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Comments to IMO Market Advisory Committee on “Next Steps” for Economic Demand Response Pilot – Document ID# MAC –05-02

The following comments are those of Energy Profiles Limited, representing individual large Commercial Retail Consumers and the Building Owners and Managers Association of Toronto (BOMA).

1. Which market segments should be targeted? Is there a priority and if so, why?

We generally concur with the IMO’s basic segmentation according to:

- Wholesale consumers
- Large Retail Consumers (both Commercial and Industrial)
- Small Retail Consumers

However we suggest further simplifying this to:

- Large Consumers – both Wholesale and Retail, who can be addressed using specific contract terms, within a general economic DR program.
- Small Retail Consumers – the mass market that would be eligible for broader based initiatives.

Large Consumers:

While Wholesale consumers represent the largest concentration of large individual consumers, they do not represent the majority of load. Large Retail consumer load is more than twice as large as Wholesale consumers. Although not connected to the IMO grid, they are generally equally sophisticated with respect to understanding market pricing, load management opportunities and associated technologies.

For this reason we suggest that there be no distinction between Large Consumers as wholesale or retail in the consideration of pilot economic DR programs. Large Retail consumers often have a portfolio of accounts that, in aggregate, are equivalent to the largest wholesale consumers.

Key elements of a DR pilot program with this group of Large Consumers would be:

- Ability to contract for a reasonable load (suggest 500 kW minimum).
- Ability to substantiate load reductions, either through historical baselines, or direct measurement.

The only distinction here being that Large Retail consumers will be settled through LDC billing and metering, as opposed to wholesale metering/billing for IMO market participants.

Generic applications for Demand Response with this group include:

- For Commercial consumers - reduction in space conditioning and lighting load through central control using BAS (Building Automation System) with associated metering. These BAS's can either be specific to a large facility or for a portfolio of buildings.
- For Industrial consumers - changes in shift operation, changes in process, load management of specific large loads.
- Operation of Distributed Generation for load management purposes. This represents an especially large and previously untapped potential. i.e. existing standby generators that can be actively used to manage peak loads. With dedicated metering it also provides a definitive basis for proof of load reduction.

Small Consumers – Residential

Given that the stated objective of a Pilot DR Program is to build capability and infrastructure we must surely begin the difficult task of addressing the small retail consumer, especially the homeowner. This group has been attributed with having the greatest single effect of increasing demand at times of extreme weather. It is also the most difficult group to influence and from which to substantiate results. Still the DR potential exists, and any pilot should make efforts to equally address this group as a priority.

A fundamental approach to this market segment is in recognizing that no specific technology or program design can be predetermined as the 'best'. Unlike Large Consumers, who by and large understand the 'rules' and are capable of participating, the Small Consumer has yet to understand the market or how they can participate. They need to be educated through trial programs. As with any mass-market approach, we should not expect all consumers to behave similarly. There will be distinct participating groups starting with early adopters, etc.

Of course the 4.3-cent price cap presents a fundamental impediment to interest in demand response from this group. Any program design should consider the eventuality of

removal of the fixed price, and allow participation of those ‘early adopters’ in a pilot or ‘test’ programs.

Again a fundamental objective of any such pilot is to test the interest and participation of small consumers, not just the DR result achieved. Thankfully we have some history of successful participation of this group, going back to Ontario Hydro time of use trials in the residential sector, Toronto Hydro residential time of use option prior to market opening, and the Milton Hydro initiatives.

We suggest the basic elements of program design for Small Retail consumers include:

- Programs coordinated by interested and capable LDC’s, addressing consumers in their service territory.
- Funding for installation of interval meters.
- Funding for costs associated with program marketing, administration and evaluation.
- Providing financial incentive to participating consumers through pilot rates and/or load control that provide the opportunity for cost reduction, while recognizing the 4.3-cent fixed price.

The Milton Hydro “Beat the System” proposal represents an innovative and pragmatic approach to test consumer interest while living under the 4.3 cent fixed price regime. It should be considered as a ready-made priority program for this segment. Additional well-founded LDC based programs could also be included.

We note that there is often opposition to the adoption of interval meters in smaller customer classes, due to the premium cost for interval meters and the burden on LDC billing systems. To these objections we suggest:

- Electrical metering has consistently demonstrated the effect of mass production / cost reduction. Interval meters have already gone from thousands of \$ to hundreds of \$. There is no reason why they should not evolve to a small premium over standard glass meters with wide scale adoption.
- While LDC’s have had more than their share of financial and operational burdens, it is not rational to deny migration towards time of use billing for all customers because of IT limitations. Surely the billing determinants in a typical cell phone bill or credit card bill dwarf the data requirements in recording 730 time stamped kWh quantities per month.

We see the creation of pilot programs, and the roll out of optional programs as a mechanism to expand the infrastructure for hourly billing on a practical scale while achieving economies of scale through cost reduction.

2. Of the Barriers Identified, which are critical? Are any other barriers not identified?

Large Consumers:

Again treating Large Wholesale and Retail Consumers as one group, we suggest that lack of awareness, experience, etc. is not a major obstacle. Rather the critical barriers are:

- Perceived benefits are insufficient.
- Uncertainty due to market prices.

Following from this, these consumers require a commitment of benefit for operation over a reasonably long duration – ideally 8 hours (to effect shift changes) or 4 hours at a minimum (to justify the commitment to infrastructure and operational decision making).

Small Consumers:

Given the challenge of creating a pilot program under the spectre of the 4.3 cent fixed price, the biggest barrier is the availability of discrete program options for small consumers. With well-crafted programs offered to this group, the challenge is then one of education, understanding potential benefits, eliciting participation and evaluating results.

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