Energy Probe Comments on the Staff Report to the Ontario Energy Board RP-2003-0144

Demand-Side Management and Demand Response in the Ontario Energy Sectors

February 10, 2004

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INTRODUCTION

The Ontario Energy Board was asked by the Energy Minister of the former Ontario government, by way of a directive on June 18, 2003, to consult with stakeholders and identify and review options for the delivery of demand-side management (DSM) and demand response (DR) activities within the electricity sector, including the role of the local distribution company (distributor) in such activities. The Directive asked the Board to make recommendations on how to implement DSM and DR in the Ontario electricity sector, balancing implementation costs with the benefits to both consumers and to the entire system, reporting back to the Minister with its analysis and recommendations for both the short and long term by March 1, 2004.

Given that there are many common issues, the Board felt the need for consistency and symmetry and notified stakeholders on August 12, 2003 that it was increasing the scope of the consultation to include the role of the gas distributor in demand-side management in natural gas.

Despite the rejection by the electorate of that government, and its somewhat bizarre electricity initiatives over the last year, the Energy Minister of the newly elected government continued this particular initiative.

The Board's Consultation Process

The Board received 139 responses to its invitation to stakeholders to participate in a consultation process. An Advisory Group of 31 was chosen from the respondents. Board staff produced a DSM and DR discussion paper. The discussion paper signaled general support from Board Staff for subsidized DSM and a relatively low level of interest in measuring the cost effectiveness of DSM programs. The Advisory Group met over an eight-week period, heard oral presentations, and had the benefit of written representations. Participants presented a wide range of views.

The Report of the Advisory Group on Demand-Side Management and Demand Response in Ontario in Response to the Minister's Directive to the Ontario Energy Board was presented December 12, 2003 as a consolidation of the Group's working documents and represents the results of deliberations both in plenary and in small groups. This document did not imply a complete consensus of views among Group members.

Staff Report to the Board

The Report of the Advisory Group and Stakeholder submissions have presented varied points of view. The Ontario Energy Board staff have now prepared recommendations to the Board, calling it ***RP-2003-0144 – Staff Report to the Board on Demand-Side Management and Demand Response.*** The Staff report does not reference any of the submissions made through the Advisory Group or any other submissions that may have been received..

Next Steps

The Board has asked Stakeholders to comment on its staff's report, conclusions and recommendations. The Board will consider these submissions before it makes final recommendations to the new Minister.

General Comments by Energy Probe

> We believe that the stakeholder submissions to the Advisory Group, the Advisory Group's deliberations, and the Advisory Group report, all advance the discussion well past the level of the OEB Staff's original Discussion Paper. Unfortunately, we find that the Staff Report to the Board does not maintain those advances. We therefore generally suggest that the Board, and the government, should carefully review the presentations of the Advisory Group and leading intervenors (including, of course, Energy Probe), rather than assuming that the wisdom from these documents is contained in the Staff Report to the Board.
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> Most especially, we note that there was virtually total consensus among all members of the Advisory Group to recommend that the OEB and the Government examine the state of the energy marketplace in Ontario, and directly address those imperfections that discourage efficiency wherever possible. This discussion was given great prominence in the Advisory Group's report, comprising Chapter 2, pp. 5-14. On the other hand, these considerations have virtually vanished in the Staff Report to the Board. We urge the OEB and the Government to give these considerations and recommendations the attention that

the Advisory Group and intervenors (including Energy Probe) believe that they warrant.

Specific Comments on Staff Recommendations

Recommendation # 1 – Policy Direction

A hybrid framework using both market-based and public-policy approaches should deliver DSM and DR activities in Ontario's energy markets.

A hybrid framework achieves DSM and DR goals in a variety of ways. Using market forces may be the best means to optimize the system to ease short-term capacity constraints. Making long term, sustainable changes in the market, on the other hand, may best be achieved through public policy.

Energy Probe Comments

The report says it is proposing an approach that uses both markets and regulation. However, although Section 1.4 Energy Market Issues briefly discusses a number of important market reforms recommended by the Advisory Group, nowhere does the report explicitly endorse "user pay" for electricity. User pay for electricity is the most irreducible necessity for market efficiency to develop. The only recommendation in the Staff Report that is even remotely directed at enhancing the market is the recommendation to encourage the IMO to continue to use incentive payments to encourage demand response. Unfortunately, it is not clear to Energy Probe that the IMO's DR payments are more market-based than the old Ontario Hydro Discount Demand Service offerings.

Recommendation # 2 - Policy Framework

A Central Agency should be responsible for the design and delivery of DSM and DR activities in Ontario's energy sectors. The Ministry, the IMO, the Board and the Central Agency should work together to coordinate DSM and DR activities.

• The Ministry would be responsible for setting over-arching objectives for DSM and DR.

• Where necessary, the IMO would make changes in the Market Rules to implement DR, and the Board would change regulatory instruments to facilitate DSM and DR activity. Both organizations would continue to carry out their legislated objectives.

No one player has a primary role in all stages of the DSM/DR implementation process. The Central Agency would be responsible for:

• developing the province-wide DSM/DR plan (including conservation fund administration, target market plans, budget allocations, and market transformation initiatives);
• setting rules for screening opportunities and monitoring and evaluation protocols;
• identifying broad areas of opportunity in DSM and DR;
• contracting for and coordinating design and delivery of programs;
• contracting for an independent audit of results; and
• providing an annual report to the Minister.

Energy Probe Comments

Given the sweeping scope of DSM activities proposed in the report, the recommended four-way governance structure for DSM – with responsibility shared among the Central Agency, the IMO, the OEB and the Ministry – would leave DSM program development and delivery fundamentally unaccountable.

Energy Probe believes that some conservation-promotion activities can be suitably delegated to a central authority. In our presentation to the Advisory Group, Energy Probe suggested that the Ontario Electricity Safety Authority could play a constructive role in educating consumers about conservation options since it deals with consumers or installers when they are introducing new equipment. This recommendation was not discussed in the Staff Report.

Given a choice between aggressive conservation subsidies by a central agency or aggressive conservation subsidies by 93 local electrical distribution companies, we would side with the central agency, though (as outlined below) we would recommend a more thoughtful and measured and market-based approach than either of these two alternatives.

Recommendation # 3 – Role of The Transmitter And Distributor

Transmitters and distributors should be allowed to act as delivery agents of DSM/DR activities for least-cost planning and/or optimizing their distribution systems. This might include investing in DSM/DR-enabling technologies such as meters, controllers, communications, and/or gateway services. In doing so, distributors should comply with Central Agency protocols and compete equally with private sector players, without provision for DSM variance account, lost revenue adjustment mechanism, or shared savings mechanism.

The Board should put in place regulatory mechanisms to induce gas distributors, electricity transmitters and electricity distributors to reduce distribution system losses.

Energy Probe Comments

Meter modernization to install interval meters will add costs with no benefits to consumers unless consumers will pay the real-time costs of power now or in the near future. Postponing real-time prices postpones benefits from interval meters.

The Energy Minister has directed that approximately a quarter of a billion dollars collected by electric LDCs be spent on DSM. Energy Probe suggests that the best use of these funds would be to invest the funds in upgrading meters for their larger customers combined with a commitment to introduce real-time prices.

Energy Probe supports incentive mechanisms to encourage distributors and transmitters to effectively manage and reduce both technical losses (like resistance losses) and non-technical losses (like power theft). Any losses that are residual after all reasonable controls have been used should be borne by consumers.

Recommendation # 4 – Symmetry Between Electricity and Gas

The recommended framework should replace the current gas framework within three years.

A Central Agency could oversee DSM in gas as well as electricity. It would allow a focused effort on market transformation and provide unbiased decision-making on fuel switching and potential load growth issues. Further, it could provide comprehensive programs that address all energy sources available to the consumer whether at one location or many locations across the province.

Implementation of DSM should be the same in gas as in electricity. Otherwise, gas distributors could structure programs to their competitive advantage.

However, putting a DSM framework in place for electricity - establishing the policy foundation and operating norms - will take time. It is not advisable to add natural gas immediately. While DSM in electricity is maturing, the natural gas distributors will provide gas savings and prepare for the new framework without undue disruption to their business and marketing strategies.

Energy Probe Comments

> Ontario's natural gas distributors have DSM programs that are well established and mature. Their strengths and weaknesses are relatively well understood and interested parties have the necessary information to track these programs. The advantages of continuity and tracking outweigh any potential economies of scale to be gained by wiping out the gas DSM programs and absorbing them in some yet undefined wider Central Agency plan.

Recommendation # 5 – Conservation Funding

Electricity DSM and some retail DR initiatives should be funded by all electricity consumers through a transparent, non-bypassable consumption charge (kWh). Gas DSM initiatives should also be funded by a transparent consumption charge (m3).

- ***This charge would be levied on all consumers, including self-generators in electricity.***
- ***The Central Agency should be responsible for setting the rate applied to electricity and gas consumption annually, subject to review by a regulatory body. DSM funding should cover DSM/DR program administration and consumer incentives. It would not include funding for lost revenue adjustment (LRAM), variance accounts (DSMVA) or shared savings mechanisms (SSM).***

Energy Probe Comments

The report recommends non-bypassable DSM taxes on gas and electricity. The justification offered sidesteps any cost-effectiveness justification, stating: "Knowing that a charge on use is being collected spurs consumers to conserve." [Staff Report, section 3.4.1] The Board Staff paper Report provides no evidence to support this peculiar justification of conservation taxes. Energy Probe expects that the impact on consumer demand of the tax will be identical to any other rate increase of the same amount.

The Energy Minister has already decided that approximately a quarter of a billion dollars collected by LDCs should be spent on DSM. Before any further funds are collected from consumers through an additional conservation tax, we suggest that the net benefits of applying the first quarter of a billion dollars should be determined.

Since the benefits of a particular DSM activity are enjoyed primarily by the participating customer in the form of lower bills, Energy Probe suggests as a general policy that conservers should pay for the cost of DSM services they use. Non-participants should have to pay for DSM services used by others, only to the extent that non-participants benefit.

Recommendation # 6 – Demand Response in the IMO-Administered Markets and Load Aggregation

In consultation with stakeholders, the IMO should design and develop economic DR to be put in place for 3-5 years as a transitional measure. Further, the IMO should revise the Market Rules to facilitate load aggregation (e.g., statistical measurement, metering, and settlement requirements).

Energy Probe Comments

The international experience with electricity markets suggests that programs designed to dampen out price volatility may be barriers to investment in peaking

capacity and customer investment in demand control, thereby exacerbating long term volatility problems. Based on this experience, the IMO's DR program may have the opposite of the intended effect.

The Australian experience with government responses to price shocks is instructive. The state of South Australia experienced electricity price spikes in November '99, February '00, August '00, November '00, February '01, and May to July '02. Frequent supply interruptions also occurred during some of these periods. In response, the government in South Australia decided to not intervene with either price caps, introducing a capacity market, or enter into power purchase agreements.

The neighbouring state of Victoria experienced electricity price spikes in August '00, November '00, January to February '01, and May to July '02. The January to February '01 price spike was driven by a labour strike at major generating facilities at the time of the system's peak demand. The state government introduced a cap on wholesale prices called the "Industrial Relations Force Majeure", which cut prices to about one third the estimated market price. Rotating power cuts resulted. In addition, the government restricted power used during peak hours. These restrictions stayed in place after the strikes ended, resulted in large electricity exports out of the state.

South Australia has experienced much greater investment in peaking capacity than its neighbour, Victoria. Peaking and midmerit generation additions in South Australia added capacity equivalent to 30% of then existing capacity. Many potential investors indicated that government intervention in Victoria deferred investment plans there.[1]

Energy Probe believes that the OEB should undertake economic research to determine if the IMO's DR program is impeding investment in peaking capacity and/or investments in demand control by users not directly involved in the IMO's DR program.

[1] "Power Generation Investment in Electricity Markets", 2003, International Energy Agency.

Recommendation # 7 – Demand Response in the Retail Market

The Board is currently working on interim and long-term Standard Supply Service (SSS) pricing strategies. These could include peak and off-peak time differentiated SSS prices altered seasonally.

Until May 1, 2006, time-differentiated and seasonally adjusted commodity prices could apply to designated consumers.

The Central Agency should consider pilots and demonstration projects for emerging and innovative technologies that enable retail load management; e.g., use of metering technologies, controllers, communications, and/or gateway services.

Energy Probe Comments

This does not appear to be a recommendation. It appears to be a report that the Board staff sees the Board being unable to resist the temptation to interfere with market forces. Far from recommending user pay prices, the report contains another worrying indication that market-based electricity prices are on the way out. The Staff Report suggests that administered prices, like planning-based time-of-use prices, "(serve) as an economic proxy for a market-based price signal." Energy Probe suggests that the OEB conduct research to measure the economic losses caused by relying on proxy prices instead of real prices.

Recommendation # 8 – Coordinating Communication

The agencies involved in conservation in Ontario (the government, the Central Agency, the IMO, and the Board), should coordinate consumer education plans to ensure consistent messages and avoid duplication.

To help consumers understand their energy choices and the consequences of those choices in the Ontario market, the Board should design, develop and/or deliver information to consumers related to energy conservation, energy efficiency, load management and cleaner sources of energy.

The government communicates general energy matters and policy direction to consumers. The Board's expanded mandate requires it to communicate to electricity and gas consumers on how the energy markets work and consumer choice in those markets. The IMO communicates with market participants on market function. The Central Agency would communicate DSM/DR program related information and general conservation information to consumers. Together, they

The Board already has a role as an objective leader in protecting energy consumers' interests. Its expanded mandate makes that role clearer. The Board will need to coordinate with other parties. There will be opportunities, for example, to leverage what has been learned from the earlier efforts of government and others.

Energy Probe Comments

> The Board Staff report suggests that four wings of government "will bring about a conservation culture" and that these government agencies can "leverage what has been learned from the earlier efforts of government and others." Energy Probe points out that the effort of all relevant government agencies to encourage ordinary consumers to cut back their usage during the emergency period after the 2003 August blackout appears to have resulted in residential load cuts in aggregate of less than 100 MW. Energy Probe also points out that contrary to gaining "leverage" by learning "from the earlier efforts of government and others", the relevant government officials have so far declined to study and publish any quantitative analysis of the actual conservation efforts of ordinary consumers during the emergency period. In our presentation to the Advisory Group, Energy Probe recommended that the Board encourage or sponsor quantitative research on the experience with load cuts during the post-blackout emergency.

Summary of Energy Probe's Commentary

Ignoring the pleas of Energy Probe and others through the Advisory Group process and written submissions, the Board Staff report never attempts to answer the most fundamental question: "What works and what doesn't work in DSM/DR programs?" Energy Probe has fundamental concerns with measurement of foregone consumption. The staff report does not address this problem. Verifying DSM program cost effectiveness depends on accurately forecasting consumer behaviour in the absence of each program and comparing it with accurately measured actual consumer behaviour. Energy Probe has a great deal of experience with this problem in gas DSM. Based on this experience, we advised the OEB to focus on monitoring and evaluation. Unfortunately, the Staff report mentions monitoring and evaluation only twice, each time in passing (pp. 11 & 22).

The staff's draft final report bears an unfortunate remarkable resemblance to the initial discussion document. For example, the initial discussion document had 13 pages discussing funding and one page discussing auditing, monitoring and evaluation. Despite recommendations from Energy Probe and others concerning the vital importance of these issues, the final staff report makes only passing references to auditing, monitoring and evaluation.

As documented in Energy Probe's presentation to the Advisory Group, there is prima facie evidence to suggest that natural gas DSM has resulted in higher household consumption in Ontario than in jurisdictions without utility subsidized DSM. Energy Probe is concerned that policy makers may make decisions on the belief that the proposed Central Agency, working in concert with the Ministry, the OEB and the IMO, is going to actually achieve significant, measurable reductions in energy consumption. Similarly, there is a broad policy-maker consensus that gas DSM programs have driven Ontario's gas domestic consumption down significantly -- although that consumption has actually declined more slowly than consumption in neighbouring jurisdictions that lack such programs. Given the perilous state of our power system's reliability, we suggest that any assumption about DSM effectiveness should be tested in practice and monitored carefully before any forecasts of DSM results are reflected in analysis or planning related to power system reliability. If our "bottom-line" results in electricity match our "bottom-line" results from subsidized gas DSM, electric DSM won't keep the lights on.

We request that all intervenor comments filed on the Staff report be posted on the OEB's site.