




MILTON HYDRO 2003 DSM PLAN



***How to Reward and Encourage Milton
Hydro Customers Who Conserve Power***

Milton Hydro's 2003 DSM Plan

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1 The context for Milton Hydro's 2003 DSM Plan

Milton Hydro Distribution Inc. is a strong supporter of energy efficiency and has undertaken activities in the past to improve the energy efficiency of its operations and of its customers. Milton Hydro would like to expand its efforts to assist its customers in achieving higher levels of energy efficiency and energy conservation. It intends to do so by expanding its efforts in interval metering and by developing a DSM program for 2003 that supports and enhances its interval metering initiatives.

1.1 Milton Hydro as a provincial DSM pilot

Milton Hydro is offering to become a provincial pilot for its 2003 Demand Side Management (DSM) program. Milton Hydro is recognized as having taken a longstanding leadership role in interval metering and DSM and is a natural choice among distribution utilities to take on this initiative. Milton Hydro was recently part of a national survey of Demand Side Management programs conducted by the Canadian Electricity Association and is quite familiar with the programs of the federal Office of Energy Efficiency.

The LDC is seeking to obtain funding for its 2003 DSM Plan from the Ontario government. Milton Hydro's DSM Plan would become a one-year provincial DSM pilot to test a set of DSM programs that promote provincial energy policy objectives.

As a pilot, Milton Hydro would provide assistance to other LDCs. This would include two workshops for LDCs. Milton Hydro would hold one workshop at the beginning of the pilot to introduce LDCs to DSM and to the planned DSM programs. The second workshop would be held at the end of the pilot to discuss lessons learned and next steps. As well Milton Hydro would prepare a report that it would distribute to all LDCs and the Minister of Energy on the results of the pilot.

Should the provincial government decline this pilot opportunity, Milton Hydro intends to submit a request to the Minister of Energy for approval of its 2003 DSM Plan and budget through an amendment to its rate order to permit recovery of the DSM expenditures related to the 2003 DSM Plan in its 2003 variable distribution rates.

1.2 What is DSM?

Demand Side Management, or DSM, was originally conceived to include any action on the demand side that changes the shape of a

customer's load profile. In Ontario, however, demand management became narrowly focused, almost synonymous with energy efficiency.

Because of the recent Government announcements regarding energy policy and the expanded mandates being given to both the Ontario Energy Board and the IMO to promote energy conservation, energy efficiency, load management and the use of cleaner energy sources, an expanded definition of DSM is needed.

The suggested definition of DSM is:

Demand Side Management Programs alter customer load shapes and reduce the total cost of energy for program participants, specifically, and 'society', generally.

Milton Hydro has adopted this definition.

Under this definition, a DSM program includes any measures that:

- Reduce a customer's peak and overall energy demand, or the customer's energy demand during times of high system demand reflected by high energy prices; and/or
- Reduce a customer's demand for purchased energy, by using on-site generation.

Specifically, DSM for electric LDCs would include:

- Energy efficiency
- Conservation – behavioural and operational changes, including application of interval meters or other “smart” metering systems
- Load management (peak load and off- peak load management) – interruptible and dispatchable loads, dual fuel applications, thermal storage, demand response
- Fuel switching
- Distributed energy¹ – includes tri-generation, co-generation, ground source heat pumps, solar energy, district energy, and neighbourhood energy systems.

¹ This includes facilities behind the meter as well as facilities that co-generate or tri-generate and sell surplus power to the grid (embedded generation). LDCs would not own or operate distributed energy facilities, but would be permitted to purchase services from them as part of their DSM Plan.

1.3 Benefits of a DSM Plan

A DSM Plan can provide Milton Hydro with numerous benefits. These include:

- Build and strengthen customer loyalty
- Improve the distribution system's reliability
- Lower energy bills for participating customers
- Reduce distribution costs
- Achieve environmental benefits, including reduced emissions, less smog
- System-wide load management, which lowers energy prices generally and reduces volatility
- Targeted DSM to reduce congestion on the transmission and distribution systems with potential transmission and distribution system cost reductions
- Potential to defer, or eliminate entirely some capital investments in plant and equipment
- Improve the economic competitiveness of the Town of Milton
- Address shareholder requirements such as community development and sustainability.

A DSM Plan can provide benefits to the provincial electricity grid. These include:

- Reduce peak loads
- Increase system reliability
- Reduce transmission costs
- Create increased competition for energy services locally in Milton and contribute to local and provincial economic growth
- Provide customers with enhanced opportunities for risk management, and thereby increase customer choice
- Improve the functioning of the electricity market by providing better customer information regarding their consumption.

1.4 A DSM Plan is consistent with provincial government policy

A DSM Plan prepared by a LDC is consistent with the stated Government objectives regarding energy efficiency. The November 13, 2002 provincial government announcements reveal strong

support for DSM activities to be carried out by local electric distribution companies as indicated by three statements made in those announcements²:

“We propose that the Ontario Energy Board be given an additional mandate: ensuring local electric distributors reward and encourage consumers who conserve power (i.e. demand side management).”

“ We will support measures that allow residential and small commercial customers to take initiatives to conserve energy and achieve more efficient use of energy supply.”

“We believe that every new home should have the opportunity to take advantage of interval meters. We propose that all local hydro companies should be required to offer this service.”

These announcements are consistent with the earlier government position on DSM as stated by former Minister of Energy, the Honourable Chris Stockwell. In particular, it is consistent with the government’s policy to encourage a LDC to carry out DSM in a manner similar to that carried out by the natural gas industry and to include such DSM in the regulatory framework.

In his July 2002, letter to Floyd Laughren, Chair of the Ontario Energy Board, Minister Stockwell said³:

“DSM has been a component of natural gas regulation for several years and the Government would welcome its introduction into the regulatory framework of the electricity sector.”

“DSM can further the interests of consumers by mitigating market volatility and contributing to system reliability and market efficiency.”

DSM through the development and implementation of DSM Plans by local electric distribution companies (“LDC”), with cost recovery in distribution rates, is consistent with the new, expanded objectives of the Ontario Energy Board to promote energy efficiency, energy conservation, load management, and alternative energy sources including renewables.⁴

² Ministry of Energy News Release, *Eves Government Takes Action to Promote Green Energy, Alternative Fuels and Conservation*, November 13, 2002.

³ A letter from the Honourable Chris Stockwell to Mr. Floyd Laughren, July 22, 2002.

⁴ The OEB will be expected to take more aggressive steps regarding energy management with its role change from facilitation to promotion. In addition to the former objectives to facilitate (now promote) energy efficiency and the use of cleaner energy sources, including alternative and renewable energy sources, the new mandate includes the promotion of energy conservation and load management. (Bill 210, *Electricity Pricing, Conservation and Supply Act, 2002*,

1.5 Milton Hydro's 2003 DSM Plan supports Province's energy policy

Milton Hydro's proposed 2003 DSM Plan supports Ontario's energy policy. The Plan focuses on measures to allow residential and small commercial customers to take initiatives to conserve energy and achieve a more efficient use of energy supply.

The 2003 DSM Plan also focuses on providing opportunities for homeowners and small commercial customers to benefit from interval meters.

1.6 How to capture effectively the benefits of LDC driven DSM

LDCs that maintain their for-profit status will be in the best position to deliver effective DSM programs that meet or exceed energy savings targets.⁵ Maintaining a business perspective will help to ensure that the programs that are designed and delivered as part of the DSM program will be cost-effective and achieve their targets.

With some experience with DSM it will be possible to provide incentives to these LDCs to exceed their DSM targets through financial rewards for exceeding their targets. The for-profit LDC could be put on a level playing field with natural gas utilities such as Enbridge Gas Distribution, which has a shareholder incentive mechanism for energy savings achieved beyond its OEB approved savings target.⁶ It would not be possible to provide a similar incentive to a cost-recovery only LDC.

A for-profit LDC has greater flexibility for developing and implementing energy efficiency measures that capture lost opportunities or achieve market transformation. This is because some portion of the profits from DSM can be reinvested in the LDC's DSM program to carry out research to identify these types of opportunities in their market and to work collaboratively with other LDCs in Ontario to achieve these market goals.

amendment to paragraph 6 of Section 1 of the *Ontario Energy Board Act, 1998*.)

⁵ There are also other benefits to the Town of Milton and to the Province from maintaining its for profit status such as paying corporate income tax and municipal property taxes. The business savvy provided by its corporate board of directors helps to ensure that the company keeps its costs down and spends its money wisely.

⁶ For example, Enbridge Gas Distribution (formerly Enbridge Consumers Gas) has a very effective shareholder incentive mechanism in place. Each year that the incentive has been in place, Enbridge has exceeded its DSM savings targets, accrued greater total resource benefits for society than expected. In 1999 it received an incentive reward of \$4.8M, based on achieving 32 million cubic metres of natural gas savings which was in excess of 50 million cubic meters of its OEB approved savings target. Its shareholder rewards for 2000 and 2001 are before the Ontario Energy Board for approval.

A for-profit LDC keeps costs of DSM as well as its utility operations as a whole paid for by its ratepayers, rather than taxpayers. This user pay model is more equitable to customers as costs can be distributed fairly across rate classes, rather than more bluntly through the tax mechanism.

Milton Hydro has never provided a dividend to its shareholders. Instead it has reinvested its profits in the utility and plans to continue this practice. This reinvestment has enhanced the utility's performance and has been instrumental in enabling the utility to meet the new demands of its rapidly growing customer base. The LDC has used a small part of its profits to investigate opportunities to be on the forefront of energy efficiency in Ontario through the development of its 2003 DSM Plan.

2 Milton Hydro's 2003 DSM portfolio – the programs

This chapter includes a description of the proposed programs of Milton Hydro's 2003 DSM Plan.⁷ For each program the following information is provided:

- A brief **description** of the program, its key measures, major objectives and outcomes, and the rationale behind the program.
- The **implications** of the program for Milton Hydro, its customers, retailers, and the marketplace.
- The proposed **budget** for the program in 2003, including budget assumptions.

2.1 Price Response Program

The electricity market does not provide a direct price signal to customers. In order for consumers to be able to effectively participate in an open market that is based on hourly electricity prices, they need to have accurate information on their hourly consumption profile and be charged based on those amounts. There is little incentive for individual consumers to alter their behaviour, if they are charged based on the net system load shape, or if their rates are capped and do not reflect market prices.

In times of peak prices, if the customer reduces consumption there are no direct savings to the customer for this positive behaviour. Moreover, there is no direct financial penalty for this customer for purchasing electricity on peak.

Figures 1 and 2, below, show Milton's net system load shape and provincial provisional electricity prices over a one-day period during the summer of 2002. As is expected in an open market, there is a clear relationship between the two graphs, with electricity prices rising as system demand increases and vice versa.

Figure 3 shows the daily load shape of an interval metered residential customer during this same time period. Figure 4 illustrates Milton's daily interval metered load (>100kW). The residential customer's load shape is essentially the inverse of the net system load shape, with demand peaking at night when prices are

⁷ If the provincial government does not provide funding for the 2003 DSM Plan, then Milton Hydro will seek an amendment to its rate order for inclusion of its 2003 DSM costs in its 2003 variable distribution rates. Milton Hydro would prepare a companion document to this report that would contain these 2003 distribution rate impacts.

low, such that the customer will likely save money. The interval metered load (>100kW) shape, shown in Figure 4, peaks during the day, yet is flatter than the net system load shape.

It is evident from these Figures that customer behaviour is sensitive to a clear price signal. Customers will respond by reducing consumption during peak periods and increase usage off-peak. These changes in behaviour can result in cost savings to customers and in system benefits to the LDC and to the electricity grid. Research in the U.S shows that approximately 80% of the savings from interval metering programs benefit the entire system, while only 20% of the savings go to individual IM customers.⁸

To enable its customers to receive better price signals so that customers can have the opportunity to benefit from changes in consumption to save money, Milton Hydro has developed a Price Response Program, which it proposes to offer all of its customers.

The Price Response Program has 3 program measures: mandatory interval meters for all new residential and commercial construction; an energy conservation commodity price for IM customers; and consumption tracking for all interval metered customers. Each of these measures has embedded within it activities regarding customer education to help customers to understand the measures and to identify opportunities to reduce their energy bills through their participation in the measure.

Each measure is discussed in the sections below. This is followed by a discussion of the overall budget for the Price Response Program and the program implications.

⁸ Lynn Fryer (E Source Energy Information and Communications Service) *Peak load management alliance*, Texas 25-26 April 2002.

Figure 1 Net system load shape July 15-Aug11

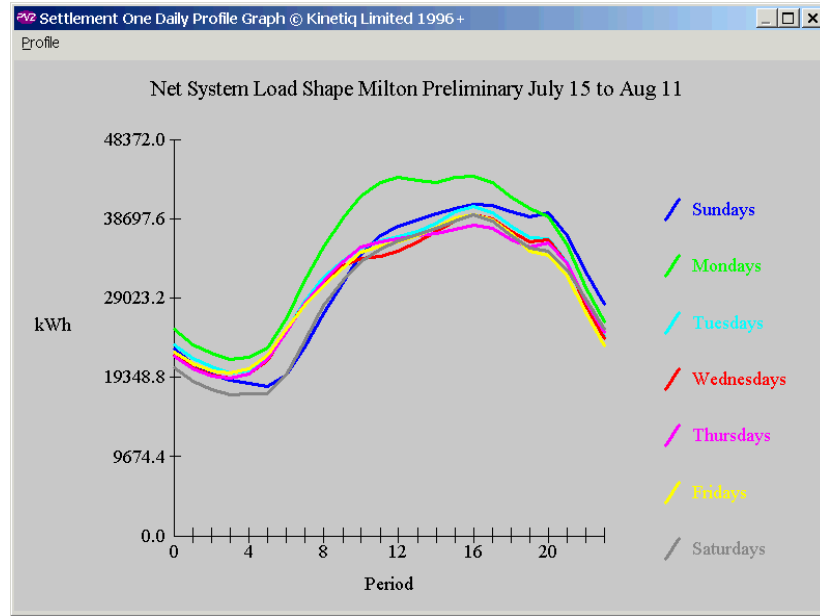


Figure 2 Provisional electricity prices for Ontario July 15 – Aug11

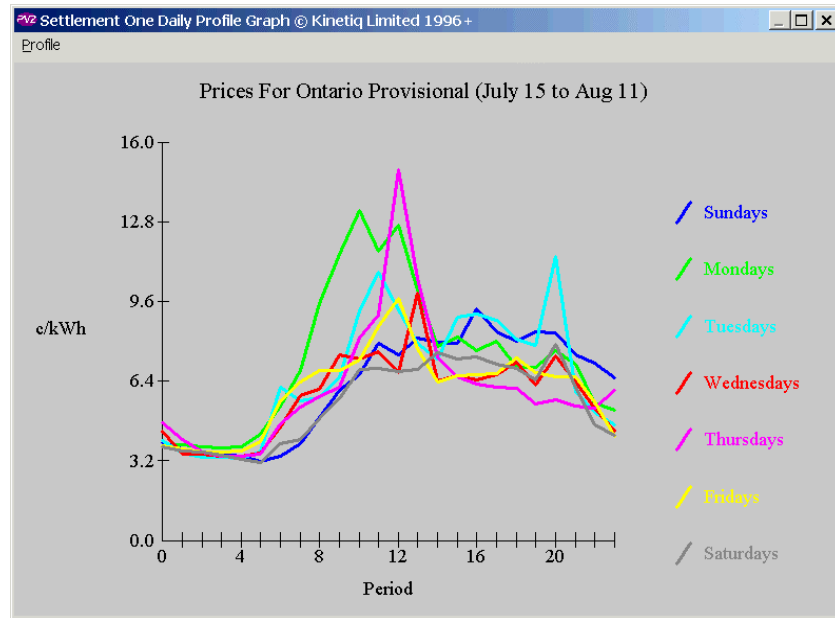


Figure 3 Residential interval metered customer July 15-Aug 11

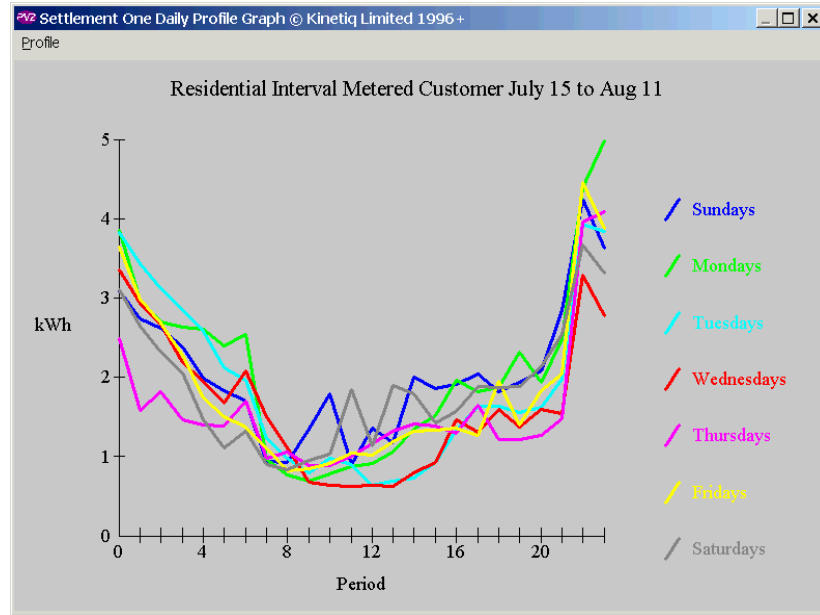


Figure 4 Interval metered load (>100kW), Jul 15 – Aug 11

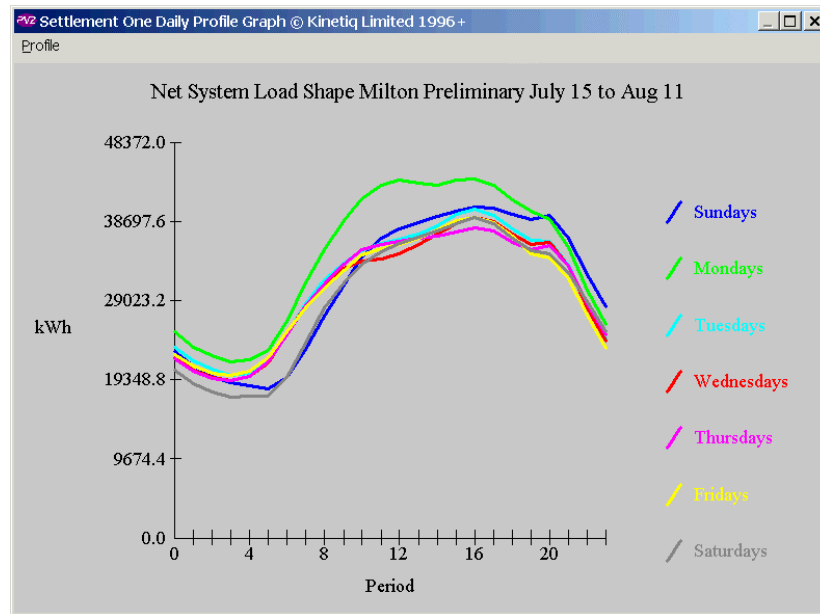
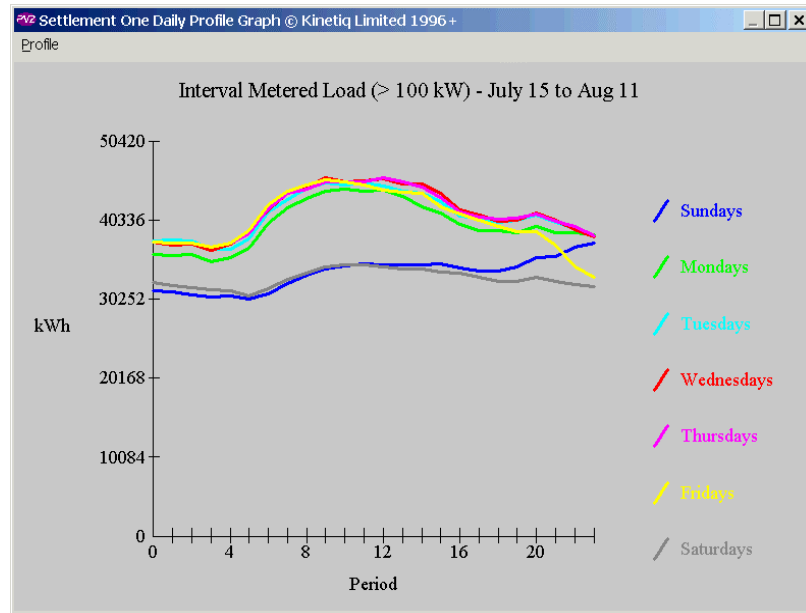


Figure 5 Interval metered load (>100kW), Jul 15 – Aug 11



2.2 Mandatory interval meters for all new accounts

The Milton Hydro Board of Directors has already put in place a policy requiring all customers above 50kW to be on interval meters (IM). Milton Hydro is now proposing to expand this policy to include all new accounts. This is proposed because of the rapid growth of the Town and to avoid the lost opportunities from failure to put the metering in now. It is more cost-effective to put the interval metering now than to retrofit all the new development at a later date.

Milton Hydro is serving a fast-growing electricity market. The Town of Milton's population is expected to grow by approximately 50% relative to 2000 within the next five years, and nearly 100% within the next eleven years.⁹ As a result of this growth, there will be a significant lost opportunity for energy efficiency if new subdivisions and small commercial developments not covered by the current 50kW policy are not provided with interval meters.

Milton Hydro will implement this measure through agreements with developers. To assist developers, Milton Hydro will develop a standard template for the agreement.

⁹ Source: <http://www.town.milton.on.ca/ecodev/index.html>

The developers will choose and install the meters. Milton Hydro will assume responsibility for the metering once the meter is installed. As part of this measure, Milton Hydro will set design standards for the metering that will be complied with by the developer through the agreement.

The key outcome of this measure is that all IM customers will have accurate information on their individual load shapes and be able to conserve energy appropriately. The participants will receive accurate price signals and will have the opportunity to benefit from total reductions in consumption and any reductions in consumption when prices are high.

2.3 Energy conservation commodity price for IM customers

As seen from Figures 1 – 4 presented earlier, customers on interval meters have significantly altered their electricity consumption behaviour and have saved money as a result. In order to continue to encourage this energy conservation behaviour, Milton Hydro proposes to offer to all of its IM customers that are eligible to receive the fixed retail energy price, the opportunity to pay a special commodity price. This energy conservation commodity price will reward customer behaviour that results in a load profile that is of lower cost than that of the Total Ontario Market based on the Hourly Ontario Energy Price (HOEP). This would normally be accomplished through reducing energy consumption during periods of high system demand.

Over the course of the billing period, the equation for calculating the customer’s commodity cost for a customer with an interval meter will be:

$$CC = FP * E - (WAP_{ONT} - WAP_{CONS}) * E$$

where	CC	Is the customer’s commodity cost over the billing period
	FP	Is the fixed retail price for low volume consumers (0.043 \$/kWh)
	E	Is the energy use over the billing period
	WAP _{ONT}	Is the average cost per kilowatt-hour (kWh) of energy consumed based on the HOEP and the Total Ontario Market load profile
	WAP _{CONS}	Is the average cost per kilowatt-hour (kWh) of energy consumed based on the HOEP and the consumers load profile

For August 2002, the WAP_{ONT} was 0.069358 \$/kWh and the WAP_{CONS} for one customer with an interval meter was 0.060619 \$/kWh so the customer’s commodity charge for the 1382 kWh used would be reduced from (\$0.043 * 1382 =) \$59.42 to (\$0.043 * 1382 – (\$0.069358 - \$0.060619) * 1382 =) \$47.34. (Graphs showing the loads corresponding to the Ontario and the customer’s weighted average prices are appended.)

Milton Hydro is requesting that the provincial government adjust the reimbursement paid to the LDC to cover the difference between the wholesale market commodity price and the capped price by the value of the energy conservation commodity price incentive.

2.3.1 Consumption tracking for IM customers

Milton Hydro has access to software that will allow customers to view their electricity consumption data over the Internet, through a private password system. The software will graphically display the customer's electricity consumption and will allow them to perform certain calculations with the data. All customers would be enrolled in the program, with their Internet password provided on their electricity bill.

Milton Hydro proposes to provide this software tracking service to all of its IM customers free of charge, with the costs distributed across all customers. Since all customers will benefit from potential reductions in peak load and improved system load shape as a result of IM customers viewing their consumption and implementing energy efficiency measures, it is reasonable for all customers to share in the costs of this consumption tracking measure.

There may also be an opportunity for Milton Hydro to enable customers to calculate the impact on their bills from taking certain actions (e.g. using dishwasher late at night). This service will be explored in 2003, including potential suppliers and costs for possible implementation in 2004, as part of this measure.

The expected total of these measure costs is \$90K. This includes \$20,000 for the purchase of the software, and \$70,000 for a one-time set up charge (\$10,000), a customer service help line, marketing and public education, Website maintenance, and program administration. Milton Hydro proposes to recover these costs through distribution rates across all rate classes.

The Price Response Program has several implications for Milton Hydro:

- Enables better tracking of network losses
- Increases accuracy of cost of service studies, which can lead to better rate allocation
- Creates possible distribution benefit if customers change their consumption behaviour

- Provides more system data to assess the distribution system
- Eliminates the need for meter readers
- Reduces the number of rates classes and may reduce cost subsidization
- Rates will be better matched to cost drivers (e.g. maximum and peak period demand versus maximum demand only)
- Provides an investment opportunity for the LDC
- Enables splitting of energy demand charge into peak period demand and non-peak demand
- Increases administrative costs.

The main implications of this program for Milton Hydro customers are as follows:

- Provides customers with better price signals and the opportunity for an effective response
- May encourage customers to alter their energy consumption behaviour, thereby leading to improved energy efficiency as well as financial and energy savings
- Allows for more contract options (e.g. block billing – see section 2.4)
- Customers will be able to look at energy, water and gas profiles as a first step in considering options for improved efficiency
- Removes a disincentive for using an interval meter by making it more affordable to the customer.

There are also several potential implications for the marketplace:

- Allows for more contract options with customers, with less risk for the retailer (e.g. block billing - see section 2.4)
- High leverage for market penetration (i.e. will reach a significant share of energy use in the rate class of 50kW and above)
- Reduces the negative rate impact of DSM as the costs are recovered over a longer period of time (capitalized)
- Recovery of transmission charges on a demand basis for all customers
- Potential for better cost allocation.

2.4 Expansion of Ecotech Village

In response to its significant growth projections, the Town of Milton has initiated a pilot project for the development of an Ecotech Village¹⁰. As part of its 2003 DSM Plan, Milton Hydro proposes to undertake a number of secondary research initiatives relating to the expansion of the Ecotech Village pilot project. Proposed initiatives include:

- Develop public education programs regarding energy efficiency for the Ecotech Village to educate potential buyers and promote similar subdivisions among the development community
- Investigate the opportunity for a pilot program on off-loading appliances when the IMO spot market prices reaches a certain threshold and bringing them back on-line when the price drops below the threshold
- Explore the use of clean energy sources and alternative energy technology to reduce energy use (e.g. district energy) within the subdivision
- Investigate the establishment of energy efficiency standards for distribution system components (i.e. transformers, conductors etc.) within the new subdivision.

The implications for Milton Hydro include:

- Increased public awareness regarding benefits of energy efficiency, help to create a stronger market for similar subdivisions
- Potential to reduce growth rate of peak loads due to subdivision growth within Milton
- Potential to reduce participants' energy bills
- Creates potential opportunity for the LDC to save electricity through use of higher efficiency distribution equipment in new subdivisions
- Potential opportunity to pilot automated home technology to off-load appliances as part of 2004 DSM Plan.

¹⁰ For more information see:
http://www.town.milton.on.ca/admin/EcoTech_Village/Ecotech_Village.html

The implications for customers include:

- Participants will have lower energy bills
- Improved education regarding opportunities to reduce energy bills and improve energy efficiency.

The implications for the marketplace include:

- Potential to create a model for new subdivisions across Ontario that improves energy efficiency, reduces the system peak load.

The 2003 budget for these secondary research programs is estimated at \$25K. This includes \$10,000 for public education and \$15,000 for research (automated home pilot, alternative energy, distribution system equipment standards). Milton Hydro proposes to recover these costs through the 2003 distribution rates.

2.5 Public education and outreach

The public education and outreach program for 2003 consists of four public education and outreach measures. The measures are:

1. **Develop a list of service providers** – There is a need for a list of pre-qualified providers to assist customers in selecting energy efficiency service providers. In order to develop this list, Milton Hydro would carry out a pre-qualification process and put the list of pre-qualified suppliers on its website as well as make it available in print. Milton Hydro would periodically update the final list.
2. **Assist IM customers** – Milton Hydro conducted a survey of its existing IM customers in 2002 (30-35% response rate). A large number of respondents asked the LDC to provide assistance to the customer in saving energy.

As a first step to respond to this need, Milton Hydro proposes to set up a series of training and education seminars on energy efficiency for these customers. Where appropriate, Milton Hydro will make use of existing programs (e.g. CIPEC programs, Natural Resources Canada's Office of Energy Efficiency programs).

3. **Hold interdisciplinary design session** – There is an opportunity for Milton Hydro to provide training to local engineers, architects and developers on energy efficiency design. These skills could then be applied to the new development in Milton. A successful model used by the City of Toronto in partnership with Canada Mortgage and Housing Corporation and Natural Resources Canada was a 1.5-day design charrette for the local design community. Milton Hydro would investigate this and

other training models and deliver a training session to local engineers, and architects on energy efficient building design tailored to the Town of Milton's needs.

4. **Develop materials on Milton Hydro's 2003 DSM Plan** – The launch of the DSM Plan for 2003 creates a need for public education materials in print and over the web to describe the LDC's DSM initiatives and their benefits to all customers. The materials would explain why Milton Hydro is doing DSM, the benefits of energy efficiency and how individuals and groups can become involved.

The implications for Milton Hydro include:

- Provides added customer service
- Supports investment in IM
- Encourages customers to save energy and thereby contribute to reducing peak loads and overall distribution load.

The implications for customers include:

- Increases awareness of energy efficiency opportunities
- Responds to ICI customer demand to provide help with energy efficiency
- May lead to reductions in customer energy bills.

The implications for the market include:

- Increase awareness of energy efficiency opportunities, which may lead to reductions in total system load and in peak load
- Promotes innovation
- Provides more potential opportunities for retailers to sell services related to energy efficiency.

The proposed budget for public education and outreach programs in 2003 is \$70K. This includes developing the list of energy service providers (\$20,000), providing assistance to IM customers (\$15,000), delivering the interdisciplinary design session (\$15,000), and developing the DSM Plan materials (\$20,000).

2.6 Pilot block customer billing option for retailers

In this program, Milton Hydro would offer retailers the option of providing blocks of electricity to IM customers in Milton (under LDC consolidated billing). Customers would pay a set price for the block of electricity they purchased from the retailer and would pay the spot market price for any additional electricity that they consumed

above that amount. Milton Hydro would offer this service to the retailer for any IM customer in Milton.

In 2003, Milton Hydro would explore the feasibility of such a program. If the results of the feasibility study are successful, then Milton Hydro would pilot this program in Milton as part of the 2004 DSM Plan.

The implications of this program for Milton Hydro include:

- The program is straight forward to set up
- Potential revenue raising opportunity for the LDC (i.e. can charge service fee to retailers for service).

There are also implications for customers:

- Adds choice as customers can have a blend of electricity suppliers, an electricity retailer(s) and standard supplied service from the LDC
- Would only be available to an IM customer
- Provides participants an opportunity for customers to conserve energy and/or save money
- Provides participants with the opportunity to develop a more sophisticated risk management strategy against price volatility.

The implications for the marketplace are:

- May require a small change to information provided to the EBT
- Could simplify existing block billing
- Will result in a broader range of products in the market
- Will help the market to work better as there will be more options available to consumers
- Adds stability to the market (i.e. less risk and puts the risk in control of customers who can alter behaviour)
- Could be used a pilot for province wide implementation.

The estimated budget for exploring the feasibility of this pilot with retailers is \$50K. This includes conducting the research and preparing a report on the findings. Milton Hydro proposes to recover this cost through its 2003 variable distribution rates.

2.7 Monitoring and evaluation

An important component of every DSM Plan is the monitoring and evaluation program. Monitoring and evaluation is essential for determining the success of the DSM programs and to help ascertain whether the DSM funds were prudently spent.

Program success will be measured with regard to how well the objectives/targets that were set were met. The monitoring and evaluation program will examine how effectively programs are implemented and provide guidance on program improvements and additional DSM opportunities.

A simple program tracking system will be developed to collect information on the programs as they are implemented. For example, the system may track:

- Number, types and timing of program marketing efforts and resulting customer actions
- Customers contacted and customers participating, including participation date
- Date of implementation for each customer
- Program related costs
- Trade ally information.

Portfolio success will be measured using IM data and comparing customer electricity usage prior to DSM participation with usage after participation. A comparison will be made to determine if the DSM portfolio resulted in reduced electricity consumption and/or altered load shapes. This system load analysis will look at the quantity and cost of electricity consumption, by class, and compare it to the provincial average.

Milton Hydro will prepare a final report of its findings on the monitoring and evaluation and provide it to the OEB with the 2004 DSM Plan.

The implications for Milton Hydro include:

- Provide the OEB with information to assist the Board in determining whether the DSM expenditures were prudently incurred

- Provide stakeholders with information on the success of individual programs and the overall portfolio
- Provide guidance on which programs to develop, expand, contract or eliminate
- Help guide the development and implementation of future DSM Plans for Milton Hydro.

The implications for customers include:

- Determine the impact of DSM expenditures on rates, customer bills and on the environment
- Determine the value of individual DSM programs to program participants
- Identify future opportunities for DSM programs for customers to help them to lower their energy bills.

The implications for the marketplace include:

- Could be used as a pilot for the development of a similar monitoring and evaluation program for similar DSM Plans
- May create business opportunities for service providers of monitoring and evaluation services.

The proposed budget for monitoring and evaluation of the DSM program is \$25K.

2.8 Development of regulatory financial mechanisms

Milton Hydro proposes to create a variance account for the 2003 DSM budget. This account would track the difference between the DSM budget and actual spending. For the 2003 DSM Plan, Milton Hydro proposes that the LDC be permitted to spend an additional 20% of the DSM budget, if customer demand for programs warrants it. These additional expenses would be tracked through the variance account and recovered in the following year, if the expenditures were found to be prudent by the OEB.

At this time, Milton Hydro does not intend to develop a regulatory financial mechanism for recovering lost revenues or for providing a shareholder incentive for DSM.

The implications for Milton Hydro include:

- Allows greater flexibility in program delivery (i.e. can expand program if warranted by customer demand)
- Recognizes the inexperience of the LDC in its early years of DSM by providing a contingency for program delivery¹¹
- Provides the opportunity to achieve greater electricity savings, lower peaks and a better system load shape than would have otherwise have been achieved through the approved DSM budget.

The implications for the customer include:

- The variance account will allow more customers to participate in programs with high demand than would otherwise have been possible with the budget allocated to the program
- Higher DSM expenditures than budgeted may result in slightly higher rates in 2003 for certain customers to recover the additional costs.

The implications for the marketplace include:

- Could be used as a pilot study for the use of a variance account for DSM expenditures by LDCs
- Greater DSM spending will increase the demand for DSM related services, whereas spending less than the approved DSM budget will have the opposite effect.

No DSM budget is needed to set up and manage the variance account in 2003.

2.9 DSM plan development and filing

The 2003 DSM Plan for Milton Hydro includes the costs associated with the development and filing of the DSM plan for 2003 and 2004 with the Ontario Energy Board.¹² These costs include:

- Plan preparation
- Informal consultation with stakeholders
- Preparation of the filing.

¹¹ The creation of this type of variance account was recognized by the OEB in E.B.O. 169 -III as being necessary in the early years of DSM, but may not be needed as experience with program design and delivery is obtained.

¹² Filing of the 2003 DSM Plan with the OEB may not be necessary if Milton DSM Plan goes forward as a provincial pilot.

There are no municipal electric utility DSM models to be guided by as no municipal electric utilities have developed and implemented a DSM plan to date. While much can be learned from E.B.O. 169 – III, there are differences between gas and electric LDCs that should be taken into account. Some differences include peak and off-peak usage patterns, technologies, and the effect of retail and wholesale competition on the impact on rates. These differences should be reflected in the plans and programs. As a result of the lack of electric models to be guided by as well as the need to have access to specialized knowledge, expertise and planning skills related to DSM methodologies, planning and coordination costs of DSM plan development will be higher in the early years of DSM.

The implications for Milton Hydro include:

- Reduces the risk to Milton Hydro of preparing a DSM Plan whose preparation costs will not be recovered in rates
- Provides direction to Milton Hydro on the level of DSM expenditure the OEB finds acceptable for DSM Plan preparation.

The implications for the customer include:

- The customer and other stakeholders will have greater assurance that their views will be considered in preparing the plan as part of the expenditure will go to consultation with stakeholders.

The implications for the marketplace include:

- Will encourage other LDCs to prepare DSM Plans as they will have some assurance that the costs of preparing the Plan will be able to be recovered in rates.

The cost of developing and filing the DSM Plans for 2003 and 2004 is approximately \$40,000. This includes \$30,000 for plan development and \$10,000 for stakeholder consultation. It is proposed that Milton Hydro recover these costs through its distribution rates.

3 DSM budget summary

Table 2 presents a summary of the total Milton Hydro DSM budget for 2003. A total of \$300,000 is proposed.

Milton Hydro is seeking to obtain the \$300,000 from the provincial government, with the 2003 DSM Plan and its implementation becoming a one-year provincial pilot to test a set of DSM programs that promote provincial energy policy objectives.

Should the provincial government decline this pilot opportunity, Milton Hydro intends to submit a request to the Minister of Energy for approval of its 2003 DSM Plan and budget through an amendment to its rate order to permit recovery of the DSM expenditures related to the 2003 DSM Plan in its 2003 variable distribution rates.

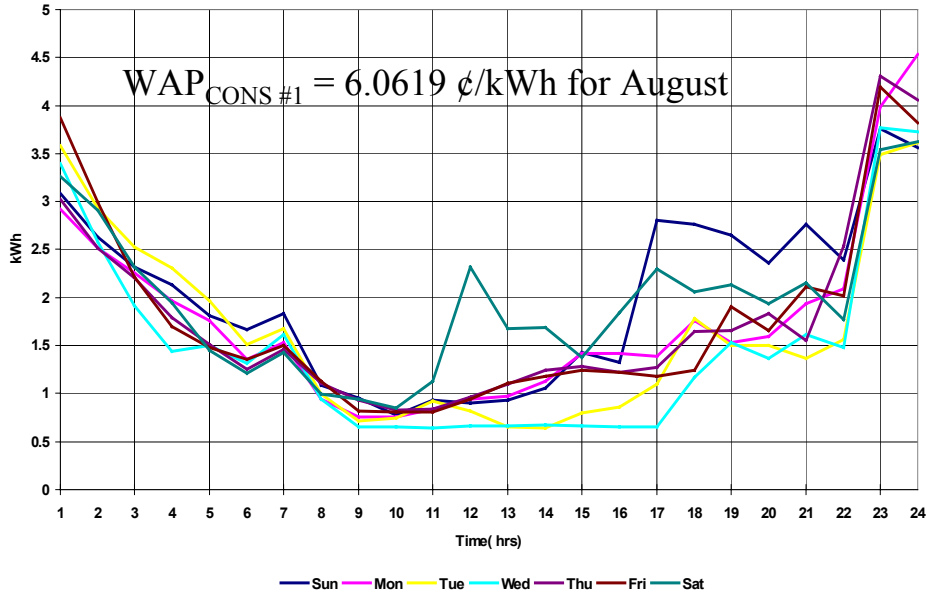
Table 1 Milton Hydro 2003 DSM Budget

ITEM	2003 Budget (\$000)
Consumption tracking software for customers	90
Expansion of ecotech village	25
Public education and outreach	
List of service providers	20
Assisting IM customers	15
Educational materials	20
Design professionals	15
Monitoring and evaluation	25
Development of regulatory financial mechanisms	
DSM Plan Development and filing	40
Pilot block customer billing option for retailers	50
	<hr/>
Total	300

Appendix A: Load profiles for August 2002

The following charts show load profiles for the Ontario system that lead to the weighted average price of 0.069358 \$/kWh and the interval metered customer's weighted average price of 0.060619 \$/kWh. These are used in the example calculations on p. 12.

Daily Average Profile for month of August 2002
Consumer #1



Daily Average Profile for month of August 2002
Ontario Total Market Load

