

BY ELECTRONIC MAIL AND REGULAR MAIL

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Ms. Kirsten Walli
Board Secretary
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Dear Ms. Walli:

**Re: IESO Response to the Power Advisory Report with Respect to Distribution
Generation: Rates and Connection, Board File No.: EB-2007-0630**

The IESO is supportive of the Power Advisory report on the development of a proposed standard methodology for the quantification of Distributed Generation (DG) benefits which was submitted to the Board on July 31, 2008.

The report provides useful insight on the various factors that need to be considered for quantifying the benefits of integrating DG with the IESO Controlled Grid. It will be difficult, however, to truly quantify all the underlying costs and benefits of DG and understand the complexities of implementing the various recommendations mentioned in the report. The benefits associated with DG will vary depending on the location, diversity, and impact of the DG facility. This, in turn, will lead to varying levels of benefits and credits for such facilities. The Board should recognize that in some locations, DG could in fact bring more costs than benefits. Therefore, where possible, the Board's methodology should capture the various scenarios for where the costs exceed the benefits that the DG brings to the system and recognize that the facility may still be required for the reliability of the system. Such scenarios may be rare or unique but should be considered as an acceptable cost of operating the system.

Careful consideration should be given to the manner in which distributed generators are provided incentives to operate in the electricity markets. The IESO observes that it is in the interest of these generators and the owners of these generators to provide output to local consumers when their marginal (incremental cost) is lower than the cost from wholesale market. The IESO would expect that the contract terms with DG facilities be designed such that the DG production is triggered based on market price signals. However, if this is not the case more expensive DGs might run ahead of cheaper transmission connected generation facilities. This would result in economic inefficiencies in the wholesale market.

The IESO would like to highlight some of the issues with the paper that needs to be clarified or addressed:

- The IESO believes that reliable estimates of achievable DG potential for Ontario should not be based on U.S. estimates but rather based on Ontario potential scenarios which could be estimated in consultation with the applicable entities.
- The Voltage Regulation Investments section does not take into account the costs associated with the coordination of voltage regulating devices (Under Load Tap Changers (ULTC), shunt capacitors, voltage regulators) when the distribution generation facility is controlling the voltage. This section should also consider the operating profile, reliability, and diversity of such facilities while calculating avoided voltage regulation investments.
- The paper assumes a 10% market adoption rate (10% of customers who have DG opportunities decide to go ahead with their proposal and install DGs – in 10 years, the full DG potential in Ontario would be used up). The IESO feels that there is no specific rationale for this number and seeks clarification on this assumption. The IESO believes that adoption rates should be based on history in other markets if possible.
- The “equivalent availability factor” or capacity factor is a significant aspect of the calculations as presented in the paper. This factor gives an indication of how much reliance can be placed on a particular DG facility. The paper has not, however, provided an approach to calculate this capacity factor or the various parameters that would be considered to calculate this factor.

The IESO believes that apart from the cost-benefit studies, the Board should also consider the following critical operational issues that could arise given the availability, reliability, penetration, and diversity of DG facilities:

- Distributed Generation facilities should be incorporated into the system without negatively impacting system performance. Currently, if a facility qualifies as a distribution generation facility, per the market rules, such facilities are not obliged to register as market participants thereby reducing the visibility of such facilities to the IESO. Though the present levels of DG do not pose an immediate system concern, the combination of increasing DG penetration and IESO’s lack of visibility into the DG operations is likely to become a greater concern in the future. We believe that there is a need to continue to closely monitor the growth and penetration of DG facilities in Ontario to ensure that reliability can be maintained. Additionally, the IESO feels that there should be adequate provisions to ensure that the IESO have this visibility of the DG operations and if required, for reliability reasons, be able to curtail the output of the DG facility.

- Changes in DG output from hour to hour that cannot be predicted by the IESO could affect the accuracy of the IESO's load forecast. Forecast errors can affect the overall efficient operation of the provincial grid. From a cost perspective, if there was to be a sudden increase in DG output in an hour which was not predicted by the IESO nor visible to it, this could show up in the Ontario wholesale market as an over forecast of load. This could result in the IESO "pre-dispatching" scheduled expensive imports that it would not have otherwise scheduled. It could also result in a generator with associated start-up costs being requested to start-up even when it was not needed. Both of these situations would result in costs being incurred that could have otherwise been avoided and these are costs that are ultimately borne by the consumers in the province.

The IESO thanks the Board for the opportunity to comment on the subject. We look forward to working with the Board on this matter.

Respectfully submitted,



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