August 11, 2008

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
P.O. Box 2319, Suite 2700
2300 Yonge Street
Toronto, Ontario
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Dear Ms. Walli:

Re: Transmission Connection Cost Responsibility Review
Board File No. EB-2008-0003

Pursuant to your letter of July 8, 2008, attached please find AMPCO's comments on the Staff Discussion Paper: "Generation Connections, Transmission Connection Cost Responsibility Review", dated July 8, 2008. Our technical consultant Mr. Wayne Clark prepared these comments on behalf of AMPCO.

Please contact me if you have any questions or require any further information.

Sincerely yours,

Adam White
President

Copy to: Wayne Clark

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Comments on Staff Discussion Paper:
"Generation Connections"
Transmission Connection Cost Responsibility Review
Board File No. EB-2008-0003

Introduction

AMPCO member companies are among the largest direct individual users of transmission services in Ontario. As well, other AMPCO members are served by Local Distribution Companies (LDCs) and are among the largest indirect users of transmission service. Transmission service costs as a whole are the second largest electricity cost for AMPCO members, after the commodity cost.

Thus, AMPCO members are keen stakeholders in any issue affecting the transmission assets serving Ontario or the way in which transmission revenues are recovered.

As an association representing loads and not generators, AMPCO is not in a position to provide specific comments on the nature of contracts and some of the more detailed issues regarding financial commitments or specific needs of renewable generators, etc. However, AMPCO is positioned to state the needs of customers in terms of risk management and allocation, fairness principles and how ratepayers should ultimately pay for transmission services.

Our comments are in two parts. The first is comprised of general comments on the issue. The second part consists of detailed responses to the specific questions at the end of the paper.

General Comments

As communicated in the staff paper and the IPSP, the issue being considered seems to be a conundrum around how to get "enabler" lines constructed to areas where a group collection of small, independent generators need to locate in order to access locally available renewable resources.

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The perception of need for enabler lines appears to rest on at least two key assumptions. The first is that the OPA does not have the authority to secure enabler facilities on its own, which leads to the Board having to figure out how to facilitate development of these assets. The second is that the renewable resources to which the enabler lines connect will be owned by more than one company. If either assumption is incorrect, then the need for a special class of connection would disappear.

From the IPSP and the stakeholder sessions, there appears to be only three of these lines that will be needed over the IPSP plan period, all of which are tentatively required by 2015. A fourth, Little Jackfish- East Lake Nipigon appears to be somewhat different in character since OPG will need to fund a connection to Little Jackfish in any event, and the cost of the connection to the hydroelectric station would appear justified by the size of the generation project.

Given that only a small number of these projects are required in the next couple of years, the Board may wish to approach this issue with a cautious, incremental approach that minimizes risk and is flexible to accommodate lessons learned. Related to this, it should be considered that any process or policy put in place as a result of this review may survive the IPSP and/or the current policy regime, possibly with unintended consequences. Again, prudency and a long view suggest caution.

Responses to Specific Questions

1. Is it appropriate to change the current policies for the provision of generation connections as it applies to enabler lines?

For a policy change to be required, the Board should first assure itself that the two basic assumptions driving this review are correct.

Restrictions on OPA Re Enabler Facilities

Firstly, does the OPA truly not have the authority to secure connection facilities for renewable energy? If the OPA has the authority to secure "enabler" facilities, then policy changes may not be required.

The assertion that the OPA does not have the express statutory responsibility under the Electricity Act seems to have been accepted at face value, and this restriction seems to be the driving force for this review.

While 35(1) of the Electricity Act 1998 does not expressly direct the OPA to secure transmission resources, it also does not appear to expressly preclude the OPA from securing connection facilities for these resources in order to meet its obligations under sections 25.31 and 25.32.

It may be argued that 25.2(5), the clause outlining the powers of the OPA, includes the securing of "enabler" facilities. Paragraph (c) of this clause states that the OPA has the power "to enter into contracts **relating to** the procurement of electricity supply and capacity using alternative energy sources or renewable energy sources to assist the Government of Ontario in achieving goals in the development and use of alternative or renewable energy technology and resources" (emphasis added)." Since the only reason for enabler facilities is to provide the facilities necessary to secure the renewable resource, it would seem that contracts for enabler facilities would in fact fall under the definition of "relating to" procurement. If this was not anticipated in the writing of the Electricity Act, then one might have expected the wording to have been **for** the procurement of electricity supply and not the more flexible "**relating to**".

Board staff may wish to seek an independent opinion on the restrictions, if any, that the Electricity Act 1998 places on the OPA with respect to securing transmission connections for renewable resources. If in fact the OPA does have the power to secure enabler connection facilities, than the Board may not need to make changes to any code or policy to accommodate these connections.

Multiple Generators per Renewable Zone (clusters)

Are the renewable energy zones identified by the OPA actually going to be supplied by more than one generator each? If they are not, then discussion of enabler lines is unnecessary. This assumption seems to be based on situations in California and Texas, where clusters of generators have appeared or already existed, in excess of what is being contemplated for the zones in Ontario. For example, the Tehachapi area in California appears to have a wind capacity of 4,500 MW. In these areas where resource capacity is quite large, economies of scale may readily accommodate multiple generators. The same may not be true of the Ontario zones, where the resource seems to be in the hundreds, not thousands of megawatts.

The general trend in most infrastructure industries, once the assets are "built out", is for consolidation to occur as the more efficient or larger companies acquire competitors. This is happening in communications, energy and transportation sectors, among others. It seems difficult to envision that Ontario will not experience similar consolidation of ownership in renewable energy, unless there are policy disincentives in place.

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If consolidation is likely in any event, then a policy or process framework that encourages a single developer per renewable energy zone may be the most effective and efficient approach, obviating the need for a special process and permitting the status quo option to continue.

2. Do you agree with the definition of enabler lines as proposed and, in particular, that: (a) enabler facilities are those that serve multiple generation facilities with different owners; and (b) the revised policies apply only to those enabler facilities that are part of an approved IPSP?

The broad definition in the paper is correct but insufficient, in that it does not appear to contain a good technical definition of an enabler facility. Having clear and crisp definitions will be needed as part of the process to review development proposals and if any of the enabling facility costs are socialized. There are several issues that should be addressed in order that policy and process can be developed in a clear and orderly manner. Some examples of the current ambiguity:

- It is unclear whether an enabler facility begins with a network connection or may actually be an extension of an existing line or transformation connection. The difference between the two could be important when assigning assets to pools. For example, the East Nipigon wind resource will logically be connected to the future OPG generation connection facility to Little Jackfish. It is hard to see how such a connection could be classified as a network pool asset.
- It is unclear where an enabler facility ends and a (generator) customer connection begins. This applies to both geographic (i.e., where in the renewable zone should the terminus be placed and who decides or influences this decision) and technical (e.g., is the terminus a transformer, breaker, line connection, etc.)
- Can "enabler" facilities also serve loads and do they cease to be enablers when loads connect to them? This could be important, as it could affect how loads pay transmission charges and how cost is recovered from new loads.

There is no obvious reason why an enabler facility, as defined for the purpose of this particular process development, needs to be part of an approved IPSP. In the future, the government may issue specific directives concerning new renewable energy zones or even direct the construction of enabler lines to serve load aggregations that could develop remote from existing transmission facilities.

3. Do you agree with the proposed process in the Pooling, Hybrid and Shared options that once the IPSP is approved, the Board should undertake a process to designate a transmitter as responsible for the development phase of the enabler facilities? If not, what process should the Board use to ensure the development work on the enabler facilities proceeds?

Clearly, some process is required to select the transmitter that will develop the enabler facilities. Also, the timing of this selection may be difficult, given the relative project duration requirements for transmission facilities and wind energy development. More generally, fast project schedules are usually more economic than slow ones for a number of good reasons related to the exigencies of large projects. So, the relatively short timeline from IPSP approval to transmitter selection seems a worthwhile objective.

To preserve contestability of the construction and ownership of the enabler facility, the definition of "enabler development" will have to be concise, to mitigate as much as possible the "incumbent" advantage the development transmitter will have when preparing the leave to construct application.

For example, the definition of development should specify an accuracy band for the project cost estimate, which the development party would be willing to live with (i.e., project costs above the band would not be recoverable from either ratepayers or generators and project costs below the band would be returnable to ratepayers or generators).

To have an accuracy band of plus or minus 10% for this type of project will typically require development costs of around 3-5% of total project cost. Since timing considerations require that development proceed before generators have made commitments, development costs should be capped in this area, to minimize stranded cost risk.

The transmitter selected for developing the enabler project plan should be directed, as much as possible, to develop a project plan that is executable by other transmitters.

Another requirement for the preservation of contestability should be that any rights or permissions acquired, or commitments made as part of the development process, be transferrable to another party, should a competing leave to construct application be successful. Since lead times for some enabling facility equipment such as power

transformers can be longer than two years, this will be necessary if construction schedules as short as two years are to be realized.

A further complicating factor for contestability revolves around the recovery of development costs by a transmitter that subsequently is unsuccessful in its application or chooses not to apply for a leave to construct. The usual mechanism would be for the development transmitter to request permission to capitalize the development costs and then to recover such costs through rate base. This runs the risk that development and construction costs would end up in two different portions of whatever asset pool enablers are in, which could become a complicating factor in later years if the pool concept is modified.

The Board should consider having the leave to construct transmitter acquire the "development" asset from the development transmitter, so that all costs for the enabler facility end up in the same place. This approach would eliminate future issues about depreciation of development "assets", co-ordination of write-offs or write-downs, etc.

Finally, one way for the Board to truly encourage contestability would be to open up the selection of the development party to non-transmitters, such as engineering firms. Transmitters typically farm out some or all of this work to qualified engineering firms, so there is no particular reason why transmitters should be the only parties qualified to develop transmission projects.

4. Is the timing for the Request for Expressions of Interest and request for Proposals relative to the stage of the development work on the enabler facilities appropriate?

Since wind generation projects can be completed in as little as two years from contract approval, and securing financing may be to some degree contingent on knowing the likely cost of transmission connection, the proposed timing appears appropriate. It may be possible to compress the schedule somewhat by having one deliverable of the enabler development project, the production of an intermediate quality project estimate (plus or minus 20%) at about half way in the development project. This would allow potential generators to bracket their transmission connection cost, so that they could produce contract proposals earlier. In other words, careful development of the deliverables of the development project could enable some overlap between the generation and transmission project schedules. Some creativity in generator contract development would also be necessary to accommodate the final connection cost outcome, but the OPA is already well experienced in developing contracts for differences.

5. Should the costs of the enabler line be recovered from transmission ratepayers or generators?

So far as practical, connection costs, including enabler facility costs, should be recovered from generators. It is recognized that generator customers will generally end up paying in any event. However, generator customers and Ontario transmission ratepayers are not always the same. Mainly, considerations of economic efficiency and fairness require that generators pay for the connections they use.

Whatever option is chosen, new generators should not be provided with an unfair competitive advantage over those that have paid for their connection.

The Board needs to be mindful of the fact that renewable generation and transmission assets will be in service long after the OPA contracts have run out. Any advantage conferred on one group of generators over another will survive the IPSP and likely, the policy directives directing their development.

The staff paper has also articulated quite well the economic efficiency issues associated with the Pooling option.

In stakeholder sessions and often in other fora the argument has been made that the cost of enabler lines should be directly socialized, as the renewable energy being developed is beneficial to society in general. The root of this argument is that these supply resources are morally superior to others that have paid for their connections. All forms of generation have both good and bad features and such arguments must be rejected.

AMPCO strongly opposes the concept of completely socializing the costs of enabler lines.

6. Should the costs associated with the unsubscribed portion of the enabler facility's capacity be recovered from transmission ratepayers (as in the Pooling and Hybrid options) or should they be paid by generators (as in the Status Quo and Shared options)?

This may not be the "either/or" question it appears to be.

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The OPA appears to have done a careful job of evaluating the potential capacity of the renewable energy clusters, but it is a practical certainty that some of its estimates will prove incorrect.

Additionally, the staff paper does a good job of outlining the conundrum around obtaining generator commitment at a time that may be years in advance of the generation projects, due to the length of time required to develop and construct the transmission assets.

Before discussing how unsubscribed assets should be paid for, the means to minimize excess capacity risk needs to be considered.

Minimize Unsubscribed Capacity

Unsubscribed capacity needs to be called what it is: a stranded asset. No process should be explicitly designed to enable stranded assets to be built in the first place. Asset stranding is a real risk and the means to deal with it if it happens need to be developed as part of this process.

This process development needs to carefully review all the options for minimizing asset stranding before considering how to pay for it when it happens.

There are at least a couple of routes that can be taken to minimize stranded asset risk.

The first is to secure financial commitments from interested generators that are sufficiently robust to provide confidence that the risk of asset stranding is minimized.

In the case of Texas, it is noted that the level of financial commitment from generator developers is a key part of the decision concerning the development of transmission serving CREZs.

California appears to have developed rather looser and more relaxed criteria in the form of a 25-30% subscription rate through Large Generator Interconnection Agreements (LGIAs) as well as a further 25-30% of "tangible" interest. It is unclear what financial or other surety is required in an LGIA and the "tangible interest" concept appears to be loose and subjective at best. From the discussions at the July 22nd stakeholder meeting, it appears that this approach may have resulted in considerable excess capacity in California, to the detriment of all ratepayers.

The size of the renewable energy clusters in Ontario appears to be significantly smaller than those in California or Texas. Assuming that scale economies are relatively consistent across jurisdictions, this likely will result in fewer generator proponents for each "cluster".

If there are to be fewer generators per cluster, the problem of obtaining commitment could be simplified. Also, the threshold for percentage of firm commitments before building the enabler facility could be much higher than in California.

The OEB should be assured that financial commitments are in place to use a majority of the capacity of an enabler facility before it hears a leave to construct application.

To make such commitments more palatable to generator proponents, other mechanisms besides direct capital contributions may be considered. Many utilities provide a letter of credit that can be drawn on as costs are incurred. As well, other forms of surety may suffice. Generator proponents may have a number of possible options to suggest in lieu of an up-front capital contribution.

Whatever prudential mechanisms are selected, they must be sufficiently robust to discourage cancellation and renegotiation at a later date, after leave to construct approval.

Design and Build Assets to Minimize Stranding Risk

Another option to reduce the risk of asset stranding is to build fewer assets from the start. There are two non-exclusive approaches for this option.

The first is to build the initial enabler facility with, as close as possible, only those assets that will be required to serve those proponent generators that have provided firm financial commitments to build. At the technical level, this can imply such strategies as stringing only one circuit of a double circuit transmission line (perhaps at a lower transmission voltage), sizing the transformers at the terminus smaller (add more as generators are added), and installing only those switchgear structures and circuit breakers as are needed for the initial phase. In short, design and build the enabler facilities in phases to minimize the risk of over-capacity.

The second approach is to explicitly risk under-capacity on occasion by sizing the enabler facility at less than the sum of the potential generation in the cluster. This would recognize the reality that most renewable resources, wind generation in particular, seldom operate at full capacity. Many if not most of the hydroelectric

resources contemplated in the IPSP are also energy limited, especially outside of the freshet season.

If the enabler facility is under-sized relative to the sum of the total nameplate capacity of the potential generation, then the constructing transmitter can initially collect capital contributions for the enabler capacity based on generator "nameplate" and then rebate portions of this contribution later, as other generators decide to build.

This approach would basically mirror the reality of the current transmission grid, where not all resources and loads can run concurrently and at full capacity.

For those rare occasions when the total available generation from the cluster exceeds the thermal limits of the enabler facility, some of the generation could be "constrained off" by the IESO, holding the generators harmless.

An approach that combines the suggestions above could minimize the risk of asset stranding, at some increased risk of constraint payments. This should be preferable to accepting a high risk of stranded assets or of excess assets serving the clusters.

Assign Stranded Asset Costs Correctly

As no option other than the status quo can completely eliminate the risk of ratepayers having to pay some cost for stranded assets, the issue of pool selection still needs to be addressed.

Enabler lines are functionally not part of the network pool. Ignoring the 85% ratchet, network pool costs are recovered based on demand at the time of the monthly peak. The structure of the network pool charge determinant is explicitly designed to recognize the way in which customer behaviour drives the need for network assets.

The design of the enabler facilities under consideration in this process is not being driven by the same needs. Rather, they are largely being constructed to connect generation that is intermittent in nature, and supplies power based not on customer demand at the time, but on the availability of the energy resource (e.g., wind).

For cost allocation and price signal reasons, it would not be appropriate to include enabler facilities as part of the network pool. Also, the nature of the generation being connected to enabler facilities suggests that the appropriate charge determinant should be energy and not demand. This appears to be how the transmission access charge (TAC) operates in California.

A second problem with assignment of enabler lines to the network pool is that they may not actually be connected to network pool assets. For example, if some enabler facility is required for the East Nipigon wind resources, then the physical reality could be a network asset connected to the grid through a connection asset.

Assigning enabler assets to the network pool could also result in problems when loads connect to "enabler" facilities, as they surely will at some point. If enabler facilities are defined as part of the network pool, then loads connecting to these facilities could logically argue that they do not need to pay line or transformation connection charges. Other customers may see this as discriminatory. Treating the enabler facility as a line connection for one purpose and a network pool connection for another purpose would be equally problematic.

A different discrimination problem is produced if enabler lines are defined as connection assets, but generator contributions are insufficient to recover the full cost of the facility. In this case, the unrecovered cost of the line and transformation connection facilities would be socialized only across the subsets of customers using those pooled assets. This would be an inequitable outcome.

The logical solution to the issue of unrecovered cost of enabler facilities is a separate asset pool. This is not difficult; a new asset pool was set up in EB-2006-0501 for wholesale meters, to more accurately allocate cost to the benefiting users. Since enabler lines primarily serve to provide energy and not to meet demand, the logical charge determinant would be energy.

Conclusion

AMPCO is supportive of the Board giving careful consideration to the issue of enabler facilities before the IPSP is approved.

However, AMPCO strongly believes that unwarranted socialization of cost should be avoided wherever possible, in order to preserve the principles of fairness, non-discriminatory access and equally important, to promote economic efficiency. Arguments based on social value assume a consensus that does not exist.

In the event that some cost may have to be socialized, the recovery of such cost should be from all customers and allocated based on energy to reflect the delivery characteristic of the renewable resources being considered.

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However this process is designed, it should contain mechanisms that encourage real contestability for construction and ownership.

Finally, while process development should proceed, the Board should carefully determine if in fact a special Board-approved process and policy changes are needed to accommodate these developments.

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