



Veridian Connections Inc.

Conservation and Demand Management

2007 Annual Report

Veridian Connections - RP-2004-0203\EB-2004-0484

March 31, 2008

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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 Inc. This report is a requirement of that decision. In respect of the application filed by Veridian Connections Inc. (“Veridian”), the Board issued its Final Order on February 3, 2005 under docket number RP-2004-0203 / EB-2004-0484.

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. On March 1, 2007 the Board issued Amended Requirements for Annual Reporting of Conservation and Demand Management (CDM) Initiatives and then on March 3, 2008 the Board confirmed that these reporting requirements would remain the same for the 2007 reporting year. This report has been prepared in accordance with those guidelines.

Veridian’s CDM plan has been updated three times since it was originally approved by the Board:

- Revision 1: In 2005, the plan was amended to incorporate Scugog Hydro Energy Corporation’s (Scugog Hydro) CDM plan into Veridian’s plan, following Veridian’s acquisition of Scugog Hydro and the cancellation of that utility’s electricity distribution licence. At the same time, the plan was amended to reallocate budget amounts between certain programs.
- Revision 2: In 2006, the plan was amended to incorporate Gravenhurst Hydro Electric Inc.’s (Gravenhurst Hydro) CDM plan into Veridian’s plan, following Veridian’s acquisition of Gravenhurst Hydro and the cancellation of that utility’s distribution licence.
- Revision 3: In 2007, the plan was amended to accommodate an extension to the completion date of third tranche CDM activities to September 30, 2008, and to reallocate funds totalling \$973,000. An amount of \$770,000 was deducted from the Smart Meter Program and \$203,000 was deducted from the Leveraging Energy Conservation/Load Management Program to offset increases in the amount of \$17,000 to the Peak Saving Generator at the Scugog Municipal Building, \$79,000 for the Load Displacement Program, \$267,000 for the Residential and Small Commercial Co-branded Mass Market Program and \$610,000 to the Distribution Loss Reduction Program.

The changes referred to under revision 1 were filed with the Board in September 2005 and were accepted as an ‘informational update’. The budget changes associated with revision 2 were referenced in Veridian’s quarterly Reporting and Record Keeping filings commencing with the second quarter 2006 submission. The more substantive amendments referenced under revision 3 were reviewed and approved by the Board as part of proceeding EB-2007-0712. The Decision and Order approving the amendments was issued on September 12, 2007

Veridian’s current CDM budget reflecting all of the above referenced revisions is provided under appendix D of this report.



2. Evaluation of Overall Plan

Refer to Appendices A, B and C for a full evaluation of Veridian's CDM activities during 2007.

Some components of Veridian's CDM plan 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.

3. Discussion of the Programs

3.1 Residential and Small Commercial (< 50 kW)

Co-branded Mass Market Program

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 LDCs, 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 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 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 2007 Activities

powerWISE® Brand and Website

Action

- Hamilton Utilities Corp. (HUC) registered the powerWISE brand prior to CDM activities.
- During CLD CDM plan preparation, it was agreed that the CLD would collectively develop a co-brand. HUC offered the use of the powerWISE brand, and it was agreed that CLD members would use this mark.
- During 2007 the powerWISE brand continued to be used extensively by CLD members in the promotion of conservation programs. It was also used by the Ministry of Energy.

Results to Date

- Growing public recognition of the powerWISE brand and use of the powerWISE website for conservation information.

Next Steps

- Continue use of the powerWISE brand to promote Ontario Power Authority (OPA) conservation programs delivered by Veridian.

powerWISE CFL Promotions

Action

- Veridian continued its energy efficient lighting promotional activity during 2007. Compact fluorescent lights and accompanying conservation literature were distributed through a range of events and programs such as:
 - 'We Have The Power' Program
 - Veridian partnered with Durham Sustain Ability (DSA), an incorporated non-profit environmental organization in Durham Region in the delivery of its 'We Have the Power' program. The program, which was financially supported by the Ministry of Energy, was designed to engage up to 1,000 City of Pickering residents in energy conservation activities by having them 'pledge' to pursue prescribed conservation actions. The engagement of residents was at a grassroots level using community based social marketing techniques.
 - Veridian supported the program through the provision of 1,000 CFL bulbs and posting of promotional material on its website. The 'We Have the Power Program' cross promoted a number of Veridian conservation initiatives such as the Watt Read Loan Program (established in 2006 and delivered through local libraries) and the Water Heater Tune-up program.
 - Watt Reader Loan Program
 - During 2006, Veridian introduced a 'Watt Reader Loan Program' through partnerships with libraries in the Cities of Belleville and Pickering, the Municipalities of Clarington and Port Hope, the Town of Gravenhurst, and the Townships of Brock, Scugog and Uxbridge. Each library was provided with a supply of energy recording devices for use by library patrons to help them explore how they use energy in their homes, and to identify where to focus conservation efforts. Supporting communications material and a supply of CFL bulbs was provided to assist in marketing the program.
 - Veridian continued to support, monitor and promote the 'Watt Reader Loan Program' throughout 2007.
 - Trade Shows and Community Events
 - Distributed CFL bulbs and conservation information through a variety of venues such as:
 - MPP Conservation Forum, Pickering Town Centre
 - Clarington Board of Trade
 - Port Hope Green Living Fair
 - Ajax Family Festival
 - Municipality of Clarington/NRCan Urban Archetype Survey
 - Ajax/Pickering Board of Trade 'Inconvenient Truth' Event
 - Ajax Environmental Affairs Energy Forum
 - Newcastle Public School Grade 5/6 Energy Efficiency Presentation

Results to Date

- Through these efforts, a total of 3,535 CFL bulbs and were distributed to a broad cross section of Veridian's customer base.

Next Steps

- No further actions are contemplated as part of Veridian's third tranche MARR CDM program.



Water Heater Tune-up

Action

- In 2006, Veridian introduced and marketed a 'Tune Up and Save' program for electric water heaters, through which the following services were provided free to eligible customers:
 - Install pipe wrap on hot water pipes
 - Install a water heater insulation blanket
 - Replace old showerheads with energy efficient models
 - Provide two faucet aerators
 - Drop off/install two CFL bulbs
 - Provide literature with energy efficiency tips
- This service continued to be made available to customers until September 12, 2007.

Results to Date

- Over the two years that this program was offered, approximately 1,600 customers expressed interest in the program and more than 1,100 homes were visited. A total of 1,051 insulation blankets were installed.
- During 2007, 660 insulation blankets, 583 energy efficient showerheads, 972 faucet aerators and 414 sections of pipe-wrap insulation were installed.

Next Steps

- No further actions are contemplated as part of Veridian's third tranche MARR CDM program.

Residential Load Control Program (peaksaver)

Action

- In 2006, Veridian participated with other CLD members in the design and implementation of a load control program targeting residential and small commercial customers' central air conditioners with outside condensers. Marketed as the **peaksaver** program, the service was introduced late in 2006 on a pilot basis in the communities of Bowmanville and Port Hope.
- The goal of the pilot program was to establish 400 load control points. By the end of 2006 165 points had been established.
- Promotion of Veridian's third tranche funded pilot **peaksaver** program continued in early 2007, with the goal of reaching the target of 400 load control points.

Results to Date

- Over the two years for which this pilot program was offered, a total of 356 load control points were established consisting of 283 load control switches, 52 residential load control thermostats and 21 commercial load control thermostats. Of these, 118 switches, 52 residential thermostats and 21 commercial thermostats were installed during 2007.

Next Steps

- No further actions are contemplated as part of Veridian's third tranche MARR CDM program. Veridian has transitioned to delivery of the OPA's **peaksaver** program.



Keep Cool/Torchiere Exchange Program

Action

- Building on similar programs delivered in other communities served by Veridian during 2006, Veridian contracted with the Clean Air Foundation to deliver a residential air conditioner turn-in and halogen torchiere exchange program over 3 weekends in June.
- Radio, print advertising and direct mail were used to advertise the program. Customers were encouraged to bring in their old, working window air conditioners for proper recycling, in exchange for \$25 gift cards redeemable at Home Depot, which could be used to purchase EnergyStar rated replacement units. They were also encouraged to bring in halogen torchiere lamps, to exchange for \$30 instant discount coupons redeemable on the purchase of new compact fluorescent torchieres.

Results to Date

- A total of 302 room air conditioners and 166 halogen torchieres were collected over the three weekends.

Next Steps

- No further actions are contemplated as part of Veridian's third tranche MARR CDM program.

'Generation Conservation' Curriculum Based Education Initiative

Action

- During 2006, Oshawa PUC, Whitby Hydro and Veridian partnered to fund the development of a grade five science curriculum-based pilot program. The pilot was developed in cooperation with the Durham Public and Durham Catholic School Boards. Comprehensive teacher resource material was developed and tested in 16 schools across the Region of Durham.
- Teacher feedback on the resource material was compiled during 2007, and used to update and finalize the program.

Results to Date

- Teacher and student resource materials have been finalized.

Next Steps

- Both participating school boards plan to deploy the program for all grade five students in the spring of 2008.

Smart Meter Pilot

Program 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 Veridian Connections 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 2007 Activities

Action

- In 2005, Veridian deployed smart meters on the accounts of 400 residential and small business customers in the community of Sunderland. This pilot project was implemented to test the smart meter technology as well as a new workforce management system acquired to support the paperless work processes needed for future broad scale smart meter deployment.
- During 2007, Veridian made the transition from physical meter reading to remote meter reading for all Sunderland smart meter pilot program participants.

Results to Date

- Lessons learned from the Sunderland pilot project have been valuable in Veridian's broad scale smart meter conversion project, which commenced in 2007. By the end of the year Veridian had successfully deployed approximately 35,000 smart meters.

Next Steps

- No further actions are contemplated as part of Veridian's third tranche MARR CDM program.

3.2 Commercial, Industrial and Institutional (> 50 kW)

Smart Meter Program

Program Description

Veridian 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 2007 Activities

Action

- In 2005 Veridian initiated an interval meter conversion program involving a group of about 120 customers with a peak demand between 200 kW's and 500 kW's. The conversion program continued in 2007, with approximately 58 interval meters installed.
- Carried out a Regulated Price Plan (RPP) time-of-use (TOU) price pilot program that was approved by the Ontario Energy Board late in 2006 (proceeding number EB-2006-0303). The pilot program extended TOU pricing to RPP customers with a peak demand of greater than 200 kW's. The purpose of the pilot was to test Veridian's TOU settlement processes, and to test the response of mid-size to large general service customers to TOU rates.

Results to Date

- No analysis has been done related to the impact of the interval meter conversion program on customer electricity use patterns. However, a detailed analysis on the RPP TOU pricing pilot was completed by Navigant Consulting Inc. in consultation with Board staff. The Navigant report was filed with the Board Secretary on March 27, 2008.

Next Steps

- No further actions are contemplated as part of Veridian's third tranche MARR CDM program.

Leveraging Energy Conservation and Load Management

Program Description

The CLD worked collectively to develop a program (The powerWISE Business Incentive Program) that provides financial incentives to qualified customers that implement energy conservation projects.

The objective of this program is to leverage energy conservation and load management opportunities within the commercial, industrial and institutional sectors. This program will be offered in addition to existing funding (NRCan, Enbridge) to advance market up-take.

The program targets end-users with facility average peak loads of greater than 50 kW. Customers are required to complete a project application and worksheet in order to qualify for pre-determined incentive levels based on custom project or prescriptive technologies like lighting, A/C unitary units, motors, and other energy efficient devices within a company.

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 2007 Activities

Action

- Following program development with members of the CLD, Veridian introduced the powerWISE Business Incentive Program (PBIP) in 2005. The program provides financial incentives for energy efficient retrofit projects.
- During 2007 the OPA introduced the Electricity Retrofit Incentive Program (ERIP); a program essentially the same as Veridian's PBIP offering. Veridian registered as a delivery agent for the OPA program but, at the same time continued to process applications previously received under PBIP.

Results to Date

- Since the PBIP was introduced in late 2005, Veridian has issued incentive payments related to three energy efficient lighting and transformer projects. One of these three projects was completed in 2007.

Next Steps

- One remaining pre-approved PBIP application remains outstanding. It is expected that a final incentive payment related to this application will be paid in 2008.

3.3 *Distribution Loss Reduction*

Distribution Loss Reduction

Program 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.

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.

Target users

All of Veridian'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 2007 Activities

Action

- Following a successful pilot test of a voltage profile load management system by Hydro Ottawa, Veridian proceeded with plans to install this technology on eight 13.8 kV feeders in Belleville. Work commenced early in 2007 and was substantially complete by year-end.
- During the year, a study was also completed to evaluate the viability of deploying the same technology at two substations in the community of Bowmanville.

Results to Date

- The installation of the voltage profile load management system in Belleville was completed late in 2007. However, due to system communications issues that arose during the commissioning process, the equipment was not fully activated until early 2008. The savings associated with this investment will be reflected in Veridian's 2008 annual report.



Next Steps

- Complete the installation and commissioning of voltage load profile management systems at two substations (six distribution feeders) in the community of Bowmanville.

3.4 Distributed Energy

Load Displacement

Program 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.

Benefits

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 2007 Activities

Action

- During 2007 Veridian developed and introduced a pilot commercial/industrial demand response program, leveraging the IESO's Emergency Load Reduction Program (ELRP) and the OPA's Demand Response 1 (DR1) program. Customers were offered the free supply and installation of load control equipment, contingent on their enrollment in both demand response programs.
- The pilot program was marketed through direct customer contact.

Results to Date

- By the end of 2007, load control equipment had been deployed at six commercial/industrial sites. Load under control consists of approximately 456 kW of lighting and air conditioning load.

Next Steps

- Continue to administer the pilot program and seek OPA custom program funding to expand program participation.

Stand-by Generators

Program 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 2007 Activities

Action

- In 2006, Veridian Corporation, Veridian Connections' parent company, installed a 100 kW natural gas fired back-up/peak shaving generator.
- Dispatching controls and software were installed and commissioned early in 2007 to provide for the remote dispatch of this generator, so that it could be used for load displacement operations under the IESO's ELRP and the OPA's DR1 program.

Results to Date

- The generator was called upon by the IESO on one occasion during the summer of 2007.

Next Steps

- Continue to make this generator available for dispatch under the ELRP and DR1 program, and seek OPA custom program funding to expand the number of participating generators.

Peak Shaving Generator for Municipal Office

Program Description

A Bi-Fuel standby diesel generator will be sited at the Township of Scugog Municipal Building and serve the dual role as a “peak shaver” for demand response and a back-up power supply for the Township Emergency Command Centre in the event of a major emergency.

Target users

The Township of Scugog.

Benefits

Some of the benefits of peak shaving to the utility are:

- Dispatchable peak demand reduction
- Maximum use of standby capacity through safe parallel operation with the utility grid
- Cost-effective solution consistent with least cost planning emphasis
- Improved system load factor
- Enhanced voltage stability and avoided line losses during heavy load conditions

Some of the benefits of peak shaving to the end user are:

Enhanced reliability as standby gensets are tested under real load conditions with “bumpless” power transfers and potential cost savings as separate maintenance testing is no longer required.

Discussion of 2007 Activities

Action

- During 2006, a 60 kW natural gas fired standby generator was purchased and installed at the Scugog Municipal building.
- Dispatching controls and software were installed and commissioned early in 2007 to provide for the remote dispatch of this generator, so that it could be used for load displacement operations under the IESO's ELRP and the OPA's DR1 program.

Results to Date

- The generator was called upon by the IESO on one occasion during the summer of 2007.

Next Steps

- Continue to make this generator available for dispatch under the ELRP and DR1 program, and seek OPA custom program funding to expand the number of participating generators.



4. Lessons Learned

Veridian continues to gain critical conservation and demand management experience and has benefited from unprecedented cooperation between utilities, particularly through the Coalition of Large Distributors and the Electricity Distributors Association. Veridian is committed to the efficient and effective delivery of conservation programs, whether funded by the Ontario Power Authority or through electricity distribution rates.

In its 2006 annual report, Veridian reported a number of lessons learned through its role in the delivery of CDM programs. These lessons continue to be relevant and, for ease of reference, they are repeated in this year's report as follows:

Program Development

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

Conservation opportunities exist with residential and small commercial customers but the channel to market has many challenges. These customers are overwhelmed by market information, but lack the appropriate tools or models to accurately assess their options to implement appropriate individual solutions.

Veridian found that simple, low cost incentives like the powerWISE® Power Pack or free CFL bulbs were very well received by residential customers, offered good Total Resource Cost ("TRC") results and proved that customers did not require significant incentives to participate in programs. In fact, ease of participation accompanied by moderate incentives with a perceived high value to customers appear to be the hallmarks of program success.

Our powerWISE® Business Incentive Program showed us that Commercial and Industrial customer timelines for conservation projects are often longer than Veridian expected and have a lower sense of urgency than Veridian would prefer. Incentives have to be very meaningful in order to encourage and speed up conservation projects at this large commercial level.

Education

Public education is a critical element as Veridian builds a culture of conservation, yet under the current reporting format, no reportable benefits can be attributed to this activity. This effectively penalizes Utilities from participating in this type of worthwhile and necessary initiative. As Veridian supports the development of a conservation culture in Ontario, a balance must be sought between short-term results and the need for longer term market transformation.

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 simple solutions such as pipe wrap, SLED and CFL bulbs. It is critical to educate customers and to provide a savings comparison in dollars to highlight these impacts.

It is important to offer Commercial and Industrial customers access to information through one-on-one visits and convenient forums such as trade shows. There are many emerging technologies and an explosion of service providers in the marketplace. Veridian needs to concentrate efforts on helping these customers 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 new energy efficient technologies.



Regulatory Issues

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 among the various organizations within the hydro industry, so an attempt to deliver programs to the end customer by different groups only confuses the customer and suggests a lack of industry coordination.



5. Conclusion

Veridian's calculated energy savings for 2007 declined compared to 2006, largely due to exhausted third tranche budget amounts in a number of program areas. The decline is exacerbated by the deferral of energy savings claims related to significant distribution loss reduction investments made in 2007. As stated in section 3.3 of this report, voltage profile management equipment installed during 2007 was not fully operational until early 2008. Therefore savings associated with these investments will be reflected in Veridian's 2008 annual report.

By the end of 2007, Veridian had substantially completed CDM program spending in all areas except the Distribution Loss Reduction Program and to a lesser extent the Co-branded Mass Market Program. The fulfillment of spending commitments under these programs will be the focus of Veridian's attention in 2008.

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 2007	Residential and Commercial < 50kW	CI&I >50kW	Distributed System Loss Reduction	⁴ Smart Meters	Distributed Energy
<i>Net TRC value (\$):</i>	\$ 3,821,123	\$ 300,985	\$ 474,664	\$ 74,522	\$ (216,687)		\$ (31,513)
<i>Benefit to cost ratio:</i>	2.52	1.41	2.99	1.32	0.00		0.37
<i>Number of participants or units delivered:</i>	132,951	8,924	7,397	1,526	0		1
<i>Lifecycle (kWh) Savings:</i>	115,198,669	13,554,375	9,215,597	4,198,778	0		140,000
<i>Report Year Total kWh saved (kWh):</i>	15,967,628	1,935,300	1,210,453	710,848	0		14,000
<i>Total peak demand saved (kW):</i>	1,811	1,025	367	587	0		70
<i>Total kWh saved as a percentage of total kWh delivered (%):</i>	0.63%	0.08%	0.05%	0.03%	0.00%		0.00%
<i>Peak kW saved as a percentage of LDC peak kW load (%):</i>		0.21%	0.08%	0.12%	0.00%		0.01%
¹ Report Year Gross C&DM expenditures (\$):	\$ 2,763,750	\$ 957,147	\$ 187,924	\$ 165,161	\$ 441,687	\$ 112,457	\$ 49,917
² Expenditures per kWh saved (\$/kWh):	0.09	\$ 0.07	\$ 0.02	\$ 0.04	\$ -		\$ 0.36
³ Expenditures per kW saved (\$/kW):	\$3,232.99	\$ 934.00	\$ 511.60	\$ 281.15	\$ -		\$ 713.10
			2007	2006	2005		
<i>Utility discount rate (%):</i>	6.55	Total kWh delivered:	2,547,644,407	2,532,414,193	2,544,843,878		
		Peak kW load:	480,200	508,443	461,900		

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

⁵ Includes total for the reporting year, plus prior year, if any (for example, 2007 CDM Annual report for third tranche will include 2006, 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 (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 LDCs, 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 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 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.

Measure(s):

	CFL Distribution	Keep Cool - Air Conditioner Replacement	Keep Cool - Air Conditioner Retirement
<i>Base case technology:</i>	60W Incandescent	Current standard for room air conditioner	Current standard for room air conditioner
<i>Efficient technology:</i>	CFL Screw-In 15W	Energy Star Room Air Conditioner	Air Conditioner Retirement
<i>Number of participants or units delivered for reporting year:</i>	4769	121	181.4
<i>Measure life (years):</i>	4	12	12
<i>Number of Participants or units delivered life to date</i>	33,067	335	501

	Keep Cool - Torchiere	Peak Saver - P.Stats	Peak Saver - Switches
<i>Base case technology:</i>	55W Halogen	Average existing stock	Average existing stock
<i>Efficient technology:</i>	CFL Screw-In 15W	Utility Controlled Relay	Utility Controlled Relay
<i>Number of participants or units delivered for reporting year:</i>	166	73	118
<i>Measure life (years):</i>	4	18	18
<i>Number of Participants or units delivered life to date</i>	166	73	283

	Water Heater Tune Up - Faucet Aerators	Water Heater Tuneup - Pipe Wrap	Water Heater Tuneup - Showerheads
<i>Base case technology:</i>	Average existing stock	Average existing stock	Average existing stock
<i>Efficient technology:</i>	Faucet Aerator	Pipe Insulation (6-10')	Efficient Showerhead
<i>Number of participants or units delivered for reporting year:</i>	972	413.6	583
<i>Measure life (years):</i>	12	6	12
<i>Number of Participants or units delivered life to date</i>	2,275	722.6	962

	Water Heater Tuneup - Tank Wrap		
<i>Base case technology:</i>	Average existing stock		
<i>Efficient technology:</i>	Tank Wrap		
<i>Number of participants or units delivered for reporting year:</i>	660		
<i>Measure life (years):</i>	6		
<i>Number of Participants or units delivered life to date</i>	1,051		

B. TRC Results:	Reporting Year		Life-to-date TRC Results:	
	¹ TRC Benefits (\$):	\$	712,805	\$
² TRC Costs (\$):				
Utility program cost (excluding incentives):	-\$	163,462	-\$	437,859
Incremental Measure Costs (Equipment Costs)	-\$	74,679	-\$	513,517
Total TRC costs:	-\$	238,141	-\$	951,376
Net TRC (in year CDN \$):	\$	474,664	\$	4,220,248
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		2.99		5.44

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

Conservation Programs:

Demand savings (kW):	Summer		Winter	
			367	
		209		2152
				Cumulative
				Annual
				Savings
Energy saved (kWh):	lifecycle	in year	Cumulative Lifecycle	Cumulative Annual Savings
Other resources saved :	9,215,597	1,210,453	93,899,886	14,513,163
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):	lifecycle	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. Actual Program Costs:	Reporting Year		Cumulative Life to Date		
	Utility direct costs (\$):	Incremental capital:	\$	23,759	\$
	Incremental O&M:	\$	139,703	\$	434,865
	Incentive:	\$	24,463	\$	183,251
	Total:	\$	187,924	\$	641,875
Utility indirect costs (\$):	Incremental capital:				
	Incremental O&M:				
	Total:				

**** Life to date TRC results include minor adjustments made to 2006 filed results.**

CFL Distribution

• Number of CFLs from The CFL distribution: 3535 and 1234 CFLs from the Water Heater Tune Up. OEB residential table line 16 was applied

Keep Cool

• Room Air Conditioner Retirement: number of Air Conditioners retired was 181.4. OEB assumptions and measures list for Energy Star replacement adjusted to represent full energy savings from retirement of old technology.

• Room Air Conditioner Replacement: the number of Air Conditioners replaced was 121. OEB assumptions and measures list for Energy Star replacement used.

• Torchierie: number of Torchieries was 166. OEB assumptions and measures list for Energy Star 15W CFLs replacing 60W incandescent light bulbs.

Peak Saver

• 118 Switches, 52 Res Stats, 21 Commercial Stats for 2007 (191 devices). 365 Devices installed in total during pilot (3rd Tranche), including 165 installed in 2006, net of 9 removed units

Water Heater

• Tuneup Number of Water Heater Blankets - 660

• Number of CFLs - 1234. 15W CFL's replacing 60W incandescent bulb from OEB tables was assumed

• Number of Faucet Aerators - 972. Faucet Aerators from OEB tables was assumed

• Number of Pipe Wraps - 413.6. Pipe Wrap from the OEB tables was assumed

• Number of Low Flow Shower Heads - 583. Low flow shower heads from OEB tables was assumed

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 Smart Metering

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

A 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 Veridian 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.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
<i>Base case technology:</i>			
<i>Efficient technology:</i>			
<i>Number of participants or units delivered for reporting year:</i>			
<i>Measure life (years):</i>			
<i>Number of Participants or units delivered life to date</i>			

B. TRC Results:	Reporting Year	Life-to-date TRC Results:
¹ TRC Benefits (\$):		
² TRC Costs (\$):		
<i>Utility program cost (excluding incentives):</i>		
<i>Incremental Measure Costs (Equipment Costs)</i>		
<i>Total TRC costs:</i>		
Net TRC (in year CDN \$):		
<i>Benefit to Cost Ratio (TRC Benefits/TRC Costs):</i>		

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

Conservation Programs:

	Summer		Cumulative Lifecycle	Cumulative Annual Savings
	lifecycle	in year		
<i>Demand savings (kW):</i>				
<i>Energy saved (kWh):</i>				
<i>Other resources saved :</i>				
<i>Natural Gas (m3):</i>				
<i>Other (specify):</i>				

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:

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:	-\$ 89,843	\$ 162,976
	Incremental O&M:	\$ 24,466	\$ 53,255
	Incentive:		
	Total:	-\$ 65,376	\$ 216,232
Utility indirect costs (\$):	Incremental capital:		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

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:** Commercial Smart Metering - Smart Meter Pilot (RPP TOU for Commercial Customers)

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

Veridian 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.

Measure(s):

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered for reporting year:			
Measure life (years):			
Number of Participants or units delivered life to date			

	Reporting Year	Life-to-date TRC Results:
B. TRC Results:		
¹ TRC Benefits (\$):		
² TRC Costs (\$):		
Utility program cost (excluding incentives):		
Incremental Measure Costs (Equipment Costs)		
Total TRC costs:		
<hr/>		
Net TRC (in year CDN \$):		
<hr/>		
Benefit to Cost Ratio (TRC Benefits/TRC Costs):		

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

Conservation Programs:

Demand savings (kW):	Summer			
	Winter			

	lifecycle	in year	Cumulative Lifecycle	Cumulative Annual Savings
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. Actual Program Costs:		Reporting Year	Cumulative Life to Date
Utility direct costs (\$):	Incremental capital:	\$ 69,197	\$ 259,303
	Incremental O&M:	\$ 108,636	\$ 214,112
	Incentive:		
	Total:	\$ 177,833	\$ 473,414
Utility indirect costs (\$):	Incremental capital:		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

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:** Commercial DR > 50 kW

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

Commercial DR involved the installation of Demand Response Control Units for the following six projects:

- Canadian Tire
- Davis Independent Grocers
- Terry's Independent
- Dewe's Independent
- Proctor & Gamble
- Reid's Independent

Measure(s):

	Customer 1	Customer 2	Customer 3
<i>Base case technology:</i>	Original Stock	Original Stock	Original Stock
<i>Efficient technology:</i>	RTP Demand Response Control Equipment	RTP Demand Response Control Equipment	RTP Demand Response Control Equipment
<i>Number of participants or units delivered for reporting year:</i>	1	1	1
<i>Measure life (years):</i>	30	30	30
<i>Number of Participants or units delivered life to date</i>	1	1	1

	Customer 4	Customer 5	Customer 6
<i>Base case technology:</i>	Original Stock	Original Stock	Original Stock
<i>Efficient technology:</i>	RTP Demand Response Control Equipment	RTP Demand Response Control Equipment	RTP Demand Response Control Equipment
<i>Number of participants or units delivered for reporting year:</i>	1	1	1
<i>Measure life (years):</i>	30	30	30
<i>Number of Participants or units delivered life to date</i>	1	1	1

B. TRC Results:	Reporting Year		Life-to-date TRC Results:	
	¹ TRC Benefits (\$):	\$	119,888	\$
² TRC Costs (\$):				
<i>Utility program cost (excluding incentives):</i>	-\$	16,265	-\$	16,265
<i>Incremental Measure Costs (Equipment Costs)</i>	-\$	114,330	-\$	114,330
<i>Total TRC costs:</i>	-\$	130,595	-\$	130,595
<i>Net TRC (in year CDN \$):</i>	-\$	10,706	-\$	10,706
<i>Benefit to Cost Ratio (TRC Benefits/TRC Costs):</i>		0.92		0.92

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

Conservation Programs:

Demand savings (kW):		Summer		Winter	
		lifecycle	in year	Cumulative Lifecycle	Cumulative Annual Savings
Energy saved (kWh):		912,000	91,200	912,000	91,200
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): lifecycle 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):

D. Actual Program Costs:		Reporting Year	Cumulative Life to Date
Utility direct costs (\$):	Incremental capital:	\$ 15,196	\$ 15,196
	Incremental O&M:	\$ 1,069	\$ 1,069
	Incentive:	\$ 114,330	\$ 114,330
	Total:	\$ 130,595	\$ 130,595
Utility indirect costs (\$):	Incremental capital:	<input type="text"/>	<input type="text"/>
	Incremental O&M:	<input type="text"/>	<input type="text"/>
	Total:	<input type="text"/>	<input type="text"/>

E. Assumptions & Comments:

▪ Number of hours of operation assumed at 100 for on peak summer and 100 hours for mid peak summer. Load reductions for each customer were as follows: Customer 1 - 200kW, Customer 2 - 54 kW, Customer 3 - 45 kW, Customer 4 - 54 kW, Customer 5 - 53 kW, Customer 6 - 50 kW

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:** Over 50 kW Leveragin Program

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. 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.

Measure(s):

	Lighting Project - Exit Signs	Lighting Project - 4 Lamp T8	Lighting Project - Single T8
<i>Base case technology:</i>	2 - 15W (30W) Incandescent EXIT Sign	2 - T12 75W (184W) 8' HO Lamps w/1 magnetic ballast	2 - T12 34W (78W) 4' lamps pendant mount, 1 EM ballast
<i>Efficient technology:</i>	3W LED EXIT sign	4 - T8 32W (112W) 4' Lamps w/EL ballast	1- T8 32W (38W) w/EL HBF ballast
<i>Number of participants or units delivered for reporting year:</i>	31	744	189
<i>Measure life (years):</i>	25	5	5
<i>Number of Participants or units delivered life to date</i>	31	859	257

Lighting Project - Two Lamp T8

<i>Base case technology:</i>	4 - T12 34W (156W) 4' Lamps w/2 magnetic ballasts		
<i>Efficient technology:</i>	2 - T8 32W (58 W) reflectorized		
<i>Number of participants or units delivered for reporting year:</i>	587		
<i>Measure life (years):</i>	5		
<i>Number of Participants or units delivered life to date</i>	1120		

B. TRC Results:	Reporting Year	Life-to-date TRC Results:
¹ TRC Benefits (\$):	\$ 190,008	\$ 224,042
² TRC Costs (\$):		
<i>Utility program cost (excluding incentives):</i>	-\$ 24,831	-\$ 26,222
<i>Incremental Measure Costs (Equipment Costs)</i>	-\$ 79,949	-\$ 106,014
<i>Total TRC costs:</i>	-\$ 104,780	-\$ 132,236
<i>Net TRC (in year CDN \$):</i>	\$ 85,228	\$ 91,807
<i>Benefit to Cost Ratio (TRC Benefits/TRC Costs):</i>	1.81	1.69

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

Conservation Programs:

<i>Demand savings (kW):</i>	<i>Summer</i>	131	147
	<i>Winter</i>	138	155

	<i>lifecycle</i>	<i>in year</i>	<i>Cumulative Lifecycle</i>	<i>Cumulative Annual Savings</i>
<i>Energy saved (kWh):</i>	3,286,778	619,648	3,848,908	693,351
<i>Other resources saved :</i>				
<i>Natural Gas (m3):</i>				
<i>Other (specify):</i>				

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):		
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D. <u>Actual Program Costs:</u>		<u>Reporting Year</u>	<u>Cumulative Life to Date</u>
<i>Utility direct costs (\$):</i>	<i>Incremental capital:</i>	-\$ 2,015	-\$ 2,015
	<i>Incremental O&M:</i>	\$ 26,846	\$ 26,846
	<i>Incentive:</i>	\$ 9,736	\$ 16,501
	<i>Total:</i>	\$ 34,567	\$ 41,332
<i>Utility indirect costs (\$):</i>	<i>Incremental capital:</i>		
	<i>Incremental O&M:</i>		
	<i>Total:</i>		

E. Assumptions & Comments:

Quantities of Exit Signs was 31, Four Lamp T8 fixtures was 744, Single Lamp T8 fixtures was 189, Two Lamp T8 fixtures was 587; corresponding OEB published assumptions/measures were applied.

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:** Distributions System Loss

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.

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.

Target users
•All of Veridian'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.

Measure(s):

<i>Base case technology:</i>			
<i>Efficient technology:</i>			
<i>Number of participants or units delivered for reporting year:</i>			
<i>Measure life (years):</i>			
 <i>Number of Participants or units delivered life to date</i>			

B. TRC Results:	Reporting Year	Life-to-date TRC Results:
¹ TRC Benefits (\$):	\$	776,090
² TRC Costs (\$):		
<i>Utility program cost (excluding incentives):</i>	-\$ 1,961	-\$ 654,811
<i>Incremental Measure Costs (Equipment Costs)</i>	-\$ 214,726	-\$ 428,621
Total TRC costs:	-\$ 216,687	-\$ 1,083,432
Net TRC (in year CDN \$):	-\$ 216,687	-\$ 307,341
 <i>Benefit to Cost Ratio (TRC Benefits/TRC Costs):</i>		0.72

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

Conservation Programs:				Cumulative Results:	
<i>Demand savings (kW):</i>	<i>Summer</i>				
	<i>Winter</i>				
	<i>lifecycle</i>	<i>in year</i>	<i>Lifecycle</i>	<i>Annual Savings</i>	
<i>Energy saved (kWh):</i>					
<i>Other resources saved :</i>					
<i>Natural Gas (m3):</i>					
<i>Other (specify):</i>					
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>					

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. Actual Program Costs:		Reporting Year	Cumulative Life to Date
Utility direct costs (\$):	Incremental capital:	\$ 439,726	\$ 1,086,861
	Incremental O&M:	\$ 1,961	\$ 7,676
	Incentive:		
	Total:	\$ 441,687	\$ 1,094,537
Utility indirect costs (\$):	Incremental capital:		
	Incremental O&M:		
	Total:		

E. Assumptions & Comments:

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:** Distributed Energy - Standby Generator Program

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.

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.

Measure(s):

	Veridian Centre 100kW		
Base case technology:			
Efficient technology:	Peak Shaver Generator		
Number of participants or units delivered for reporting year:	1		
Measure life (years):	25		
Number of Participants or units delivered life to date	2		

	Reporting Year	Life-to-date TRC Results:
¹ TRC Benefits (\$):	\$ 18,404	\$ 18,504
² TRC Costs (\$):		
Utility program cost (excluding incentives):	-\$ 25,042	-\$ 133,035
Incremental Measure Costs (Equipment Costs):	-\$ 24,875	-\$ 78,247
Total TRC costs:	-\$ 49,917	-\$ 211,282
Net TRC (in year CDN \$):	-\$ 31,513	-\$ 192,778
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	0.37	0.09

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

Conservation Programs:

Demand savings (kW):	Summer	70	110
	Winter	0	0

	lifecycle	in year	Cumulative Lifecycle	Cumulative Annual Savings
Energy saved (kWh):	140,000	14,000	340,000	22,000
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. Actual Program Costs:

Utility direct costs (\$):

Incremental capital:

Incremental O&M:

Incentive:

Total:

Reporting Year

Cumulative Life to Date

\$	20,000	\$	73,372
\$	5,042	\$	66,218
\$	24,875	\$	24,875
\$	49,917	\$	164,465

Utility indirect costs (\$):

Incremental capital:

Incremental O&M:

Total:

E. Assumptions & Comments:

Number of hours of operation is 100 hours on peak summer and 100 hours summer mid-peak, Load savings of 70kW. OEB assumptions/measures do not apply for this program.

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: 2007

1. Residential and 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 Markets	\$ 712,805	\$ 238,141	\$ 474,664	2.99	1,210,453	9,215,597	367	\$ 187,924
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
*Totals App. B - Residential and Commercial	\$ 712,805	\$ 238,141	\$ 474,664	2.99	1,210,453	9,215,597	367	\$ 187,924
<i>Residential and Commercial < 50kW Indirect Costs not attributable to any specific program</i>								
Total Residential and Commercial < 50kW TRC Costs		\$ 238,141						
**Totals TRC - Residential and Commercial < 50kW	\$ 712,805	\$ 238,141	\$ 474,664	2.99				

2. CI&I >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 (\$)
Commercial DR > 50kW	\$ 119,888	\$ 130,595	\$ - 10,706	0.92	91,200	912,000	456	\$ 130,595
Over 50 kW Leveraging	\$ 190,008	\$ 104,780	\$ 85,228	1.81	619,648	3,286,778	131	\$ 34,567
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
*Totals App. B - CI&I >50kW	\$ 309,896	\$ 235,374	\$ 74,522	1.32	710,848	4,198,778	587	\$ 165,161
<i>CI&I >50kW Indirect Costs not attributable to any specific program</i>								
Total TRC Costs		\$ 235,374						
**Totals TRC - CI&I >50kW	\$ 309,896	\$ 235,374	\$ 74,522	1.32				

3. Distributed System 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 (\$)
Distribution System Loss	\$ -	\$ 216,687	\$ - 216,687	0.00	0	0	0	\$ 441,687
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
*Totals App. B - Distributed System Loss Reduction	\$ -	\$ 216,687	\$ - 216,687	0.00	0	0	0	\$ 441,687
<i>Distributed System Loss Reduction Indirect Costs not attributable to any specific program</i>								
Total TRC Costs		\$ 216,687						
**Totals TRC - Distributed System Loss Reduction	\$ -	\$ 216,687	\$ - 216,687	0.00				

4. 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 (\$) → 112,457

5. Distributed Energy 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 (\$)
Distributed Energy	\$ 18,404	\$ 49,917	\$ 31,513	0.37	14,000	140,000	70	\$ 49,917
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
			\$ -	0.00				
*Totals App. B - Distributed Energy	\$ 18,404	\$ 49,917	\$ 31,513	0.37	14,000	140,000	70	\$ 49,917
Distributed Energy Indirect Costs not attributable to any specific program								
Total TRC Costs		\$ 49,917						
**Totals TRC - Distributed Energy	\$ 18,404	\$ 49,917	\$ 31,513	0.37				

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	\$ 1,041,105	\$ 740,120	\$ 300,985	1.41	\$ 1,935,300	\$ 13,554,375	\$ 1,025	\$ 957,147
Any other Indirect Costs not attributable to any specific program								
TOTAL ALL LDC COSTS		\$ 740,120						
**LDC' PORTFOLIO TRC	\$ 1,041,105	\$ 740,120	\$ 300,985	1.41				

* 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.



Veridian CDM Program Budget

As amended by OEB Decision and Order Dated Sept. 12, 2007 (EB-2007-0712)

		Budget (\$)
CONSERVATION AND DEMAND MANAGEMENT		
Residential and Small Commercial (<50kW)		
- Co-branded Mass Market Program	OPEX	722,000
	CAPEX	78,000
	TOTAL	800,000
- Smart Meter Pilot	OPEX	59,000
	CAPEX	163,000
	TOTAL	222,000
Commercial, Industrial & Institutional Market (>50kW)		
- Smart Meter Program	OPEX	244,000
	CAPEX	274,000
	TOTAL	518,000
- Leveraging Energy Conservation and/or Load Mgmt. Programs	OPEX	43,000
	CAPEX	0
	TOTAL	43,000
Sub-Total, Conservation & Demand Management:		1,583,000
DISTRIBUTION LOSS REDUCTION		
- Distribution Loss Reduction	OPEX	56,000
	CAPEX	1,728,000
	TOTAL	1,784,000
Sub-Total, Distribution Loss Reduction:		1,784,000
DISTRIBUTED ENERGY		
- Load Displacement	OPEX	41,000
	CAPEX	158,000
	TOTAL	199,000
- Standby Generators	OPEX	20,000
	CAPEX	80,000
	TOTAL	100,000
- Peak Shaving Generator, Scugog Municipal Bldg.	OPEX	75,000
	CAPEX	0
	TOTAL	75,000
Sub-Total, Distributed Energy:		374,000
Total Budget, All Programs	OPEX	1,260,000
	CAPEX	2,481,000
	TOTAL	3,741,000