



RP-2003-0144 RESPONSE TO THE STAFF REPORT TO THE BOARD:

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

EnerSpectrum Group was pleased to submit a paper and make an oral presentation to the Stakeholder Consultations into Demand-Side Management and Demand Response in the Ontario Energy Sector. We offer the following comments on the Staff Report to the Board.

Overall, EnerSpectrum Group supports the direction of most of the findings and recommendations in the Report to the Board. Although a Central Agency may play a role in ensuring province wide consistency of DSM/DR programs, it is our recommendation that its size and scope should be limited. Its mandate should be to focus on defining overall policies and creating market parameters and processes for disbursements of funds only. It should be restricted from development, design or implementation of programs.

The remainder of our commentary relates primarily to specific statements in the report regarding how some of the findings might impact the implementation of DSM and DR programs, incentives and practices from the perspective of a Local Distribution Company. As the Report rightly suggested, distribution companies should act as a delivery agent of DSM and DR for planning and system optimization purposes. We are also pleased that the Report recognizes the value of reducing distribution system losses as an energy efficiency measure, particularly at peak demand.

We encourage the OEB and legislators to continue their efforts to factor distribution system operations and their business fundamentals into Ontario's evolving DSM and DR regime. Success will be measured by the benefits to each stakeholder, and the province as a whole.

3.1.1 Rationale

The Central Agency Model

It allows economies of scale through consistent, province-wide policies.

.....

It can reflect regional needs through consultation with local stakeholders.

The Central Agency Model presents three significant risks. Firstly, for a provincial organization to reflect regional needs, it must become much larger and more expensive than one setting province-wide policies alone. It must develop processes and procedures and a regional structure to gain a "local" presence if it is truly to reflect local issues. Secondly, there is a risk that DSM funds will be allocated unevenly across regions by a Central Agency, due to the density and preferences of private contractors. Thirdly, generic province-wide programs may not allow LDCs to employ DSM/DR optimally in planning and operating their systems.

The OEB – Utility Model

Energy efficiency programs should be province-wide for consistent coverage. The patchwork coverage through utilities tends to result in a confusing variety of programs for consumers.

Appropriate OEB oversight and program approvals could minimize or eliminate this problem by ensuring consistency in messages and delivery, where appropriate, while still allowing for some regional variation where warranted.

Utilities often integrate their DSM/DR programs into marketing strategies for building load and retaining customers. These competing goals subordinate the goal of conservation.

Currently, utilities are paid on the basis of the volume of product delivered. This is a result of the current rate structure that recovers essentially fixed costs for a delivery system on the basis of volume of product delivered. A rate structure based on a per customer cost basis would eliminate this conflict. It is worth noting that the current rate structure would also present the same competing goals under a Central Agency Model.

If a utility is to pursue energy efficiency for social benefits, then the utility may need to get large incentive payments and revenue protection to overcome business conflicts. This compensation comes directly from consumers.

Any private sector firm delivering energy efficiency for “social benefits” rather than to generate its own profit will require large incentive payments, both to recover costs and make a profit. This compensation will come from consumers, either through the proposed levy, or provincial taxes. Initiatives that are purely for social benefit, without market or profit merit, must be funded by consumers through taxes or rates, regardless of the delivery agency.

3.1.2 Potential Concerns

Some members of the Advisory Group considered that mandating a market regulator to act as the Central Agency would conflict with the regulator’s role. There is concern that by actively designing, implementing, and funding DSM/DR activities, a regulator would intervene in the market it is meant to oversee.

It is also worth noting that, having the OEB directly involved in the DSM/DR programs design and implementation would eliminate it as a body of appeal to which market participants could turn for dispute resolution. However, the regulator could set DSM/DR policy without compromising its oversight role. In either case the central authority should be limited to setting policy and funding mechanisms, leaving program design and implementation to the marketplace.

3.2.2 Potential Concerns

Least-cost planning calls for a sufficiently long horizon, for example at least 10 years, to allow DSM/DR to be a viable alternative when considering investments. However, distributors should be made aware that the utility cost test¹⁶ should be used so that ratepayers do not subsidize societal benefits.

16An evaluation of the impact of a DSM program on a utility's revenue requirement as a result of a change in costs. Excludes any lost revenues due to the DSM program. E.B.O. 169-III Report of the Board, July 23, 1993

An avoided capital expenditure by a distributor, obtained by targeted DSM/DR, is not just a societal benefit. It is a direct benefit to the users of the distribution system who are not required to pay for the capital expansion. If the “adjustment to forecasted throughput for recovery of revenue requirement” outlined below is implemented, the lost revenue will be recovered through new rates. Requiring that lost revenue be excluded from the evaluation of least cost planning results in the requirement for two hearings for one project.

One concern for distributors is that DSM/DR activities sponsored by the Central Agency might be so successful that throughput is significantly eroded during a multi-year performance-based regulatory (PBR) term. The Board may need to consider rate relief in such cases. This does not mean LRAM or SSM, but an adjustment to forecasted throughput for recovery of revenue requirement.

Regardless of whether a Central Agency or any other model of energy conservation is adopted, utility revenue erosion will occur from successful DSM/DR. For the portion of a distributor's revenue requirement that is based on throughput (kWh, m³) there does not appear to be much practical difference between these two approaches, other than timing.

A LRAM implies that a distributor, suffering revenue losses, applies to the OEB for a rate increase to recover the documented losses and projected future losses. An adjustment to forecasted throughput implies that a distributor applies for a rate increase to recover the loss of revenue from documented throughput shortfall and forecasted future throughput shortfalls.

3.4.2 Potential Concerns

Should funds collected from the two energy sectors be allocated within those energy sectors? To ensure that DSM activities may be available to both electricity and gas consumers, gas funding may need to be allocated to programs in gas. Avoided cost¹⁹ calculations in electricity are often high because of avoided capital generation costs. As well, benefits to electricity consumers usually include higher bill savings. Therefore, total resource cost²⁰ (TRC) test results in electricity are often higher than in gas. This does not necessarily mean that the program costs will be higher. Therefore, if gas and electricity activities are screened together, it would result in few if any gas opportunities being targeted.

Since all electricity is not generated from natural gas, using a levy on gas consumption to fund conservation initiatives for electricity consumers amounts to a cross subsidy of one consumer group by another. Additionally, many Ontario consumers who do not have access to gas service could inappropriately subsidize gas conservation through their electricity levy. Therefore, the funds collected from the two energy sectors should be kept separate.

3.4.2 Potential Concerns

There are three generally accepted principles to DSM funding: equal mill rate collection across all customer classes; budget allocation proportional to collection; and maximizing TRC benefits. Concern was raised in the Advisory Group that it is not possible to satisfy all three at the same time - trade-offs will be necessary. For example, residential programs typically have high program costs relative to the savings generated, while industrial programs have low program costs relative to the savings generated. Therefore, selecting programs based solely on maximum TRC benefits will result in lost opportunities in the residential sector. On the other hand, allocating funds strictly to customer class may leave some industrial or commercial projects unfunded resulting in lost opportunities in those sectors and lower overall TRC benefits.

The report's Introduction states:

"The directive asked the Board to balance implementation costs with the benefits to both consumers and the entire system.....Record electricity demand since market opening in Ontario underscores the need for conservation."

In Section2:

"In Ontario's electricity sector, a key policy driver in the short term is system optimization⁷ through DR to:

- meet Ontario's energy needs;
- promote load management (system benefits);
- promote wider-based consumer participation in the electricity markets than is currently afforded by the real-time energy market (e.g., in the case of DR to bridge between wholesale and retail markets; load aggregation);
- reduce overall electricity prices to consumers;
- reduce electricity price volatility; and
- avoid uneconomic investments in generation, transmission or distribution."

These statements can only be met if all funds are directed at projects that maximize results in these areas. Providing funding for low result, home owner projects at the expense of higher benefit industrial/commercial projects will not reduce overall electricity prices to consumers, will not reduce electricity price volatility, will not avoid uneconomic investments in generation, transmission or distribution and will not contribute positively to meeting Ontario's energy needs.

How much of the conservation fund should be spent to enable increased DR at peak periods (i.e., through investment in enabling technologies such as meters, controllers, communications, and/or gateway services)?

A consistent and rigorous cost/benefit analysis will allow an appropriate allocation of funds between competing programs. That way, allocation can be selectively targeted within LDC systems and customers where the greatest cost/benefit for DR at peak can be derived, rather than blanket allocations that return mixed results.

Should the gas consumption charge be levied on gas-fired generators, regardless of size or use? Since the electricity charge would be levied on all electricity consumed, this could be considered double taxation.

Although gas-fired generators are considered a “clean” and viable method of producing electricity, there are other technologies and fuels available (biomass, solar, wind, nuclear, hydroelectric). A gas consumption charge is a charge on consumption. Burning gas to generate electricity is a use of a non-renewable resource. The consumption charge will encourage the replacement of gas-fired generators with alternate or more efficient technologies, if it is economically feasible to do so. If the gas-fired generation continues, the consumption charge provides funds for alternate conservation programs to reduce gas consumption in other areas.

4.1.1 Rationale

The IMO and the Board, as part of their market surveillance responsibilities, would review market conditions to determine when economic DR could be discontinued.

The market design and a lack of adequate generation resources make economic DR a desirable program at this time. When the market rules and supply adequacy reduce the volatility in the Ontario spot price, the market will stop offering economic DR since the benefit gained will not cover the costs or effort required to produce the product.

It is in the high-price section of the supply curve that the most dramatic price changes could result from small demand changes. Therefore economic DR should be active only in periods when the price is above a threshold. For example, in Ontario between May 1, 2002 and October 31, 2003 the three-hour ahead price was above \$180 for a total of 406 hours²⁴ out of 13,152 hours (approximately 3% of the time).

Economic DR should be available to the market at any time when the cost of energy goes above the cost of the DR program i.e if it is cheaper to buy DR than to buy generation, DR should be purchased. The price paid for the DR program will determine the amount of DR offered by the market. This enables and sustains the market mechanism over time.