

February 9, 2004

Mr. Paul B. Pudge  
Assistant Board Secretary  
**Ontario Energy Board**  
2300 Yonge Street, 26<sup>th</sup> Floor  
Toronto, Ontario M4P 1E4

Dear Mr. Pudge:

**Re: Demand-Side Management and Demand Response in the Ontario Energy Sectors -  
RP-2003-0144**

## **Introduction**

This letter is written on behalf of Northland Power, Toromont Energy Ltd., TransAlta Energy Corporation, and Yousef Energy Services (the "Generators") in response to Board Staff's January 23, 2004 Report entitled "Demand-Side Management and Demand Response in the Ontario Energy Sectors" (the "DSM Report"). Many of the Generators will be filing their own submissions, but share a common concern that the DSM Report fails to recognize that distributed generation is part of the DSM solution and, to the contrary, proposes a charge on distributed generation which seems counter-productive in light of the need for new types of supply in the province, the benefits of distributed generation, and the growing public recognition of the value of distributed generation. They therefore believe it is necessary to underline this position with the Board in these submissions.

## **Benefits of Distributed Generation**

All of the Generators have invested or are contemplating investment in distributed generation in Ontario<sup>1</sup>. They all share the view that there are significant financial and environmental benefits from widespread usage of distributed generation, including:

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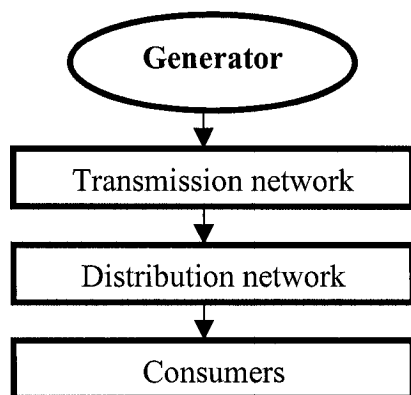
<sup>1</sup> "Distributed Generation" is defined in the Electricity Conservation & Supply Task Force ("ECSTF") Report as "Electricity generating capacity located close to the customers it serves" (See: Appendix 2). The term is also described by the ECSTF Report as "any generation that is located in relatively close proximity to electrical load" (at p. 53)

- Reduced transmission and distribution construction
- Reduced transmission and distribution line losses, resulting in more efficient use, increased useful life, and avoided investment of existing infrastructure;
- Smaller, faster projects can contribute to required supply and reduce peak clearing prices
- Improvement of average fuel use efficiency

Furthermore, although this point is not made specifically in the DSM report, distributed generation may, under many circumstances, come within the definition of DSM and Demand Response used in the Report. Although conventional thought draws a line between demand side reduction and supply side solution, distributed generation challenges that paradigm in a positive way. This paradigm shift is well illustrated in a Sustainable Electricity Networks ("SUSTELNET") Report to the European Commission in December, 2002 entitled, "Policy and Regulatory Roadmap for the Integration of Distributed Generation and the Development of Sustainable Electricity Networks" (available at [www.sustelnet.net/documents.html](http://www.sustelnet.net/documents.html)). The SUSTELNET Report addresses this issue as follows (at p. 5):

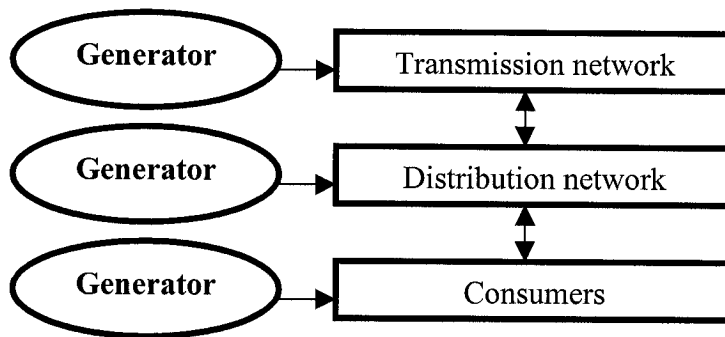
"For many years the electric power industry has been driven by a paradigm where most of the electricity was generated in big power plants, sent to the consumption areas through EHV transmission lines, and delivered to the consumers through a passive distribution infrastructure that involves HV, MV and LV networks.

In this system, power flows were only in one direction. From the power station to the network and to the consumers:



In the conventional paradigm the generators produce both energy and all ancillary services, like voltage control, frequency control and black start capacity. ...

This paradigm is about to change due to a large-scale integration of distributed generation (DG) at either the MV or at the LV levels. Electricity is now going to be produced closer to the consumers:



In the last years this change became more perceptible mainly due to the connection of a lot of generation sources at the MV level. These sources have been mainly:

- Combined heat and power plants (CHP)
- Wind Energy Converters (WEC)
- Hydro Power stations (HP)
- Photo Voltaic systems (PV)"

The Generators believe that the Board can demonstrate thought leadership and facilitate this new paradigm in Ontario by recognizing that distributed generation can be a form of DSM and Demand Reduction. Support for this view is set out below.

### **Distributed Generation as DSM and Demand Reduction**

DSM is defined in the DSM Report as "actions which result in sustained reductions in energy use (kWh, m<sup>3</sup>) for a given service, thereby reducing long-term energy and/or capacity needs." (at p. 3). At a general level consumer who installs distributed generation is reducing the long term energy and/or capacity needs of the province because each unit of energy consumed from that source equals one less unit of energy or capacity that must be withdrawn from the province's current portfolio of generation and transmission.

More specifically, DG can reduce transmission and distribution loss and therefore provides "sustained reductions in energy use". This sustained reduction is amplified where the distributed generation is a co-generation project. In that case, it can increase fuel efficiency from approximately 55% (representing the best combined cycle natural gas facility) up to approximately 80-90%.

Furthermore, demand reductions through distributed generation are likely to be more "sustained" than reductions through other activities because distributed generation involves the investment of physical plant that a consumer will seek to operate efficiently. By contrast, some other means of

DSM are behavioural decisions that consumers may or may not act upon. In other words, an engineering solution could be expected to lead to more predictable results than a behavioural solution.

Demand response is defined in the DSM Report as "actions which result in short term reductions in peak energy demand (MW, m<sup>3</sup>/hr)"(at p.3). The emphasis is thus on reducing system demand during peak periods. This is important because electrical systems have to be built to peak. Distributed Generation is typically installed to allow consumers to self-generate during peak hours, thus reducing exposure to peak prices: this is a key value proposition for distributed generation. As a result, installed DG will likely result in reduced demand on the existing transmission and generation infrastructure during times of peak demand.

In other words, distributed generation is part of the DSM solution.

### **Current Regulatory Barriers to Distributed Generation**

Despite the financial and environmental value of distributed generation, there are significant financial and regulatory barriers that currently prevent the benefits of distributed generation from being realized.<sup>2</sup> There is a growing recognition that these barriers should be removed so that distributed generation may be encouraged. For example, the Electricity Conservation & Supply Task Force ("ECSTF") Report states that:

"Distributed generation facilities should be able to compete on a level playing field with other supply and demand side initiatives. The level playing field should include consideration of system benefits including security of local supply, energy efficiency and emission reductions, and local commercial and industrial competitiveness." (at p.72)

### **The DSM Report's Recommendation**

The Generators are very concerned that the DSM Report does not provide any support for increased use of distribution generation. To the contrary, the DSM Report recommends disincentives for distributed generation. Specifically, it recommends that DSM activities be funded through a "non-bypassable consumption charge (kWh)" plus a consumption charge on natural gas. According to the report, "This charge would be levied on all consumers, including self-generators in electricity." (at p. 23)

As a result, if this recommendation is followed, a consumer who installs gas-fired distributed generation is contributing to the DSM solution, but, instead of being rewarded for that activity, is punished for it. For example, a gas fired generator who reduces system demand during a peak

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<sup>2</sup> These barriers are described and quantified as an estimated 1.4 cents/kWh in "Decentralizing Energy Security in Ontario", Task Force Report on Distributed Generation, August, 2003, at Table A.

period will be making a contribution to all customers but be required to pay an additional charge on both the gas consumed and the electricity produced.

This approach would put one more barrier on distributed generation. Given the need for new types of supply in the province, given the benefits of distributed generation, and given the ECSTF Report's endorsement of distributed generation, the DSM Report proposal seems misplaced.

In summary, the Generators submit that distributed generation is part of the DSM and demand reduction solution but faces a number of financial barriers imposed by regulatory actions of the Board. The Generators are very concerned that the DSM Report proposes to add to this burden by recommending a charge on distributed generation. This increased burden on distributed generation seems counter-productive in light of the need for new types of supply in the province, the benefits of distributed generation, and the growing public recognition of the value of distributed generation.

Thank you for the opportunity to comment on the DSM Report, and the Generators look forward to further participation in this project.

Sincerely,  
**MACLEOD DIXON LLP**



George Vegh

GV/np

c. The Generators