FOCA’s comments on Board Staff Discussion Paper regarding a proposed framework for determining direct benefits for LDC customers under O/Reg 330/09, Board File EB-2009-0349

Background Comments;

1. It is apparent that an increasing majority of Green Energy Act (GEA) initiated renewable energy projects will be in Hydro One’s service territory. MoE setback regulations for wind turbines will pretty well eliminate such projects from densely populated areas served by the majority of LDCs in Ontario. Likewise, there are minimal hydraulic resources in high density areas. It may well be that small solar PV installations can be developed in major urban centres, but restrictive municipal zoning by-laws could curtail their development.
2. Therefore load customers of Hydro One are highly vulnerable to shouldering an excessive and unjust burden of the costs of GEA and regulations emanating from it. This is evidenced by Hydro One’s request for major ongoing increases in distribution rates in its current EB-2009-0096 application. Much of the increase is to fund investments and OM&A costs flowing from the GEA.
3. The OEB has already determined there will be a ratepayer funded subsidy of up to $90,000/MW for connecting renewable generation. It is important this subsidy be considered when determining the direct ratepayer benefit calculation in O/Reg 330/09.
4. In all of the “Who Pays” issues, it should be remembered that LDCs have a distinct incentive to load as much renewable enabling capital into their rate base so they can earn a return from ratepayers on it. We saw this in Enbridge’s request to enter the renewable energy business and put the capital into their rate base. As well, the GEA permits LDCs to enter the renewable business, giving them an even greater incentive to load renewable energy capital into rate base.
5. The following comments rely heavily on Hydro One’s current rate application which includes its Green Energy and Smart Grid plans. This because Hydro One will be THE major player in renewable energy connection. They will no doubt have a major influence in setting the “who pays” rules..

Comments on Discussion Paper

Reduced transmission and WMSC Charges

It is apparent that a significant amount of renewable generation will reduce these costs to LDCs just as CDM and distribution connected non-renewable generation do. However, there will be a resulting shortfall in transmission revenue to be made up by an increase in transmission rates. So the increase in transmission rates should be subtracted from the reduction in the direct benefit flowing from reduced LDC demand. This could reduce the benefit to an immaterial level Hydro One has not included these calculations in its current rate application.

If this benefit is deemed to be material, the ex-post method of calculation is appropriate and less expensive. If an ex-ante approach is used, the projection of future wind and solar power will be quite futile and would have to be followed by an ex-post true-up in the following year. That is, an ex-ante forecast is probably a waste of time and money.

Hydro One has a significant number of customers with small PV installations currently being billed under the “net billing” regime. It is likely that some or all of these may convert to microFIT billing by the addition a 2nd meter on generator output. They will then pay the full variable component of distribution and transmission charges and be credited for generation at 80.2 cents/kwh. The net result will be an increase in LDC revenue for delivery charges for all energy consumed on the premises. No estimate is available for this increased source of revenue.

Improved Capability of Distribution System for Load Customers

This is a benefit that is virtually impossible to quantify without looking at each individual investment or upgrade. It should be handled the same way line extensions and upgrades are for load customers. That is, if a new load customer wants to connect to a line that was paid for by a generator, a capital contribution would be required from the new load customer and refunded to the generator.

It is difficult to see how Renewable Enabling Improvements (REIs) are going to benefit load customers. With the possible exception of SCADA for Distribution Stations, all of the items in the list are necessitated by 2 way power flows caused by generators and provide virtually no improvement in service quality to load customers. Rather, they prevent massive deterioration in service quality that could be caused by new generators. Due to unpredictability and absence of frequency or voltage control, renewable generators are of no use in maintaining service to a small area during a major system outage. That is, when the system goes down, renewable generators must come off-line too. With the exception of SCADA, all of the REIs in the list should be considered Eligible Investments rather that Direct Benefits for reasons stated above.

Renewable generators have a large financial interest in a secure distribution system because a grid outage means no revenue. For load customers, a medium duration outage is a nuisance but has little or no financial impact.

The Owen Sound Smart Grid pilot should be carefully monitored to determine if there is any material improvement to service quality to customers in that area. A single year may not be sufficient for an accurate assessment. If it doesn’t result in any improvement, then these costs should not go into rate base. The Board Planning Guide G-2009-0087 states that costs related to the Smart Grid should go into a variance account with a funding adder. Hydro One, on the other hand wants to put these costs into rate base. This is not appropriate as the “who pays” rules are not yet established.

Finally, most outages are caused by trees. Service quality for most Hydro One customers can only be improved by an enhanced vegetation management program. Traditionally, load customers have paid for all of these core programs, but they do benefit generators as well. Perhaps some of these costs should be shifted to generators, proportional to their financial benefit.

Proposed Guiding Principles

The guiding principles are very general in nature. For those, like Hydro One, having a large number of renewable projects, implementation will be very complex and highly subjective. For those having no or only a handful of projects, implementation should be fairly straight forward. MicroFIT projects are unlikely to require any system upgrades so no analysis is required. I can make no suggestions on refining or adding to the guidelines and can make no comment on questions 5-14.

Line Losses

Board Staff have correctly observed that line losses are not necessarily reduced by virtue of distributed generation. Some examples where line losses increase are:

-There will be new losses in a dedicated line connecting a generator to the grid.

- If a wind turbine is operating full out at night or on a weekend when load on the system is low, higher losses will be created.

-Wind comes at unpredictable times and quite likely will not coincide with the system peak.

On the other hand, solar output will likely be maximum on summer days when air conditioning loads are high, hence reducing both distribution transformer and line losses. Only time will tell if there is a significant change in system losses.

Summary Comments

1. Board staff correctly consider the guidelines to be transitional and evolutionary.
2. It is very likely that load customers of LDCs and especially those of Hydro One will see no direct benefits from the addition of renewable generation to distribution systems. In contrast, Hydro One’s current rate application indicates unusually large rate increases for load customers, mainly as a result of the GEA.
3. Without major changes to protection and control systems, necessitated by new generation, it is likely that service quality to load customers would decline significantly. The inevitable failure of generator protection and anti-islanding schemes could cause serious damage to equipment of load customers due to uncontrolled voltage and frequency.
4. It is suggested that all generators, renewable and otherwise, be set up as a separate class (as in the case of microFIT) so they can assume liabilities as a group for potential damage to load customer equipment and to bear their fair share of costs of extending, upgrading, operating and maintaining the distribution system.

John S. McGee, P. Eng.

Consultant to FOCA

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