August 24, 2007

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge St., Suite 2700
Toronto, ON, M4P 1E4

via electronic and regular mail

Dear Ms. Walli:

RE: CLD Comments on Board Staff Distributed Generation Discussion Paper
EB-2007-0630

The Board has invited comments from stakeholders on Board Staff's discussion paper on Distributed Generation (DG) rates and connection policies. The Coalition of Large Distributors (CLD) is comprised of Enersource Hydro Mississauga, Horizon Utilities, Hydro Ottawa, PowerStream, Toronto Hydro-Electric System Limited, and Veridian Connections. The CLD makes the following comments, first regarding certain policy matters generally, and afterward addressing the questions posed by Board Staff.

Summary of Comments on Certain Policy Matters

1. Distribution rates should not be determined or influenced by DG benefits and/or costs not directly realized by the distribution system. In particular, distribution rates should not be used to compensate DG operators for benefits they provide related to energy production or capacity, the environment, or other broadly socialized factors such as energy security.
2. Benefits that DG may provide to the delivery system (i.e., the combined transmission and distribution system) depend critically on the existence of a diversified portfolio of DG assets. Distributors cannot depend on individual DG units as substitutes for conventional distribution capacity, since the capacity provided by individual units disappears when they are not operating for any reason.
3. A diversified portfolio of DG assets may provide an alternative to new investments in conventional delivery infrastructure, but cannot avoid any sunk costs of the existing transmission and distribution networks.
4. Operators of load displacement DG should be charged on the same user-pay basis as other (load) customers for distribution system capacity reserved for standby purposes for them. Paying for reserved capacity (the level of which is elected by the customer) should not be considered as a 'barrier' to the development of DG, but rather as a regular cost of production in the same sense as fuel or generation equipment.

5. It would be worthwhile to assess the feasibility of implementing ongoing rates for merchant generators as a means of reducing capital contributions required for connection to the distribution system.
6. It is vital that any changes to regulatory practice, codes, and rates to accommodate DG be consistent with the ongoing, safe, and reliable operation of the distribution system.

Consideration of Benefits

The CLD is concerned that benefits that can be provided by distributed generation facilities (both load displacement and merchant generation) be carefully defined and categorized as applying either directly to the distribution system, or more broadly to the electricity system overall. Many of the benefits of DG are significant but apply to elements of the system outside of distribution, and are therefore not appropriate as factors determining either the level or design of distribution rates.

One of the principal benefits of DG is the provision of energy. Energy provided by DG, whether baseload, intermediate, or peak, directly displaces energy produced at central generation plants and may provide environmental benefits relative to those plants. However, the energy and/or capacity benefits produced by DG are entirely external to the distribution system and distribution rates should not be influenced by these benefits. It is appropriate to compensate producers of those benefits, but that compensation should be provided through other avenues.

DG benefits that may be realized on the transmission or distribution system are more complex since they depend critically on the degree of DG diversity that exists at system location being considered. At the lowest level of the electricity delivery system, a single DG facility on a single distribution feeder provides energy and generation capacity benefits, but it does not provide transmission or distribution capacity benefits. This is because its contribution disappears when the DG facility is not operating, and therefore both the transmission and distribution systems must maintain delivery capacity at the same levels that would apply in the absence of the DG.

Even at the feeder level, diversification of the DG facilities is a critical consideration in assessing any potential delivery capacity benefit. For example, a single 10 MW DG facility on a feeder provides no degree of diversity – it is either on or off. However, 10 independently operated 1 MW generators could offer a recognizable delivery capacity benefit since at any arbitrarily high level of confidence some number of them could be relied upon to be operational at any time. Assuming that the existing feeder had sufficient capacity at the immediate local level and that the diversified DG was neighbouring the load, such a configuration could postpone or eliminate the need for distribution reinforcement to serve new load.[1]

As the point of consideration on the delivery system is progressively removed from the feeder level, the degree of load and DG capacity aggregation naturally increases. A single bus at a transmission station has the potential to reflect DG capacity on several feeders, and the station itself has the potential to reflect DG capacity on several buses. As the level of aggregation increases, the diversity, and therefore the reliability, of the overall installed DG capacity increases.

[1] This does not imply that the DG and some local load could be safely operated ('islanded') in the event of a fault on the feeder. For safety reasons, it is imperative that a distributor have 100% assurance that a feeder that is required to be de-energized for any reason actually is de-energized, despite the existence of local operable DG.

This has two significant implications. First, at a sufficiently high level of aggregation, DG has the potential to serve as an alternative to new conventional investments in distribution and transmission capacity. If diversified and reliable DG were available to transmitters and/or distributors at a lower cost than comparable conventional investments, new load could be served more economically.

However, it is important to note that this prospect exists only with respect to new investments. No existing (i.e., sunk) costs of the transmission or distribution systems can be avoided or reduced by the introduction of DG.

Second, it is clear that diversification necessarily involves interdependence among DG units. In economic terms, diversification in this context is a classic example of an 'externality'. To the extent that one owner provides diversification (by installing several small units instead of one large one), that owner can 'internalize' the diversity benefit and market it in a conventional manner. However, it is likely that at any significant level of aggregation (for example, at the transmission station level), diversification will be created by a number of independent parties. Recognition of and/or compensation for delivery capacity created in this way would require instruments other than rates, since it does not appear to be possible to structure rates for a given customer conditionally upon the existence of another unrelated customer.

'Barriers' to Distributed Generation

The CLD supports the removal of unnecessary barriers to the development and operation of distributed generation. To this end, the CLD supports the exploration of alternative regulatory and rate design approaches that may be more conducive to the development of DG, but does not at this stage see an approach that is fully ready for implementation.

Standby Rates

The CLD does not regard the implementation of standby rates designed on a user-pay basis to recover distribution costs incurred as a 'barrier' to DG, any more than any other cost of production. The CLD takes the view that customers should have the option to contract for the level of standby service they consider appropriate in their circumstances, which could be zero. Nevertheless, it is clearly unfair and inappropriate for any customers, including DG operators, to receive service they are not prepared to pay for. This applies both to contracted standby demand quantities and to unauthorized contract overrun quantities, which should be subject to meaningful penalty rates.

In the case of standby service, a load displacement DG operator who reserves capacity for standby purposes actually receives standby service whether current flows in a particular billing period or not. The cost of the standby facilities is fixed and does not change with current flows. In this respect standby service is similar to insurance. Service is provided whether there is a claim in a particular period or not. It would be unreasonable for load displacement DG operators to reserve distribution system capacity to serve no-notice loads but expect other customers to bear the cost of the facilities when those demands do not materialize in a given billing period.

Connection Costs

At present, distribution rates are not charged to generators supplying power to the system. To the extent that connection costs must be incurred to connect a generator to the system, that implies that generators must cover those connection (and other) costs through upfront capital contributions.

The CLD has some sympathy for the view that this requirement for upfront capital contributions amounts to a connection barrier that is not imposed on load customers. However, the CLD does not agree that the alternative is to 'socialize' generation

connection costs, and views that as an unwarranted departure from the user pay principle that would unfairly transfer costs to other distribution customers and send distorted economic signals.

Instead, the CLD supports investigating the feasibility and desirability of implementing a voluntary rate applicable to merchant generators. On that basis, merchant generators (customers for whom connection capacity requirements are determined by their exports to the system, rather than their load) could voluntarily be subject to an ongoing rate, as an alternative to the current arrangement. With the resulting stream of distribution revenue included in the economic evaluation model, the required capital contribution would be significantly reduced.

Technical and Safety Considerations

The primary responsibility of distributors is to ensure the ongoing, safe, and reliable operation of their distribution networks. The CLD therefore must take the position that any regulatory, code, or rate design changes implemented to accommodate DG must be consistent with that obligation of distributors. In specific situations, that may entail restrictions or conditions on the connection and/or ongoing operation of DG facilities to ensure that standards for safety, reliability, and power quality are met.

Responses to Board Staff Questions

The CLD agrees that the risks associated with DG are different than those associated with traditional generation. These risks need to be assessed. The risks and considerations may also be different for specific types of DG:

- Load Displacement DG, where the customer reduces its load due to on-site generation; and
- Merchant DG, where the customer generates electricity specifically to sell into the grid.

In order to encourage DG, the CLD supports the need for economically appropriate Provincial incentives. Distributors need a regulatory framework that will keep the LDCs financially whole, particularly if incentives for DG are provided

Board Staff Discussion Paper Questions:

A. Standby Rates

Note: The CLD has considered standby charges for Load Displacement DG in addition to Merchant DG.

What might be a reasonable billing determinant for recovering demand-related costs?

The most appropriate billing determinants are those that best reflect the costs incurred by the distribution utility in serving that particular customer. Since distribution costs are largely a function of maximum customer demand, the Board should use the DG's maximum demand or a negotiated contract demand, as billing determinant for standby rates. For Load Displacement DG, there should be an overrun penalty rate as an incentive to establish the appropriate contract demand. The contract demand could represent the maximum total load expected by the customer in the event the DG is not running, and could reflect load-shedding capability where appropriate. For Merchant DG, a contract demand can be negotiated at a level to provide startup power for the generator, where required.

Should standby charges be further differentiated between backup, maintenance and supplemental services?

There is no need for a differentiation in standby charges since distribution costs do not vary according to the customer's purpose for the power. In order to achieve equity with regular load customers, DGs should pay for any additional usage, or reservation, of delivery capacity. With a per kW demand charge based on maximum contract demand, the expected load for backup, maintenance and supplemental service will be taken into account.

B. Benefits of DG

The CLD recognizes that there can be benefits from DG in terms of system reliability and reducing both system constraints and future system investment.

How should any distribution and transmission benefits provided by DG be identified and quantified?

Since the system benefits of a DG are dependent on the specific project, DGs should be reviewed on a case by case basis, considering all factors. A standardized and consistent methodology should be used to identify and quantify benefits, with distinctions made between distribution system benefits and transmission system benefits. Diversity is an important factor to consider, since many small DGs in one area can provide more reliability than one large project.
Benefits should be related to avoided costs only, since sunk costs related to the distribution system do not change with the addition of new DG. Avoided costs become a factor in rate setting and are accounted for at that time.

Should a different approach be adopted depending on the size of the customer?
The size of the DG should not be a differentiating factor; all projects should be looked at individually. A smaller project could provide more benefits than a large DG. As an example, there could be significant benefit from a smaller, strategically located DG, while a large DG could be poorly located from the distributor's perspective.

Should any incentive provided to customers with load displacement generation be recovered from all customers?

To the extent that the DG can provide a low cost capacity solution where needed on the system, this lower cost benefits all ratepayers. Therefore, if the DG can provide supply at a lower cost than an alternative, the LDC may contract to have them build in a strategically beneficial area, and the DG will be paid according to negotiated contract terms. All customers should be responsible for paying for this incentive to the DG, assuming that the incentive is less than the avoided cost.

In other situations, we must look at benefits of a specific DG (or a group of DGs) and determine appropriate ways to share savings, through rates or connection costs, such that they have incentive to locate where there are constraints on the system.

C. Rate Classification

Is a separate classification warranted for DG customers?
A separate rate class is not needed for Load Displacement DGs or for start-up capacity for Merchant DGs provided appropriate standby charges are employed. Load Displacement DGs and start-up capacity for Merchant DGs should be charged under the same rates as regular load customers. However, a separate rate class should be considered for Merchant DG if the connection costs are absorbed by the LDC and applied to a separate rate base for this customer class. This is discussed further under "Connection Costs" below.

Should it apply only to larger DGs, and what is an appropriate threshold for a generator rate class?
The CLD does not feel that a separate rate class should be based on the size of the DG. Although the effect of one small DG on peak load is minimal, there may be exceptions where a group of smaller DGs in the same area could have a greater impact on system congestion. It may be appropriate to have a threshold lower than 500 kW depending on the load characteristics of the DG. Case by case consideration is necessary to establish rates.

Are there other criteria to justify a separate rate classification for a subset of DG customers?
A separate rate class is appropriate only if a customer is distinguishable in a material way from all other rate class members, for example, a Merchant DG which is selling into the grid rather than using electricity, or Load Displacement DG where standby charges are not allowed.

D. Revenue Losses

Has net revenue loss due to customers with load displacement generation been material? How might net revenue loss be quantified? How might the Board determine an appropriate method to compensate LDCs for such loss?
It is clear to the CLD that revenue loss *would* be material if not for the existing standby charges in place. It should be noted that existing standby charges are approved by the OEB as "interim" and if they are eliminated on a retroactive basis, the losses would be substantial. Even with the current standby charges, all costs may not be covered, resulting in some revenue loss. Properly designed standby charges will result in no revenue loss, and therefore no need to quantify losses or compensate LDCs for them.
Without properly designed rates, revenue loss could be quantified as the lost distribution rate revenue for the load displaced (the LRAM approach may be appropriate since DG has similar results to CDM). The distributor must include information on load loss in its system planning to the best of its ability.

E. Connection Costs

What alternatives to the status quo (user pay) should be considered and what rationale applies?
User pay is a reasonable option to cover the cost of connection and it will not present a barrier to economic DG. However, many options could be considered as long as the LDC is kept whole and incentives are based only on avoided costs. If these objectives are met, cross-subsidization will not be an issue.

One option, which is not necessarily supported by all LDCs, involves the LDC paying for the connection costs and putting the costs into a separate rate base. In this case, investment returns must be balanced with the increased risks, considering that the economics of these generators is, in many cases, marginal. At a time when many LDCs have increasing capital requirements related to replacing aging infrastructure, Smart Meters, and so on, an additional capital requirement for funding connection costs could put undue pressure on the availability of capital. This option requires further discussion and analysis.

Other options should also be considered. If several methods of managing connection costs are available, the DG and LDC will have greater flexibility.

If connection costs are socialized, is there a risk of uneconomic DG going forward?
If connection costs are *fully* socialized (i.e. the cost reduction is more than the system benefit or avoided cost), it would increase the risk of uneconomic DGs going forward; however, incentives (which could involve lower connection costs or including reduced

connection costs in rate base) would be economic if they were in recognition of the system benefits or avoided costs provided by that particular DG.

How can this risk be mitigated or avoided?
Any risk of uneconomic DGs going forward would be mitigated by ensuring that rates applied to DGs, while reflecting real system benefits in some manner, remain cost-based.

Would socialization of connection costs affect the incentive for LDCs to design economic connections?
The LDC is motivated by its shareholders to provide low cost, reliable service to all customers. This would include economic connections for all rate-payers including DG. Design standards are not dependant on who pays the connection costs. Rate-payer socialization will yield different results depending on the distributor. If a relatively large DG locates in a small distributor's area, the impact on rate-payers could be significant and the benefits could extend to the system beyond the local area.

Yours truly,

(Original signed on behalf of the CLD by)

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