Memo to: Ontario Power Authority
From: Ontario Clean Air Alliance
Re: Ontario Power Authority's May 30, 2007 Draft Rules for DR III (Peak Load Shedding) Program
Date: June 14, 2007

Introduction

Demand Response (DR) programs that pay customers to reduce some of their electricity consumption at times of peak demand can provide the following benefits to Ontario:

1. Help phase out our coal-fired power plants. For example, in 2006, if demand response programs had prevented the surge in demand that occurred during the 88 hours of highest peak demand, Ontario's peak day demand would have been reduced by 3,616 MW or 13%.[1]
2. Reduce the spot price of electricity.
3. Reduce or completely eliminate the need for new high-cost natural gas-fired peaking plants and the related transmission infrastructure. According to the Ontario Power Authority (OPA), the cost of meeting the top 88 hours of peak demand with new electricity infrastructure is $1.64 per kWh. (This cost estimate is based on the assumption that the capital costs of new supply-side infrastructure are amortized over 20 years.)[2]
4. Increased electricity system reliability.

In addition, as the OPA is well aware, the Minister of Energy has directed it to: "Plan for coal-fired generation in Ontario to be replaced by cleaner sources in the earliest practical time frame that ensures adequate generating capacity and electricity system reliability."[3]

The OPA's proposed DR III Program

Capacity Targets

The OPA's proposal does not state how many megawatts (MW) of demand response capacity it is seeking to obtain. Measurable targets will be key to designing and implementing a successful program.

Recommendation #1

The aggressive procurement of cost-effective DR capacity will facilitate a rapid coal phase out and eliminate or dramatically reduce the need for new, high-cost natural gas-fired peaking plants. Therefore the OPA should seek to purchase up to 3,616 MW of DR capacity in order to permit Ontario to reduce its peak day demand from 27,005 MW (August 2006) to 23,389 MW by 2010.

Utilization Targets

According to the OPA's proposed program, a DR program participant will be obliged to reduce their demands for up to either: a) 100 hours per year (Option A); or b) 200 hours per year (Option B).

However, according to the proposed rules, the OPA and the Independent Electricity System Operator will be under no obligation to call on (activate) any of this DR capacity during any given year.[4]

Furthermore, the OPA's proposed supply metrics for determining when DR capacity should be called upon (namely, "Reserve Above Requirements" and "Supply Cushion")[5], exclude the activation of DR resources when Ontario's peak day electricity needs can be met instead by our existing dirty coal-fired power plants.

Given the government's directive to phase out coal "in the earliest practical time frame," it is only sensible to institute a requirement to use DR response measures ahead of using coal-fired generation on peak demand days (which are also often smog days).

Recommendation #2

The OPA should be obligated to purchase at least 100 or 200 hours of DR resources per year respectively from each of its Options A and B participants for as long as Ontario's coal plants remain in service.

Pricing

According to the OPA's proposal, it will pay Option A DR suppliers approximately $0.76 to $1.35 per kWh to reduce their peak hour demands for a total of 100 hours per year.[6]

These proposed DR payments are 18 - 54% *lower* than the OPA's estimate of the marginal cost of new supply-side infrastructure to meet the demand for electricity during the 88 highest demand hours of the year, namely $1.64 per kWh.

Especially in the context of the need to facilitate a rapid coal phase out, this underpayment makes little sense.

Recommendation #3

In order to help create a culture of conservation and meet Ontario's electricity service needs at the least cost, the OPA's purchase price for DR resources should be equal to the marginal cost of new electricity supply infrastructure.

Specifically, the OPA should pay Option A DR suppliers up to approximately $1.64 per kWh to reduce their demands assuming a DR contract term of 20 years (see next section). If the DR contract term is less than 20 years, the purchase price for DR, under Option A, should be allowed to exceed $1.64 per kWh.

Contract Term

The OPA's proposed contract terms for DR contracts are 1, 3 or 5 years.[7] By contrast, the OPA has entered into 20-year contracts with natural gas-fired electricity generating stations.

This fails to put potential DR suppliers on a level playing field with new supply sources or give them the financial certainty needed to justify the capital expenditures involved.

Recommendation #4

It is neither fair nor economically rational to require DR suppliers to recover their capital costs over time periods that are 75 - 95% shorter than the period that natural gas-fired power plants are given to amortize their capital costs. Therefore the OPA's contracts for DR resources should be up to 20 years in length.

<u>Participant Size</u>

According to the OPA, it will only enter into DR contracts with participants who have electrical loads of between 5 and 100 MW.[8]

This arbitrary barrier to program participation is not in the public interest.

Recommendation #5

The minimum electrical load for participation in this DR program should be reduced to 1 MW. In addition, there should be no restrictions with respect to program participation by electrical loads in excess of 100 MW.

---

[1] Ontario Clean Air Alliance, *Reducing peak demand: How Ontario can expedite the coal phase out by reducing peak electricity usage,* (May 14, 2007).
[2] March 16, 2007 letter from Miriam Heinz, Regulatory Coordinator, OPA to Kirsten Walli, Board Secretary, Ontario Energy Board re: Ontario Power Authority 2007 Expenditure and Revenue Requirements Submission; Ontario Energy Board File No. EB-2006-0233.
[3] June 13, 2006 letter from the Honourable Dwight Duncan, Minister of Energy to Jan Carr, CEO, OPA.
[4] OPA, *Demand Response Program DR3 Program Rules,* (Draft May 30, 2007), p. 3.
[5] OPA, *Demand Response Program DR3 Program Rules,* (Draft May 30, 2007), pp. 16 – 19.
[6] OPA, *Demand Response Program DR3 Program Rules,* (Draft May 30, 2007), pp 2 & 35; and June 13, 2007 email from Simon Zhang, OPA to Jack Gibbons.
[7] OPA, *Demand Response Program DR3 Program Rules,* (Draft May 30, 2007), pp. 4 & 5.
[8] OPA, *Demand Response Program DR3 Program Rules,* (Draft May 30, 2007), p.8.