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January 14, 2005

Mr. John Zych,
Board Secretary
Ontario Energy Board
P.O. Box 2319, 26th floor
Toronto, Ontario
M4P 1E4

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ONTARIO ENERGY BOARD
08/99

Dear Mr. Zych:

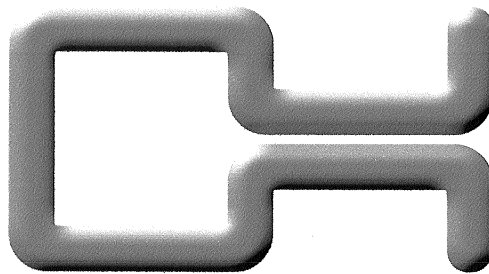
Re: Application for Approval of Conservation
and Demand Management Plan

Oakville Hydro Electricity Distribution Inc. is pleased to submit to the Ontario Energy Board its Conservation and Demand Management Plan. This program contains a number of initiatives designed to enhance Ontario's culture of energy conservation.

We are looking forward to a successful implementation of the initiatives and the resulting savings in energy consumption, environmental enhancements and additional sources of renewable power.

Yours truly,

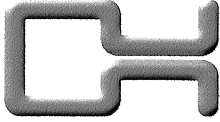
Alex Bystrin
President and CEO
Oakville Hydro Electricity Distribution Inc.



***OAKVILLE HYDRO
ELECTRICITY DISTRIBUTION INC.***

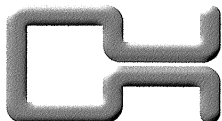
***CONSERVATION
AND
DEMAND MANAGEMENT PLAN***

2005-2007 & BEYOND



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Introduction

In the spring of 2004, Ontario's Minister of Energy set the direction for the electricity market in the Province. This directive called for the creation of a province-wide plan to reduce both the overall, and the peak demand for electricity. The local distribution companies were required to develop specific plans to achieve these energy conservation goals.

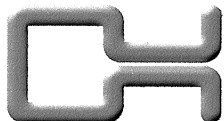
The Minister authorized local distribution companies to apply to the Ontario Energy Board (OEB) for their third instalment of market adjusted revenue requirement beginning March 1, 2005. The OEB's approval would be conditional upon the distributor's reinvestment in conservation and demand management activities equal to one year's incremental returns.

The Minister suggested the following areas for possible reinvestment:

- energy efficiency;
- behavioural and operational changes;
- “smart” meters; load management measures (load shifting, demand response);
- distributed energy options behind a customer's meter; and
- Programs and initiatives targeted to low income and other hard to reach customers.

In response to the Government's direction toward conservation and energy management, Oakville Hydro Electricity Distribution Inc. (Oakville Hydro) has put together a proposed Conservation and Demand Management Plan (CDMP that includes investments made between July 2004 and September 2007.

Oakville Hydro hereby requests the Board's approval and final order authorizing the CDMP as being appropriate and effective in discharging its investment obligation.



Key Principles and Objectives

The programs of the proposed Conservation and Demand Management Plan (CDMP) have been developed along the following key principles and objectives:

Sustainability

- The programs must demonstrate long-term self-sustainability. They must not exist solely as a result, and for the duration of direct economic subsidies for the electricity customers to conserve energy and reduce demand.
- Capital investment in infrastructure that would enable long-term, sustainable and measurable energy conservation should be given preference over expenditures on measures that produce short-duration results.

Maximizing benefits

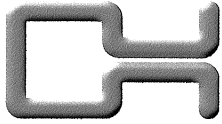
- Increase energy efficiency and reduce demand.
- Reduce the environmental impact of electricity production.
- Lower the cost of consumer electricity.

Flexibility

- The future of electricity conservation and demand reduction in the Province has not been fully developed. The proposed programs should therefore be flexible and provide useful experience leading to further development of sustainable energy conservation alternatives

Maximizing investment efficiency

- Those CDMP initiatives that are generic in nature (such as the public education programs) should be undertaken in close cooperation with other LDCs, environmental organizations and the provincial government. Oakville Hydro will contribute to the design of new educational literature and to a number of existing programs as well as those being developed by others. Therefore, dollars should be allocated to the distribution of the existing literature, not to the development of Oakville-specific educational and promotional literature.
- Investment should be focused on those areas where Oakville Hydro possesses unique experience and expertise. One such area is in interval meters. Oakville Hydro has been installing interval meters in all new residential construction since the summer of 2004 and has developed a good appreciation of the opportunities as well as the challenges that need to be overcome in order for the province-wide smart metering initiative to be successful.



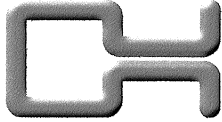
Oakville Hydro's third MARR (Market Adjusted Revenue Requirement) instalment is approximately \$2.898 million, exclusive of any payments in lieu of taxes.

In a letter with its Preliminary Guidelines for Conservation and Demand Management, the Ontario Energy Board authorized distributor spending to take place between July 2004, and September 30, 2007. Oakville Hydro's plan is based on investing \$2.898 million in capital and operating expenses during this period. The implementation of the plan may require re-deployment of some existing personnel and the costs associated with the use of existing resources are provided for in the budget.

Oakville Hydro will continue to assess and update its plan as new opportunities are presented. The success, continuation or expansion of some initiatives will depend on consumer response and if warranted, funds may be re-allocated between programs to meet this response.

What follows is a list of programs Oakville Hydro proposes to undertake as part of its Conservation and Demand Management Plan. Each initiative includes:

- A description of the proposed initiative identifying the affected customer classes and details of the program;
- The total proposed budget for the 2004-2007 time frame (a combination of Operations & Maintenance resources and capital funds); and
- The anticipated benefits.



Customer Education

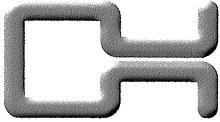
Oakville Hydro currently provides an information package to all new customers who move into either a new or existing home. This information package reaches approximately 4,000 customers each year. Tips on conservation and other information including the money saving benefits of an interval (smart) meter will be available. We will also communicate with customers through messages printed on their bills and through pamphlets included with their bills.

Benefits:

Education helps raise awareness of the importance of energy conservation and encourages behaviour change. Specific information gives customers of all classes the opportunity to learn how and what they can do on their own to reduce their personal, family and business energy consumption.

Total Program Budget:

\$15,000 plus existing program expenditures



Smart Meter, Intelligent Network

(Load Control Initiative for Residential, Commercial and Industrial Customers)

In 2004, Oakville Hydro made the installation of interval meters mandatory for all new residential construction, giving Oakville a head start on the Minister's direction. Oakville Hydro proposes to continue to build upon the expertise it gathered over the past year. It is apparent that, in order for the provincial Smart Metering initiative to be successful there needs to occur a significant improvement of data transmission and processing systems.

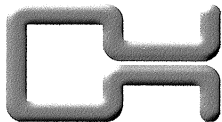
Building upon the benefits of the existing (and growing) installed interval meter base, and its fibre-optic data communications infrastructure, Oakville Hydro will develop a prototype of an intelligent electricity distribution network. Utilizing the same data communications infrastructure used to collect and transmit interval consumption information, Oakville Hydro will introduce load control capabilities that would allow the utility to offer its customers the option of having electricity consumption monitored and reduced during times of peak consumption.

To promote this concept, an incentive would be offered to any residential, industrial or commercial customer who would acquire equipment capable of demand reduction. For example, in a residential setting a customer could either allow the utility to adjust their thermostat at times of peak electricity consumption, or the customer could do so on their own; or the customer could postpone the use of major electricity-consuming appliances. Such a residential system could be made up of an individually addressable data communication network, Energy Star certified central air conditioner, a "smart" thermostat, a water heater control relay and an interval meter.

Energy Star qualified systems are approximately 20% more efficient than standard models and can therefore offer consumers savings on their energy bills. If the customer has an interval meter, the "smart" thermostat would give the customer the ability to shift their cooling or heating to off peak times which would mean lower commodity costs. Permitting Oakville Hydro to remotely adjust thermostats would enable response to peak periods, cutting down the demand on the grid. Oakville Hydro plans a significant customer education program to explain how the remote adjustment option would work and the significant benefits, including potential savings, available to the customer.

Benefits:

- We expect a potential load shedding capacity of 4kW on average for every participating homeowner. The overall potential benefits would depend upon the number of customers participating, as well as the introduction of commodity rate indicative of its spot market price.
- Creation of a data communication and control network for residential customers that would be utilized by future generations of smart energy-efficient devices and appliances.

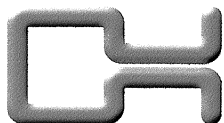


PLAN COMPONENTS

- Promotion of higher efficiency (e.g. Energy Star qualified) electrical appliances.
- Significant energy and cost savings opportunities for commercial and industrial customers who would utilize a data communication and control system to tailor their electricity consumption to the market price of electricity.
- Enabling the collection of interval electricity consumption information which is necessary to evaluate the effectiveness of energy efficiency programs.
- Empowering consumers to lower their commodity costs (even in the absence of individual rates that are tied directly to the market cost of electricity, consumers can smooth the overall Net System Load Shape and thus lower their commodity costs).

Total Program Budget

\$1,100,000



Multi-Residential Interval Metering

Oakville Hydro will work with owners of bulk metered multi-residential buildings, specifically targeting customers in income-geared and non-profit cooperatives, to convert them to individual apartment interval meters. Oakville Hydro has successfully executed a number of such projects over the last two years and has a proven suite of technology and enabling systems to rapidly expand the number of conversions.

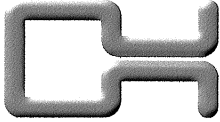
People have little incentive to conserve electricity and change their usage habits if there's no direct link between the amount of electricity they use and what they pay for their usage. By converting bulk meters to individual interval meters for each unit, each customer can be billed directly for the electricity they use. The interval meter would allow the customer to track their consumption and take advantage of possible price differences and make a choice of conserving and/or shifting their electricity usage to off peak hours. Apart from demonstrating the benefits of changing over to individual metering, Oakville Hydro will offer an incentive to shorten the payback period.

Benefits:

- Studies have shown that conversions from bulk metering to individual suite metering and billing can save between 15% and 25% of the energy consumption in a non-electrically heated building. In buildings that are electrically heated, the savings can be greater than 30%.
- Residents of bulk-metered buildings currently have no incentive to invest money in energy conserving lighting or appliances because they see no direct benefit on their hydro bill. By switching their building to individual, interval meters, they would have the ability to control their own energy costs and would benefit from energy conservation and consumption shifting measures.
- The proposed metering systems will allow the utility to track the energy and demand reductions within the multi-unit building. This information is a direct measure of the cost/benefit ratio of the program. These data can be used to compare to other programs to determine where future conservation incentives should be directed.

Total Budget

\$500,000



Annual Commercial/ Industrial Energy Information seminars

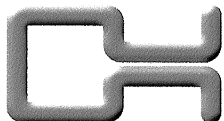
Oakville Hydro, in conjunction with neighbouring utilities, will develop and host Energy Information Sessions for commercial and industrial customers. These sessions will include presentations by local energy experts, government officials and utility personnel on current energy efficiency programs and incentives from various levels of government (Ministry of Energy, OEB, and IMO)

Benefits

- Increase awareness of existing incentive programs to local industry.
- Allow utilities to work directly with larger consumers of electricity, allowing for easier implementation and tracking of energy conservation measures.
- This group, which represents the largest consumers of electricity, will receive accurate and timely information that would improve their ability to control their energy consumption and costs. This will help to increase the competitive standing of the Ontario-based manufacturing sector.
- Customers will be made aware of technical requirements and benefits of participating in utility load control programs, which should improve customer acceptance and uptake.

Total budget for research (July 2004 – December 2007)

\$25,000



Distributed Generation – Digester Gas Program

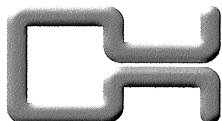
Oakville Hydro proposes to partner with a local municipal government to generate “behind the meter” power by utilizing existing digester gas. Oakville Hydro will purchase, install and operate a 250kW internal combustion engine to generate electricity for use in the partner’s facility.

Benefits:

- By utilizing the existing methane-rich gas stream at local municipal waste water treatment facilities, we have the ability to generate both electricity and heat, with the latter being redirected back into the digestion process.
- The electricity generated would be utilized by on-site equipment, thereby reducing the loading on local distribution networks and therefore, reducing generating demand requirements estimated to be 250kW during peak output.
- The useful life of the generator is expected to be 20 years. We also anticipate additional generators being added in tandem as a result of an increase in gas supplies. The expected annual energy generation is estimated at 2,190,000 kWh/year, with a permanent peak reduction of 250 kW/year.
- The research and knowledge gained at this site, will allow us to utilize the same technologies at other sites in the future.

Total Program Budget

\$300,000



Distributed Generation – Wind Turbine

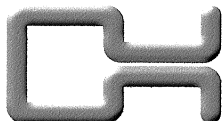
Oakville Hydro plans to install and operate an 80 kW wind turbine on a proposed Town of Oakville recreational park that will use the electricity generated for the park's facilities. The contract with the Town of Oakville, soil testing and wind turbine foundation will be completed in late 2005, with the turbine being installed early 2006. Oakville Hydro will use this project to evaluate future wind energy sites in Oakville by monitoring the energy production and on-site wind calculations.

Benefits:

- Wind power is an environmentally friendly, zero emission alternative energy source
- The wind turbine proposed for Oakville will be rated at 80kW during peak wind flows. The unit will be installed at a height of approximately 30 meters, giving it maximum exposure and helping to instil the conservation culture within our community.
- The proposed turbine collects wind and energy consumption data with its internal microprocessor based controls, thereby allowing it to be utilized for verification of power production as well as research data for future projects.

Total Budget

\$250,000



Peak Demand Reduction

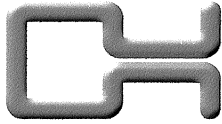
Oakville Hydro will install a natural gas fired, low emission generator for peak shaving within its office building. We propose a generator in the 250kW range to operate during high demand periods, therefore, freeing up 250kW from the local distribution grid.

Benefits:

1. Elimination of 250 KW of demand during the peak consumption periods;
2. Reduction of on-peak coal generation;
3. By installing and controlling its own in-house generator, Oakville Hydro will gain a better understanding of the challenges in developing a larger scope program;
4. Understanding of synchronization, communications and control system requirements, fuel issues for future expansion of program to local customers; and
5. Demonstration project should help to expand the program to local customers with dispatchable generation.

Total Budget

\$300,000



Voltage Conversion

Oakville Hydro proposes to execute a number of voltage conversion projects through the CDMP initiative. We have identified two specific projects that will increase system efficiencies, and therefore reduce the load on the power grid because of better transformer efficiencies and lower line losses.

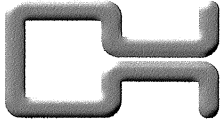
The first proposed project would involve the conversion of a 1500 kVa transformer at a local shopping mall from 4kV to 27.6 kV direct-feed from grid. The expected improvement in grid efficiency should result in a 10 kW reduction in peak demand and an estimated 50,000 kWh/year in energy reduction.

Secondly, Oakville Hydro proposes to convert an older residential area from 4 kV to 27.6 kV. This project will encompass approximately 400 residential customers and 70 distribution transformers. The expected savings in energy through improved transformer efficiency and lower line loss, as the result of higher distribution voltages, are 40 kW off peak demands and annual energy reduction of 170,000 kWh/year.

Benefits:

The combined results of these two initiatives have the potential of a permanent peak reduction of 50 kW, and an estimated energy reduction of 220,000 kWh/year.

Total budget	\$400,000
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Summary

Oakville Hydro believes this plan will produce significant, sustainable results. Many of the proposed initiatives have a continuous life span providing on-going benefits and savings, rather than reductions that may diminish in time. They are based on producing opportunities to achieve further conservation and demand reductions. Oakville is a rapidly growing community and this plan addresses adding this extra load as efficiently as possible, giving the consumers choice now and in the future, as well as protecting the stability and reliability of the distribution system itself.

Contact Information

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