demand of at least 50 kW. This includes schools, large commercial facilities, institutional facilities, industrial facilities, and municipal facilities like recreation centres, arenas, and libraries.

Benefits

Under the prescriptive path, customers receive pre-set incentives per retrofit performed. Under the custom path, customers receive \$150 per kW reduced. The maximum incentive to any one customer is \$50,000.

Actions:

- o Organized a half-day seminar for customers in partnership with Osram Sylvania.
- o Expanded program to include St. Catharines.
- o Processed and organized applications.
- o Performed post-installation inspections.
- o Updated information and application forms at www.horizonutilities.com.

Results to Date:

- o Received 17 powerWISE® Business Incentive Program applications, 15 of which were approved for incentives totaling \$84,000 and demand reduction totaling more than 500 kW.
- o Issued incentives totaling \$4,000 to two customers.

Next Steps

- o Issue incentives for projects pending completion.
- o Verify project status with applicants as per the Sept 2007 deadline.
- o Integrate into OPA BIP Program as details are clarified and agreement is reached.

3.2.5 Load Control Initiative

Description

The Load Control Initiative materialized as the **peaksaver™** Pilot Program. It was officially launched in September of 2006.

This load control initiative involves the free installation of programmable thermostats (for central air conditioning) and load control switches (for electric water heaters and pool pumps). The devices (thermostats and switches) are being supplied by Cannon Technologies, while the service provider is Honeywell Utility Solutions. The target is 2000 points (approximately 2 MW), with 75% in Hamilton and 25% in St. Catharines. The control strategy will involve off/on cycling for air conditioning loads and complete shut-off for electric water heaters and pool pumps during the control period.

Target Users

Residential customers with consumption profiles indicative of the use of central air conditioning in the summer. Small commercial customers with small air conditioning units and electric water heaters.

Benefits

For customers who receive programmable thermostats, the benefits include free professional installation, ability to adjust the thermostat through the Internet, and call centre support. Customers who only receive a load control switch are given a \$25 cheque, as an additional incentive.

For Horizon Utilities, this program provides a mechanism to reduce load during times of peak electricity demand in the Province of Ontario.

Actions:

- o RFP process for service provider completed and contract with winning bidder signed.
- o Hardware ordered and wireless communications setup complete.
- o Call centre and installation procedures set up.
- o Program information posted on website at www.horizonutilities.com.
- o Direct mail pieces mailed out to more than 80,000 customers.
- o Newspaper and radio advertisements.

Results to Date:

- o 881 installations with almost 500 appointments scheduled pending by the end of 2006.

Next Steps

- o Complete installation of balance of 1,600 residential thermostats, 200 commercial thermostats and 200 load control switches by May 31, 2007.

- o Integration with OPA Residential Load Control Program as details are clarified and agreement is reached.
- o Investigate opportunities for working with the CLD to create a common monitoring and verification plan.

3.3 Distribution Loss Reduction

Description

The Distribution Loss Reduction Program is a broad network based initiative to drive greater efficiencies within the distribution grid. This program will identify opportunities for system enhancements. Next steps will be to complete the engineering analysis and feasibility studies. Projects will be prioritized and selected based on the most attractive investment to results ratio. Items to be addressed may include, but are not limited to:

Power Factor Correction - Under the Power Factor Correction initiative, a power factor assessment will be completed which will identify locations for the installation of power factor correction capacitor banks. The results and available funding will determine which projects proceed.

Voltage Conversion - Voltage upgrades can save up to 90% of the losses associated with a feeder as higher voltages and lower current results in lower losses. This study will ascertain the locations and value of voltage conversions. This program could also involve changing out all the meters on a particular feeder to SMART Meters so that the exact losses can be determined.

Power System Load Balancing - This program is designed to ascertain where load shifting can occur within the grid to improve system efficiency including the location of optimized “open points”. It is estimated that approximately 5% - 10% of system losses could be saved.

Voltage Profile Management - Changing voltage profiles at the distribution station level can result in a peak reduction at the controllable distribution stations. This is in addition to the IMO’s voltage reduction program and will not interfere with the effectiveness of that program.

Line Loss Reductions - Replacement of conductors such as #6 AWG copper with #2 AWG aluminum can reduce line losses. An evaluation of where such opportunities exist may be undertaken. The results and available funding will determine which projects proceed.

Transformer and Other Losses – Using infrared scans of transformers this program will help to identify additional electricity losses including overloaded equipment. “Hot” transformers will be investigated further to determine operational improvement opportunities.

Target users

The results of this program will positively impact all of Horizon’s customers.

Benefits

Reduced electricity distribution system delivery losses will reduce system demand, relieve network capacity to accommodate growth, and reduce the requirement for new generating capacity in the Province. Costs associated with distribution system delivery losses are recovered through electricity distribution charges. Reductions in these costs will therefore benefit all customers.

Action

- o Horizon did not spend its budget on this program in 2005 or 2006.
- o Horizon purchased an infra-red camera to monitor for hot spots in the distribution network, as well as support investigation of lost revenue opportunities within the service territory.
- o Horizon purchased Distribution System Loss Analysis software and is now creating a distribution system model. The purpose will be to evaluate system optimization opportunities.

Results to Date

- o Assessment of the TRC results of voltage conversion indicates that other programs can achieve better results.
- o Distribution system analysis software was purchased and the creation of the system model is under development.

Next Steps

1. Horizon has applied to the OEB to transfer the balance of funding out of the Distribution System Loss reduction program to other programs.
2. Approval from the Board to carry out this transfer has been received.

3.4 Distributed Energy

3.4.1 Load Displacement

Description

Distributed generation behind the customer's meter provides an excellent opportunity to displace load from the local distribution system's grid in a very effective manner. Load displacement technology, such as combined heat and power systems, provides increased power efficiency and thermal systems. Combined with an existing or new district heating distribution system this technology contributes to the development of sustainable energy networks within Ontario's communities.

Other technologies such as micro-turbines, wind, biomass fuels and solar provide additional options to meet the customer's needs. This initiative will facilitate the development and implementation of these opportunities. Financial incentives will be considered based on the project's viability.

Development of educational and technology programs in conjunction with local colleges and universities may be considered. Small pilots or demonstration projects to promote alternative and renewable energy sources may also be considered.

Target Users

Commercial, industrial, and residential, schools, colleges and universities.

Benefit

Benefits include additional capacity within the grid. Cleaner technologies result in reductions in Green House Gas (GHG) emissions. Other benefits include improved system reliability, reduced harmonics, back-up power possibilities, education and skills development.

Action

- o Horizon participated in a study with five CLD members on Demand Response business case and potential participatory roles of LDC's.
- o Horizon assessed its role in the electricity market and the regulatory impact of aggregating customer generation capacity.

Results to Date

- o Horizon determined that more experience was necessary before approaching customers to participate and partner with Horizon
- o No projects or installation activities have been undertaken to date.

Next Steps

- o A list of future opportunities includes the District School Board of Niagara standby generation project.

3.4.2 Stand-by Generators

Description

This program may provide for the use of customers' existing standby generators when required and/or economical. Environmentally friendly generators will be the primary focus of this initiative however all generators may be considered if needed during an emergency.

Target Users

Commercial and industrial customers with sufficiently sized standby generators.

Benefits

Reduction of customer and system peak demand and energy costs. This additional supply may be able to bid into the Ontario energy market in the future.

Action

- o Horizon is planning to install new standby generators in both the John Street and Vansickle Road locations. Operational control will be performed through the John Street Control Centre.
- o Horizon would like to install standby generation at all major facilities to enhance system reliability, but also to participate in the Provincial Emergency Load Response Plan (ELRP) and provide leadership in demand management.

Results to Date

- o Investigation of power generation and control system options for all major facilities. These include John Street, Stoney Creek, Nebo Road and Vansickle Road.
- o Developed and issued an RFP to seek related project proposals.
- o Hired a consultant to review options and manage the project.
- o Applied for a transfer of CDM funds to finance the John Street and Vansickle Road projects.

Next Steps

- o Select a vendor
- o Complete the installations
- o Participate in the ELRP
- o Capture the results

4. Lessons Learned

During the past two years, Horizon has built numerous relationships during the design and delivery of quality conservation and demand management programs to our customers. The members of the Coalition of Large Distributors (Toronto Hydro, Hydro Ottawa, Horizon Utilities, Veridian, Enersource Hydro Mississauga and Powerstream) have been a provincial focal point by working collectively on many of these conservation initiatives. Horizon has also connected with community partners, and has used these resources to achieve impressive results.

Many lessons have been learned along the way, including:

Program Development

- o CDM program development does take time. In particular, procurement, legal and environmental issues must be thoroughly addressed up front in order to ensure long-term sustainable conservation success.
- o Conservation opportunities exist with residential and small commercial customers. However, getting this effective message to the target audience can be challenging. Specific examples of conservation measures that are clear and relate directly to that customer's needs help to increase participation. For example, the Cool Shops program used a local BIA member or case study as a lever to gain trust and open doors within that business district.
- o Working together with other LDC's to expand a program offering can maximize program effectiveness through cross-jurisdictional advertising and reduce overall costs. An example was the Fridge Retirement Program that was implemented in partnership with the Niagara members of the NEPA Group and the OPA.
- o The powerWISE® brand is one of the most recognized conservation brands in Ontario. Horizon customers look for this trusted symbol to identify conservation opportunities. During 2006 the Ministry of Energy also promoted the powerWISE® name extensively. This enhanced the image of Horizon's programs and the efforts of other CLD members that were also using the brand.
- o Our powerWISE® for Business Incentive Program revealed that Commercial and Industrial customer timelines for conservation retrofit projects are usually longer than Horizon Utilities expected and have a lower sense of urgency than Horizon Utilities would prefer. Incentives have to be very meaningful, in order to encourage and speed up conservation projects at this level. For example, in 2006, seventeen applications were received and only two of the projects were completed and thus received PBIP incentives.
- o Commercial Programs must address the needs of the customers at the corporate, municipal, provincial and national levels to allow implementation across jurisdictions and beyond individual stores. Coordination and consistency is required to allow large Corporations to make programs available to all store locations regardless of location by city or province.

- o Horizon's experience with the internal seasonal LED exchange program flagged product defects that were immediately reported to the ESA. By this feedback, Horizon staff helped to prevent defective products from reaching the general public. We learned how defective products are investigated, scrutinized, gathered, and subsequently handled to ensure that public safety is not compromised. During this process, communication with other CLD members was maintained to manage potential risks.

Education

- o Public education and energy audits are important as Horizon builds a culture of conservation. Yet under the current reporting format, no reportable benefits can be attributed to these activities. This effectively penalizes utilities from participating in these worthwhile and necessary initiatives. Energy audits also provide an opportunity to educate customers on what effective measures can be taken to save energy.
- o As Horizon develops a conservation culture in Ontario, Horizon must continue to balance the need for short-term results while fostering a long-term conservation attitude among the citizens and businesses in the province. If fostering conservation is to become a sustainable entity in Horizon's business portfolio, a stable, risk-averse methodology for funding must exist.
- o Residential customers are generally aware of the simple products and initiatives that are available to help them to reduce their energy consumption. However, they have a limited understanding of the dollar impact and quick return provided by these simple solutions such as pipe wrap, SLED's and CFL bulbs. It is critical to educate our customers and to provide a savings comparison in dollars to highlight these impacts. A variety of case studies would be an effective means to achieve customer awareness.
- o Through a customer focus group, Horizon learned that its larger Commercial and Industrial customers want direct customer contact on matters relating to energy conservation and emerging technologies. It is important to offer Commercial and Industrial customers access to information through convenient forums such as trade shows. The LDC can play a role by introducing service providers to customers. Relying on current customer contacts in the billing database will not always produce the appropriate contact that manages facility energy use. Using a dedicated Horizon resource to address energy conservation needs of larger industrial, commercial and MUSH sector customers will lead to increased participation and adoption of energy efficient technologies.
- o Seniors will be receptive to energy efficiency upgrades if given the opportunity to become involved. The light bulb exchange held at Kenworth Acres was a very successful event to launch the start of energy efficient upgrades for the Seniors Residence. The launch included a question and answer session on the energy conservation measures being installed at their senior's residence. The residents

were thus involved, confident and more receptive to the installations performed within their suites and common areas.

Regulatory Issues

- o The energy industry must coordinate the individual efforts of its many organizations to ensure that program delivery is efficient, readily available and understood by all customers. Most customers don't understand the relationship between the various organizations within the hydro industry, so an attempt to deliver programs to the end customer by these different organizations only confuses the customer and suggests a lack of industry coordination. Clarity regarding the roles of the LDC, OEB, OPA, and the IESO would be beneficial in this regard.
- o Finally, we must strive to streamline the LDC's administrative reporting efforts where possible. Reporting requirements must be consistent and applicable to all participants thereby removing regulatory duplication.

4.1 Recommendations by Program Area

Residential and Commercial <50 kW	Successful / H/M/L	Continue	Notes
Co-Branded Mass Market	Yes – H	Yes	Educational funding is required, as well as further outreach to bring conservation to the community. The process to engage with province-wide projects must be streamlined to ensure efficiency.
Smart Meter Pilot	Yes – H	Yes	Over 7,300 meters were deployed in 2006. Increasing the public understanding about Smart Meters as a conservation tool is required.
Energy Audit Program	Yes – M	Yes	The established EnerGuide program was cancelled. Local programs such as Cool Shops, are needed to bring the conservation message to BIA's. Case studies are required to engage customers.
Social & Low Income Housing Program	Yes – H	Yes	Continued engagement with local projects are required. Case studies are required to engage participants.
Residential Load Control	Yes – H	Yes	The program has great potential to reduce peak loads, especially with the province-wide efforts. An

			effective awareness piece must be developed to inform the public.
Refrigerator Retirement	Yes – H	Yes	The OPA Appliance Roundup program has tremendous potential, especially when various appliances are coupled with fridge pickups.
Commercial Institutional and Industrial > 50 kW			
Smart Meter Program	Yes – H	Yes	The installation of smart and interval meters is proceeding now. Again, awareness through case studies is required.
Energy Audits and Feasibility Studies	Yes – M	Yes	Audits educate customers and lead to retrofits. More support is needed for this educational step.
LED Retrofits for Traffic Lights	Yes - M	Yes	Effective program, but Municipal governments are slow to complete LED retrofits.
Leveraging Energy Conservation or Load Mgmt	Yes – H	Yes	The PBIP Program has great potential, especially when the OPA launches the province-wide initiative. More case studies and awareness is required.
CI&I Load Control	Too early to tell	Yes	This program has great potential to deliver key summer peak reductions.
Distribution Loss Reduction			
Distribution Loss Reduction	N – L	No	Funds have been diverted to more TRC-beneficial conservation options.
Distributed Generation			
Load Displacement	Too early to tell	Yes	These programs have considerable potential to encourage new distributed generation as well as to utilize existing generators. Again, more awareness required.
Standby Generators	Too early to tell	Yes	
Overall Program Support			
Program Support Initiatives	Yes	Yes	These activities support all the program areas and assist with marketing and promotion

5. Conclusions

Horizon's 2006 CDM program delivery more than quadrupled the energy savings results from 2005. As well, the smart meter initiative tested systems, processes and tools in preparation for Horizon's full deployment in 2007. Development of action plans and strategic relationships fostered during program design and implementation has created valuable experience and understanding. This insight will be important as we evaluate opportunities for second-generation CDM programs.

Planning activities and CDM programs initially launched in 2005, thrived in 2006, thereby increasing customer exposure and acceptance. The powerWISE® retail coupon was so effective that it was adopted by the Ontario Power Authority and re-launched as the "Every Kilowatt Counts" Spring and Fall Campaigns.

CDM Program development is a complex and time-consuming process. Procurement and legal processes were more costly and time consuming than originally expected. Horizon was able to maximize our results by working with the Coalition of Large Distributors, which provided a significant advantage in knowledge and resource sharing, efficiency and cost effectiveness. As we gained market experience, we were able to fine-tune our individual CDM plans as well. Through continued efforts of the CLD, Horizon was able to offer residential customers the peaksaver program, installing 881 programmable thermostats in time to save energy on their winter heating bills.

Horizon continued to foster relations and plan projects in 2006 with social housing service providers that have now resulted in a cumulative annual savings of 6,309,230 kWh. There are still more second generation opportunities to be explored with our local service providers.

Appearing at over 40 community events last year, Horizon offered a unique opportunity to engage over 50 staff volunteers in learning about conservation measures, then extending this knowledge and leadership to the public. An addition of the smart meter display has proven useful in preparing customers for time-of-use rates and introducing conservation concepts that will allow them to seek cost savings when those rates take effect.

Increasing awareness about key conservation concepts, including consumption (kWh), demand (kW) and underlying reasons for Ontario's CDM campaign has been challenging both internally and externally. Internally, the Conservation Champions Committee brings the message to each department. Externally, this message is shared with the community at events, programs and media channels.

Horizon is reviewing second-generation opportunities to carry this message further using established relationships with the CLD, Ontario Power Authority, NEPA, other LDC's and our local community partners.

Appendix A - Evaluation of the CDM Plan

Highlighted boxes are to be completed manually, white boxes are linked to Appendix C and will be brought forward automatically

	⁵ Cumulative Totals Life-to-date	Total for 2006	Conservation and Demand Management Residential and Small Commercial <50kW	Conservation and Demand Management Commercial, Industrial and Institutional >50kW	Distribution Loss Reduction	Distributed Energy & Load Displacement	Overall Program Support	⁴ Smart Meters
Net TRC value (\$):	\$ 10,847,135	\$ 9,091,359	\$ 9,727,514	\$ 43,396	\$ (78,984)	\$ (15,182)	\$ (585,385)	
Benefit to cost ratio:	5.91	4.12	5.72	1.25	0.00	0.00	0.00	
Number of participants or units delivered:	314,967	262,406	261,595	811	-	-	-	
Lifecycle (kWh) Savings:	184,818,854	149,654,514	145,678,590	3,975,924	0	0	0	
Report Year Total kWh saved (kWh):	34,280,931	27,190,845	26,841,326	349,519	0	0	0	
Total peak demand saved (kW):	2,377	2,255	2,209	46	0	0	0	
Total kWh saved as a percentage of total kWh delivered (%):	0.34%	0.49%	0.49%	0.01%	n/a	n/a	n/a	
Peak kW saved as a percentage of LDC peak kW load (%):		0.20%	0.20%	0.00%	n/a	n/a	n/a	
¹ Report Year Gross C&DM expenditures (\$):	\$ 4,629,611	\$ 3,774,298	\$ 1,371,111	\$ 33,032	\$ 78,984	\$ 15,182	\$ 585,385	\$ 1,690,604
² Expenditures per kWh saved (\$/kWh):	\$ 0.14	\$ 0.14	\$ 0.05	\$ 0.09	\$ -	\$ -	\$ -	
³ Expenditures per kW saved (\$/kW):	\$ 1,947.82	\$ 1,673.88	\$ 620.83	\$ 713.59	\$ -	\$ -	\$ -	
Utility discount rate (%):	6.28							

¹ Expenditures are reported on accrual basis.

² Expenditures include all utility program costs (direct and indirect) for all programs which primarily generate energy savings.

³ Expenditures include all utility program costs (direct and indirect) for all programs which primarily generate capacity savings.

⁴ Please report spending related to 3rd tranche of MARR funding only. TRC calculations are not required for Smart Meters. Only actual expenditures for the year need to be reported.

⁵ Includes total for the reporting year, plus prior year, if any (for example, 2006 CDM Annual report for third tranche will include 2005 and 2004 numbers, if any).

Appendix B - Discussion of the Program

(complete this Appendix for each program)

A. **Name of the Program:** Co-Branded Mass Markets

Description of the program (including intent, design, delivery, partnerships and evaluation):

This flagship co-branded mass-market program (powerWISE®) is a multifaceted approach to fostering the conservation culture in Ontario. Through development of a significant cooperative effort among six of the largest municipal LDC's, this program has become aligned with specific initiatives such as Compact Fluorescent Lighting (CFL) change out programs, LED Christmas Light Exchanges, Energy Star, Multi-Choice, energy audits, hot water heater blanket wraps, school based education and a host of other programs aimed at providing customers with the tools and education needed to reduce their energy usage. Access to online services such as energy consumption calculators, an energy expert and personalized energy audit services are being considered as future components of this program.

Measure(s):

	LED Light Exchange	Community Events	Conservation Champs
<i>Base case technology:</i>	5 WATT Christmas Lights C-7(25 lights)	Incandescent Bulb and Average Standard Stock Showerhead	Incandescent Bulb and Average Standard Stock Showerhead
<i>Efficient technology:</i>	LED Christmas Lights (indoor or outdoor)	13 Watt CFL, Low Flow Showerhead and Night Lights	13 Watt CFL, Low Flow Showerhead and Night Lights
<i>Number of participants or units delivered for reporting year:</i>	1000	36,796 CFLs, 6,012 Showerheads and 9,143 Night Lights	6,000 CFLs, 3,000 Showerheads and 3,000 Night Lights
<i>Measure life (years):</i>	30	CFLs - 4 years and Showerhead - 7 years	CFLs - 4 years and Showerhead 7 years
<i>Number of Participants or units delivered life to date</i>	1,000	51,951	12,000

Measure(s):

	EBilling	Environment Hamilton	Fridge Bounty
<i>Base case technology:</i>	Incandescent Bulb and Average Standard Stock Showerhead	Incandescent Bulb and Average Standard Stock Showerhead	Average Existing Stock Refrigerator, Average Existing Stock Freezer, Incandescent Bulb and 2 Flood Lights, 75W Incandescent, on 50% time
<i>Efficient technology:</i>	13 Watt CFL, Low Flow Showerhead and Night Lights	13 Watt CFL, Low Flow Showerhead and Night Lights	Refridgerator Recycling, Freezer Recycling, 13 Watt CLFs, Outdoor Timer
<i>Number of participants or units delivered for reporting year:</i>	1,080 CFLs, 540 Showerheads and 540 Night Lights	12,860 CFLs, 125 Showerheads and 3,215 Night Lights	1,449 Refrigerator Recycling, 11 Freezer Recycling, 1,518 CFLs and 177 Timers
<i>Measure life (years):</i>	CFLs - 4 years and Showerhead - 7 years	CFLs - 4 years and Showerhead - 7 years	Refrigerator Recycling - 6 years, Freezer Recycling - 6 years, CFLs - 4 years and Timer - 20 years
<i>Number of Participants or units delivered life to date</i>	2,160	16,200	3,155

Measure(s):

	Keep Cool	Smart Pak	TAPS
<i>Base case technology:</i>	Average Existing Stock Room Air Conditioners	Incandescent Bulb and Average Standard Stock Showerhead	Incandescent Bulb and Average Standard Stock Showerhead,

<i>Efficient technology:</i>	Retired Working Units and Retired Working Units Replaced with Energy Star Units	13 Watt CFL, Low Flow Showerhead and Night Lights	13 Watt CFLs, Low Flow Showerhead, Pipewrap, and Aerators
<i>Number of participants or units delivered for reporting year:</i>	1,428 Retired Working Units and 1,058 Retired Working Units Replaced with Energy Star Units	3,800 CFLs, 1,900 Showerheads and 1,900 Night Lights	6,916 CFLs, 788 Showerheads, 642 PipeWrap and 1,284 Aerators
<i>Measure life (years):</i>	Retired Working Units - 6 years and Retired Working Units Replaced with Energy Star Units - 6 years	CFLs - 4 years and Showerhead - 7 years	CFLs - 4 years, Showerhead - 7 years, PipeWrap - 6 years and Aerators - 12 years
<i>Number of Participants or units delivered life to date</i>	2,486	7,600	9,594
Measure(s):	OPA EKC Spring Campaign OPA EKC Fall Campaign Other		
<i>Base case technology:</i>	Incandescent Bulb and Average Existing Stock	Incandescent Bulb, Average Existing Stock, 5 WATT Christmas lights C-7(25 lights) and Incandescent Mini Lights	
<i>Efficient technology:</i>	CFLs, Ceiling Fan, Timer and Programmable Thermostat	CFLs, Base Board Programmable Thermostats, Motion Sensors, Programmable Thermostat and Dimmer Switch	
<i>Number of participants or units delivered for reporting year:</i>	63,595 CFLs, 918 Ceiling Fans, 1,935 Timers and 872 Programmable Thermostats	64,728 CFLs, 172 Base Board Programmable Thermostats, 361 Motion Sensors, 2,042 Programmable Thermostat and 929 Dimmer Switch	
<i>Measure life (years):</i>	CLFs - 4 years, Ceiling Fan - 20 years, Timer - 20 years and Programmable Thermostat - 18 years	CFLs - 4 years, Base Board Programmable Thermostats - 18 years, Motion Sensors - 20 years, Programmable Thermostat - 18 years and Dimmer Switch - 10 years	
<i>Number of Participants or units delivered life to date</i>	67,320	68,232	10,464

B. TRC Results:		Reporting Year	Life-to-date TRC Results:
¹ TRC Benefits (\$):		\$ 9,902,208.00	\$ 10,766,466.00
² TRC Costs (\$):			
	Utility program cost (excluding incentives):	\$ 801,476.00	\$ 821,832.00
	Incremental Measure Costs (Equipment Costs)	\$ 652,032.00	\$ 740,272.00
	Total TRC costs:	\$ 1,453,508.00	\$ 1,562,104.00
Net TRC (in year CDN \$):		\$ 8,448,700.00	\$ 9,204,362.00
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		\$ 6.81	6.89

Cumulative Results:

Demand savings (kW):	Summer	1,447	1,568
	Winter	n/a	n/a

	lifecycle	in year	Cumulative Lifecycle	Cumulative Annual Savings
Energy saved (kWh):	129,842,742	23,711,355	145,985,128	26,218,698
Other resources saved :				
Natural Gas (m3):				
Other (Water m3):	2,080,953	298,244	2,120,201	301,514

Control Management - Reg. case		
Controlled load (kW)		
Energy shifted On-peak to Mid-peak (kWh):		
Energy shifted On-peak to Off-peak (kWh):		
Energy shifted Mid-peak to Off-peak (kWh):		

Dispatchable load (kW):		
Peak hours dispatched in year (hours):		

Amount of KVar installed (KVar):		
Distribution system power factor at beginning of year (%):		
Distribution system power factor at end of year (%):		

Time-based Rebate Program			
Peak load savings (kW):			
	<i>lifecycle</i>	<i>in year</i>	
Energy savings (kWh):			

Amount of DG installed (kW):		
Energy generated (kWh):		
Peak energy generated (kWh):		
Fuel type:		

Metric (specify):

Reporting Year

Cumulative Life to Date

Utility direct costs (\$):	Incremental capital:	\$ 66,092.00	\$ 68,955.00
	Incremental O&M:	\$ 735,384.00	\$ 921,808.00
	Incentive:	\$ -	\$ -
	Total:	\$ 801,476.00	\$ 990,763.00
Utility indirect costs (\$):	Incremental capital:		
	Incremental O&M:		
	Total:		

- "Other" measures represent 2005 Co-Branded initiatives not included in 2006. Includes Retailer Program, Cold Water Wash and 'Call to Action'. All TRC input assumptions based on QEB measure list.

¹ Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit benefit specified in the TRC Guide.

2 For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made to a third party service provider to run an incentives program are program costs, and are to be included as TRC costs under the "Utility Program Costs" line.

Appendix B - Discussion of the Program

(complete this Appendix for each program)

A. **Name of the Program:** Load Control Initiative

Description of the program (including intent, design, delivery, partnerships and evaluation):

The Load Control Initiative materialized as the peaksaver Pilot Program. It was officially launched in September of 2006.

This load control initiative involves the free installation of programmable thermostats (for central air conditioning) and load control switches (for electric water heaters and pool pumps). The devices (thermostats and switches) are being supplied by Cannon Technologies, while the service provider is Honeywell Utility Solutions. The target is 2000 points (approximately 2 MW), with 75% in Hamilton and 25% in St. Catharines. The control strategy will involve off/on cycling for air conditioning loads and complete shut-off for electric water heaters and pool pumps during the control period.

Measure(s):

	Residential A/C Load Control	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	Do Nothing		
Efficient technology:	Utility Controlled Relay with Programmable Thermostat		
Number of participants or units delivered for reporting year:	881		
Measure life (years):	Utility Controlled Relay - 12 years and Programmable Thermostat - 18 years		
Number of Participants or units delivered life to date	881		

B. TRC Results:	Reporting Year	Life-to-date TRC Results:
¹ TRC Benefits (\$):	\$ 860,098.00	\$ 860,098.00
² TRC Costs (\$):		
Utility program cost (excluding incentives):	\$ 283,283.00	\$ 283,283.00
Incremental Measure Costs (Equipment Costs)	\$ -	\$ -
Total TRC costs:	\$ 283,283.00	\$ 283,283.00
Net TRC (in year CDN \$):	\$ 576,815.00	\$ 576,815.00
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	\$ 3.04	\$ 3.04

C. **Results:** (one or more category may apply) **Cumulative Results:**

Conservation Programs:

Demand savings (kW):	Summer	129	129
	Winter	n/a	n/a

	lifecycle	in year	Cumulative Lifecycle	Cumulative Annual Savings
Energy saved (kWh):	2,270,478	126,137	2,270,478	126,137
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

Demand Management Programs:

Controlled load (kW)		
Energy shifted On-peak to Mid-peak (kWh):		
Energy shifted On-peak to Off-peak (kWh):		
Energy shifted Mid-peak to Off-peak (kWh):		

Demand Response Programs:

Dispatchable load (kW):	440.5	440.5
Peak hours dispatched in year (hours):		

Power Factor Correction Programs:

Amount of KVar installed (KVar):

Distribution system power factor at beginning of year (%):

Distribution system power factor at end of year (%):

Line Loss Reduction Programs:

Peak load savings (kW):

lifecycle

in year

Energy savings (kWh):

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):

Energy generated (kWh):

Peak energy generated (kWh):

Fuel type:

Other Programs (specify):

Metric (specify):

<u>D. Actual Program Costs:</u>		<u>Reporting Year</u>	<u>Cumulative Life to Date</u>
Utility direct costs (\$):	Incremental capital:	\$ 197,204.00	\$ 213,404.00
	Incremental O&M:	\$ 86,079.00	\$ 86,079.00
	Incentive:	\$ -	\$ -
	Total:	\$ 283,283.00	\$ 299,483.00
Utility indirect costs (\$):	Incremental capital:		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

All TRC inputs based on OEB Measure List.

- ¹ Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit benefit specified in the TRC Guide.
- ² For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made to a third party service provider to run an incentives program are program costs, and are to be included as TRC costs under the "Utility Program Costs" line.

Appendix B - Discussion of the Program

(complete this Appendix for each program)

A. **Name of the Program:** Residential Energy Audits

Description of the program (including intent, design, delivery, partnerships and evaluation):

Horizon Utilities supports the completion of energy audits using existing auditors or service providers, to make specific recommendations for energy savings in such areas as major appliances, lighting, air leakage, hot water, heating and cooling. Incentives are also offered. Services could be further tailored to specific subsidized housing applications.

Measure(s):

	Energy Audits	Cool Shops	Other
Base case technology:	Do Nothing	Incandescent and T12 Lighting	
Efficient technology:	Audit	CFL and T8 Lighting	
Number of participants or units delivered for reporting year:	powerwise powerpaks, 3860 CFL's 13 W, 1930 Night Lights	3038 Bulbs	
Measure life (years):	CFL's - 4 Years	2	
Number of Participants or units delivered life to date	5,790	3,038	4,682

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
¹ TRC Benefits (\$):	\$ 169,182.00	\$ 303,454.00
² TRC Costs (\$):		
Utility program cost (excluding incentives):	\$ 105,520.00	\$ 169,563.00
Incremental Measure Costs (Equipment Costs)	\$ 11,947.22	\$ 11,947.22
Total TRC costs:	\$ 117,467.22	\$ 181,510.22
Net TRC (in year CDN \$):	\$ 51,714.78	\$ 121,943.78
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	1.44	1.67

C. **Results:** (one or more category may apply)

Conservation Programs:

	Summer	99	99
Demand savings (kW):	Winter	n/a	n/a

	lifecycle	in year	Cumulative Lifecycle	Cumulative Annual Savings
Energy saved (kWh):	2,329,278	785,834	4,879,391	1,277,346
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

Demand Management Programs:

Controlled load (kW)		
Energy shifted On-peak to Mid-peak (kWh):		
Energy shifted On-peak to Off-peak (kWh):		
Energy shifted Mid-peak to Off-peak (kWh):		

Demand Response Programs:

Dispatchable load (kW):		
Peak hours dispatched in year (hours):		

Power Factor Correction Programs:

Amount of KVar installed (KVar):		
Distribution system power factor at beginning of year (%):		

Distribution system power factor at end of year (%):

Line Loss Reduction Programs:

Peak load savings (kW):

Energy savings (kWh):

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):

Energy generated (kWh):

Peak energy generated (kWh):

Fuel type:

Other Programs (specify):

Metric (specify):

D. <u>Actual Program Costs:</u>		<u>Reporting Year</u>	<u>Cumulative Life to Date</u>
Utility direct costs (\$):	Incremental capital:	\$ -	\$ -
	Incremental O&M:	\$ 105,520.00	\$ 184,399.00
	Incentive:	\$ 3,500.00	\$ 3,500.00
	Total:	\$ 109,020.00	\$ 187,899.00
Utility indirect costs (\$):	Incremental capital:		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

Other measures represent 2005 initiatives not included in 2006. Includes Powerwise PowerPak. TRC inputs based on Cool Shop Report.

¹ Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit benefit specified in the TRC Guide.

² For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made to a third party service provider to run an incentives program are program costs, and are to be included as TRC costs under the "Utility Program Costs" line.

Appendix B - Discussion of the Program

(complete this Appendix for each program)

A. **Name of the Program:** Social Housing

Description of the program (including intent, design, delivery, partnerships and evaluation):

A province wide centralized energy management service for the social housing sector may be developed in collaboration with the Provincial Government, utilities (e.g. Enbridge, Union Gas) and others.

A pilot program will be conducted to determine feasibility with an expectation that a full-scale provincial program would follow.

Measure(s):

	City of Hamilton	Green Venture/Union	Victoria Park
<i>Base case technology:</i>	Incandescent Bulb and Average Standard Stock Showerhead	Incandescent Bulb	Incandescent Bulb
<i>Efficient technology:</i>	13 Watt CFL, Low Flow Showerhead and Night Lights	13 Watt CFL	11 and 15 Watt CFL
<i>Number of participants or units delivered for reporting year:</i>	950 CFLs, 475 Showerheads and 475 Night Lights	39 customer participants: 168 CFLs, 1 electric tank customer tank 1 kitchen faucet aerators, 1 Water heater pipe wrap, 35 night lights.	7,055 CFLs
<i>Measure life (years):</i>	CFLs - 4 years and Showerhead - 7 years	CFLs - 4 years , Aerator - 12 years and Pipewrap - 6 years	4 years
<i>Number of Participants or units delivered life to date</i>	1,473	205	7,055

Measure(s):

	Niagara Regional Housing	Other
<i>Base case technology:</i>	Average Existing Stock and T-12 Lighting	
<i>Efficient technology:</i>	Refrigerator Recycling, T-8 Lighting, Motion Sensors, LED Exit Signs, Limiting Thermostats	
<i>Number of participants or units delivered for reporting year:</i>	213 Refrigerator Recycling, 63 Double T-8 Fixtures, 150 Single T-8 Fixtures, 1 Motion Sensor, 60 LED Exit Signs, 422 Limiting Thermostats	
<i>Measure life (years):</i>	Refrigerator Recycling - 6 years, T-8 - 5 years, Motion Sensors - 10 years, LED Exit Signs - 25 years, Limiting Thermostats - 18 years	
<i>Number of Participants or units delivered life to date</i>	908	37,415

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D. Actual Program Costs:		Reporting Year	Cumulative Life to Date
<i>Utility direct costs (\$):</i>	<i>Incremental capital:</i>	\$ -	\$ -
	<i>Incremental O&M:</i>	\$ 57,529.00	\$ 161,447.00
	<i>Incentive:</i>	\$ 119,803.00	\$ 119,803.00
	<i>Total:</i>	\$ 177,332.00	\$ 281,250.00
<i>Utility indirect costs (\$):</i>	<i>Incremental capital:</i>		
	<i>Incremental O&M:</i>		
	<i>Total:</i>		

E. Assumptions & Comments:

Other measures represent 2005 initiatives not included in 2006. Includes CFLs, water dams and flow restrictors.

¹ Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit benefit specified in the TRC Guide.

² For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made to a third party service provider to run an incentives program are program costs, and are to be included as TRC costs under the "Utility Program Costs" line.

Appendix B - Discussion of the Program

(complete this Appendix for each program)

A. **Name of the Program:** LED Traffic Lights

Description of the program (including intent, design, delivery, partnerships and evaluation):

This initiative supports the replacement of existing traffic signals at intersections with new light-emitting diode (LED) technology.

Measure(s):

	City of Hamilton	City of St. Catharines	Measure 3 (if applicable)
Base case technology:	Average Standard Stock	Average Standard Stock	
Efficient technology:	LED	LED	
Number of participants or units delivered for reporting year:	1 - City of Hamilton	1 - City of St. Catharines	
Measure life (years):	23	23	
Number of Participants or units delivered life to date	1	1	

B. TRC Results:

	Reporting Year	Life-to-date TRC Results:
¹ TRC Benefits (\$):	\$ 164,244.00	
² TRC Costs (\$):		
Utility program cost (excluding incentives):	\$ -	
Incremental Measure Costs (Equipment Costs)	\$ -	
Total TRC costs:	\$ -	
Net TRC (in year CDN \$):	\$ 164,244.00	
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	n/a	

C. Results: (one or more category may apply)

Conservation Programs:

	Summer	Winter		
Demand savings (kW):	17	n/a		

	lifecycle	in year	Cumulative Lifecycle	Cumulative Annual Savings
Energy saved (kWh):	3,370,212	147,615		
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

Demand Management Programs:

Controlled load (kW)		
Energy shifted On-peak to Mid-peak (kWh):		
Energy shifted On-peak to Off-peak (kWh):		
Energy shifted Mid-peak to Off-peak (kWh):		

Demand Response Programs:

Dispatchable load (kW):		
Peak hours dispatched in year (hours):		

Power Factor Correction Programs:

Amount of KVar installed (KVar):		
Distribution system power factor at beginning of year (%):		
Distribution system power factor at end of year (%):		

Line Loss Reduction Programs:

Peak load savings (kW):

	<i>lifecycle</i>	<i>in year</i>
Energy savings (kWh):		

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):

Energy generated (kWh):

Peak energy generated (kWh):

Fuel type:

Other Programs (specify):

Metric (specify):

D. Actual Program Costs:		Reporting Year	Cumulative Life to Date
Utility direct costs (\$):	Incremental capital:	\$ -	
	Incremental O&M:	\$ -	
	Incentive:	\$ 2,805.00	\$ 2,805.00
	Total:	\$ 2,805.00	\$ 2,805.00
Utility indirect costs (\$):	Incremental capital:		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

Participants include 21 locations for LED traffic light installations.

¹ Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit benefit specified in the TRC Guide.

² For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made to a third party service provider to run an incentives program are program costs, and are to be included as TRC costs under the "Utility Program Costs" line.

Appendix B - Discussion of the Program

(complete this Appendix for each program)

A. **Name of the Program:** Leveraging Conservation and/or Load Management

Description of the program (including intent, design, delivery, partnerships and evaluation):

Leveraging Energy Conservation is being accomplished through the powerWISE Business Incentive Program. This program offers financial incentives to large customers for projects that improve electricity consumption and reduce peak demand. Interested customers must submit an application along with the necessary documentation. All details for this program are available on www.horizonutilities.com. All other CLD members are participating in this program.

There are two application paths for customers: prescriptive and custom. The prescriptive path is for common measures and lighting retrofits. The custom path offers flexibility for customers performing retrofits that do not fall under the prescriptive path, and requires that the project reduces peak demand by at least 10 kW.

Measure(s):

	PBIP	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:	Existing Lighting		
Efficient technology:	Energy Efficient Lighting		
Number of participants or units delivered for reporting year:	2 Projects		
Measure life (years):	3		
Number of Participants or units delivered life to date	3		

B. **TRC Results:**

	Reporting Year	Life-to-date TRC Results:
¹ TRC Benefits (\$):	\$ 50,471.00	
² TRC Costs (\$):		
Utility program cost (excluding incentives):	\$ 1,310.00	
Incremental Measure Costs (Equipment Costs)	\$ 86,389.00	
Total TRC costs:	\$ 87,699.00	
Net TRC (in year CDN \$):	-\$ 37,228.00	
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	\$ 0.58	

C. **Results:** (one or more category may apply)

Conservation Programs:

	Summer	Winter		
Demand savings (kW):	29	n/a		

	lifecycle	in year	Cumulative Lifecycle	Cumulative Annual Savings
Energy saved (kWh):	605,712	201,904		
Other resources saved :				
Natural Gas (m3):				
Other (specify):				

Demand Management Programs:

Controlled load (kW)		
Energy shifted On-peak to Mid-peak (kWh):		
Energy shifted On-peak to Off-peak (kWh):		
Energy shifted Mid-peak to Off-peak (kWh):		

Demand Response Programs:

Dispatchable load (kW):		
Peak hours dispatched in year (hours):		

Power Factor Correction Programs:

Amount of KVar installed (KVar):		
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Distribution system power factor at beginning of year (%):		
Distribution system power factor at end of year (%):		

Line Loss Reduction Programs:

Peak load savings (kW):		
	<i>lifecycle</i>	<i>in year</i>
Energy savings (kWh):		

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):		
Energy generated (kWh):		
Peak energy generated (kWh):		
Fuel type:		

Other Programs (specify):

Metric (specify):		
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D. <u>Actual Program Costs:</u>		<u>Reporting Year</u>	<u>Cumulative Life to Date</u>
Utility direct costs (\$):	Incremental capital:	\$ -	\$ -
	Incremental O&M:	\$ 1,310.00	\$ 10,798.00
	Incentive:	\$ 3,902.00	\$ 3,902.00
	Total:	\$ 5,212.00	\$ 14,700.00
Utility indirect costs (\$):	Incremental capital:		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

TRC inputs based on PBIP application information.

¹ Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit benefit specified in the TRC Guide.

² For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made to a third party service provider to run an incentives program are program costs, and are to be included as TRC costs under the "Utility Program Costs" line.

Power Factor Correction Programs:

Amount of KVar installed (KVar):

Distribution system power factor at beginning of year (%):

Distribution system power factor at end of year (%):

Line Loss Reduction Programs:

Peak load savings (kW):

lifecycle

in year

Energy savings (kWh):

Distributed Generation and Load Displacement Programs:

Amount of DG installed (kW):

Energy generated (kWh):

Peak energy generated (kWh):

Fuel type:

Other Programs (specify):

Metric (specify):

D. Actual Program Costs:		Reporting Year	Cumulative Life to Date
Utility direct costs (\$):	Incremental capital:	\$ -	\$ -
	Incremental O&M:	\$ 25,015.00	\$ 51,928.00
	Incentive:	\$ -	\$ -
	Total:	\$ 25,015.00	\$ 51,928.00
Utility indirect costs (\$):	Incremental capital:		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

No TRC benefits to report.

¹ Benefits should be estimated if costs have been incurred and the technology has been deployed. Benefits reflect the present value of the measure for the number of units deployed in the year, i.e. the number of units times the net present value per unit benefit specified in the TRC Guide.

² For technologies which have not been deployed but for which the LDC has incurred costs, report only the TRC costs on a present value basis. Incentives (e.g. rebates) from the LDC to a customer are not a component of the TRC costs. However, payments made to a third party service provider to run an incentives program are program costs, and are to be included as TRC costs under the "Utility Program Costs" line.

Appendix C - Program and Portfolio Totals

Report Year: 2006

1. Conservation and Demand Management Residential and Small Commercial <50kW Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

	TRC Benefits (PV)	TRC Costs (PV)	\$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures (\$)
Co-Branded Mass Market	\$ 9,902,208	\$ 1,453,508	\$ 8,448,700	6.81	23,711,355	129,842,742	1,447	\$ 801,476
Residential Energy Audits	\$ 169,182	\$ 120,967	\$ 48,215	1.40	785,834	2,329,278	99	\$ 109,020
Social Housing	\$ 856,272	\$ 202,488	\$ 653,784	4.23	2,218,000	11,236,092	93	\$ 177,332
Load Control Initiative	\$ 860,098	\$ 283,283	\$ 576,815	3.04	126,137	2,270,478	570	\$ 283,283
Name of Program E			\$ -	0.00				
Name of Program F			\$ -	0.00				
Name of Program G			\$ -	0.00				
Name of Program H			\$ -	0.00				
Name of Program I			\$ -	0.00				
Name of Program J			\$ -	0.00				

*Totals App. B - Conservation and Demand Management Residential and Small Commercial <50kW

Conservation and Demand Management Residential and Small Commercial <50kW Indirect Costs	\$ 11,787,760	\$ 2,060,246	\$ 9,727,514	5.72	26,841,326	145,678,590	2,209	\$ 1,371,111
not attributable to any specific program								
Total Conservation and Demand Management Residential and Small Commercial <50kW TRC Costs		\$ 2,060,246						
**Totals TRC - Conservation and Demand Management Residential and Small Commercial <50kW	\$ 11,787,760	\$ 2,060,246	\$ 9,727,514	5.72				

2. Conservation and Demand Management Commercial, Industrial and Institutional >50kW Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

	TRC Benefits (PV)	TRC Costs (PV)	\$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures (\$)
Energy Audit & Feasibility Studies	\$ -	\$ 25,015	\$ -25,015	0.00	0	0	0	\$ 25,015
LED Traffic Lights	\$ 164,244	\$ 58,605	\$ 105,639	2.80	147,615	3,370,212	17	\$ 2,805
Leveraging Conservation and/or Load Management	\$ 50,471	\$ 87,699	\$ -37,228	0.58	201,904	605,712	29	\$ 5,212
Name of Program D			\$ -	0.00				
Name of Program E			\$ -	0.00				
Name of Program F			\$ -	0.00				
Name of Program G			\$ -	0.00				
Name of Program H			\$ -	0.00				
Name of Program I			\$ -	0.00				
Name of Program J			\$ -	0.00				

*Totals App. B - Conservation and Demand Management Commercial, Industrial and Institutional >50kW

Conservation and Demand Management Commercial, Industrial and Institutional >50kW Indirect Costs	\$ 214,715	\$ 171,319	\$ 43,396	1.25	349,519	3,975,924	46	\$ 33,032
not attributable to any specific program								
Total TRC Costs		\$ 171,319						
**Totals TRC - Conservation and Demand Management Commercial, Industrial and Institutional >50kW	\$ 214,715	\$ 171,319	\$ 43,396	1.25				

3. Distribution Loss Reduction Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

	TRC Benefits (PV)	TRC Costs (PV)	\$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures (\$)
Name of Program A			\$ -	0.00				
Name of Program B			\$ -	0.00				
Name of Program C			\$ -	0.00				
Name of Program D			\$ -	0.00				
Name of Program E			\$ -	0.00				
Name of Program C			\$ -	0.00				
Name of Program G			\$ -	0.00				
Name of Program H			\$ -	0.00				
Name of Program I			\$ -	0.00				
Name of Program J			\$ -	0.00				
*Totals App. B - Distribution Loss R	\$ -	\$ -	\$ -	0.00	0	0	0	\$ 78,984
Distribution Loss Reduction Indirect Costs not attributable to any specific program		78,984						
Total TRC Costs		\$ 78,984						
**Totals TRC - Distribution Loss Re	\$ -	\$ 78,984	\$ 78,984	0.00				

4. Distributed Energy & Load Displacement Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

	TRC Benefits (PV)	TRC Costs (PV)	\$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures (\$)
Name of Program A			\$ -	0.00				
Name of Program C			\$ -	0.00				
Name of Program C			\$ -	0.00				
Name of Program D			\$ -	0.00				
Name of Program E			\$ -	0.00				
Name of Program F			\$ -	0.00				
Name of Program G			\$ -	0.00				
Name of Program H			\$ -	0.00				
Name of Program I			\$ -	0.00				
Name of Program J			\$ -	0.00				
*Totals App. B - Distributed Energy	\$ -	\$ -	\$ -	0.00	0	0	0	\$ 15,182
Distributed Energy & Load Displacement Indirect Costs not attributable to any specific program		15,182						
Total TRC Costs		\$ 15,182						
**Totals TRC - Distributed Energy &	\$ -	\$ 15,182	\$ 15,182	0.00				

5. Overall Program Support Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

	TRC Benefits (PV)	TRC Costs (PV)	\$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures (\$)
Name of Program A			\$ -	0.00				
Name of Program C			\$ -	0.00				
Name of Program C			\$ -	0.00				
Name of Program D			\$ -	0.00				
Name of Program E			\$ -	0.00				
Name of Program F			\$ -	0.00				
Name of Program G			\$ -	0.00				
Name of Program H			\$ -	0.00				
Name of Program I			\$ -	0.00				
Name of Program J			\$ -	0.00				
*Totals App. B - Overall Program Support	\$ -	\$ -	\$ -	0.00	0	0	0	\$ 585,385
Overall Program Support Indirect Costs not attributable to any specific program		585,385						
Total TRC Costs		\$ 585,385						
**Totals TRC - Overall Program Support	\$ -	\$ 585,385	\$ 585,385	0.00				

6. LDC System Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

	TRC Benefits (PV)	TRC Costs (PV)	\$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures (\$)
Name of Program A			\$ -	0.00				
Name of Program B			\$ -	0.00				
Name of Program C			\$ -	0.00				
Name of Program D			\$ -	0.00				
Name of Program E			\$ -	0.00				
Name of Program F			\$ -	0.00				
Name of Program G			\$ -	0.00				
Name of Program H			\$ -	0.00				
Name of Program I			\$ -	0.00				
Name of Program C			\$ -	0.00				
*Totals App. B - LDC System	\$ -	\$ -	\$ -	0.00	0	0	0	\$ -
LDC System Indirect Costs not attributable to any specific program								
Total TRC Costs		\$ -						
**Totals TRC - LDC System	\$ -	\$ -	\$ -	0.00				

7. Smart Meters Program

Only spending information that was authorized under the 3rd tranche of MARR is required to be reported for Smart Meters.

Report Year Gross C&DM Expenditures (\$) 1,690,604
 Note: Smart Meter expenditure includes Res. and Small Commercial <50 kW and Comm., Ind. And Instit. >50kW.

8. Other #1 Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

	TRC Benefits (PV)	TRC Costs (PV)	\$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures (\$)
Name of Program A			\$ -	0.00				\$ -
Name of Program B			\$ -	0.00				
Name of Program C			\$ -	0.00				
Name of Program D			\$ -	0.00				
Name of Program E			\$ -	0.00				

9. Other #2 Programs

List each Appendix B in the cells below; Insert additional rows as required.

Note: To ensure the integrity of the formulas, please insert the additional rows in the middle of the list below.

	TRC Benefits (PV)	TRC Costs (PV)	\$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures (\$)
Name of Program A			\$ -	0.00				
Name of Program B			\$ -	0.00				
Name of Program C			\$ -	0.00				
Name of Program D			\$ -	0.00				
Name of Program E			\$ -	0.00				
Name of Program C			\$ -	0.00				
Name of Program G			\$ -	0.00				
Name of Program H			\$ -	0.00				
Name of Program I			\$ -	0.00				
Name of Program J			\$ -	0.00				
*Totals App. B - Other #2	\$ -	\$ -	\$ -	0.00	0	0	0	\$ -
Other #2 Indirect Costs not attributable to any specific program								
Total TRC Costs		\$ -						
**Totals TRC - Other #2	\$ -	\$ -	\$ -	0.00				

LDC's CDM PORTFOLIO TOTALS

	TRC Benefits (PV)	TRC Costs (PV)	\$ Net TRC Benefits	Benefit/Cost Ratio	Report Year Total kWh Saved	Lifecycle (kWh) Savings	Total Peak Demand (kW) Saved	Report Year Gross C&DM Expenditures (\$)
*TOTALS FOR ALL APPENDIX B	\$ 12,002,475	\$ 2,911,116	\$ 9,091,359	4.12	\$ 27,190,845	\$ 149,654,514	\$ 2,255	\$ 3,774,298
Any <u>other</u> Indirect Costs not attributable to any specific program		\$ -						
TOTAL ALL LDC COSTS		\$ 2,911,116						
**LDC PORTFOLIO TRC	\$ 12,002,475	\$ 2,911,116	\$ 9,091,359	4.12				

* The savings and spending information from this row is to be carried forward to Appendix A.

** The TRC information from this row is to be carried forward to Appendix A.

ATTACHMENT D

REFERENCE: VECC QUESTION 44B



PROPOSAL TO UNDERTAKE THE 2006 CDM RESULTS EVALUATION

SUBMITTED TO

BRIAN SMITH

HORIZON UTILITIES CORPORATION

**PREPARED BY
SEELINE GROUP LTD.
416-703-8695**

January 31, 2007

Proposal # SLG-PI-003-07

BACKGROUND

As part of its regulatory requirement related to its Conservation and Demand Management (CDM) efforts, Horizon Utilities Corporation (HUC) is expected to annually file a CDM Report with the Ontario Energy Board (OEB) that shows the results of all of its CDM efforts. This report is expected to include a variety of information, including,

- Basic program descriptions,
- Program participation rates,
- Annual peak and energy reductions by program,
- Program costs differentiating between incentive and program support expenditures,
- TRC results by program and for the total programming effort.

As part of the reporting exercise, HUC may also report or include relevant information on the programs including,

- Supporting documentation for key inputs,
- Evaluation results, research or other studies that were undertaken in support of the programs (with particular focus on documents that support the results claims).

SeeLine Group Ltd (SLG) undertook a number of the activities for Horizon's 2005 Annual CDM report, including the TRC analysis and related documentation preparation. In this capacity, SLG worked closely with HUC staff. SLG has provided similar evaluation/reporting services to a variety of clients in both the electricity and natural gas sectors in the past and is well-versed with the reporting requirements of the OEB. SLG is pleased to provide this proposal to develop the 2006 CDM Evaluation Report.

The specific activities are outlined below. Note that the Tasks are both concurrent and iterative.

ACTIVITIES

Task 1. Prepare Annual savings and costs for TRC derivation. Task 1 starts with a review of all program results – savings, costs and all related activities. SLG staff will work closely with HUC staff to ensure all savings and costs are accounted for and accurately documented.

Task 2. Calculate TRC Results. SeeLine will use its SeeTool software to calculate the TRC results for all programs and for the entire program portfolio. This assessment requires the construction of a series of inputs and considerations beyond the savings and costs. These include customer equipment costs, equipment life and free ridership. SLG is uniquely qualified to

develop this information, having developed the OEB Measures List and the Social Housing Measures List for HUC in 2005.

Task 3. Program Descriptions and CDM Report. Task 3 uses the information collected and derived in Tasks 1 and 2 and combines it with program descriptions, HUC reports and market based information to “tell the story” of the 2006 CDM activities. SLG staff will again work in close collaboration with HUC staff to write the report and ensure that it meets both OEB expectations and HUC management requirements. As part of this activity, SLG will generate the various Appendices required for the OEB CDM Report and will also provide an “OEB-ready” documentation report.

Task 4. Draft and Final Reports and Presentation. A Draft Report will be submitted for HUC review and approval. The Final Report will accommodate revisions by HUC staff and will be accompanied by a presentation that examines each program area and reports key statistics and outcomes. This presentation will highlight potential future programming opportunities and future evaluation needs, as identified through the evaluation effort.

Meetings. There will be a requirement for a number of meetings with HUC staff. These will undertaken as necessary. The budget provided below accommodates 3 project meetings with HUC staff, plus the final meeting.

PROJECT TEAM

The Project Team is small reflecting both the desire to minimize costs and the significant experience of the team members.

Michael Singleton, Principal, SeeLine Group Ltd., will have full responsibility for the final delivery of the project, with particular focus on the program descriptions and related analysis. Mr. Singleton has over 20 years experience in the provision of energy efficiency related research including resource planning, socio-economic analysis and DSM program design and delivery. Mr. Singleton has worked closely with the CLD Group in the design of the Common 2nd Generation CDM Programs currently being contemplated and has developed DSM Resource Plans for utilities in both the gas and electricity industry.

Melinda Clarke, Principal, SeeLine Group Ltd., will be the primary contact with HUC and have responsibility for reviewing all savings and costs information, TRC screening and the identification of future evaluation requirements. Ms. Clarke has been the senior project leader for numerous CDM planning and evaluation efforts, including TRC assessments. She led the SLG team that produced the 2005 CDM Report for HUC and was the principal developer of the SeeTool software. Ms. Clarke has more than 15 years of related experience in the industry including planning and evaluation efforts for both electric and natural gas utilities.

Greg Vermeulen, Research Assistant, SeeLine Goup Ltd., is a new member of the SLG team, responsible for TRC analysis and related research and support. Mr. Vermeulen is an expert in Excel and database applications. Mr. Vermeulen will assist in the data development and TRC analyses.

BUDGET AND TIMELINES

Table 1 provides details on the level of effort and cost associated with each task.

This project will be undertaken for \$15,080.00 exclusive of GST. SLG is prepared to commence immediately. Estimated project duration is approximately 3-4 weeks, depending upon HUC staff accessibility.

Table 1: Task List & Level of Effort

Item	MS	MC	GV	Total hours
Task 1	0	8	4	12
Task 2		16	16	32
Task 3	24	0	0	24
Task 4	8	4	0	12
Meetings	8	16	0	24
Total Hours	40	44	20	104
Rate	\$175	\$145	\$85	
Total consulting	\$7,000	\$6,380	\$1,700	\$15,080

CONTRACTUAL ARRANGEMENT

The parties agree to the deliverables and budget as presented above. Horizon Utilities Corporation will make final determination of project completion. Please sign below:

The parties agree to the terms and conditions as given in the attached proposal.

For the Contractor

_____ Date: _____
Michael Singleton
SeeLine Group Ltd.

For Horizon Utilities Corporation

_____ Date: _____
Brian Smith
Horizon Utilities Corporation