



APPrO

ASSOCIATION OF
POWER PRODUCERS
OF ONTARIO

Electricity Transmission and Distribution in Ontario – A Look Ahead

Comments by the Association of Power Producers of Ontario (APPrO)

February 28th, 2005

Introduction

APPrO is the collective voice of generators in Ontario: a non-profit organization representing more than 100 companies involved in the generation of electricity in Ontario. APPrO members produce power from co-generation, hydro-electric, gas, coal, nuclear, wind energy, waste wood and other sources. Our members currently produce over 95% of the electricity made in Ontario, and include both investor and publicly owned generators.

APPrO's mission is "To promote the interests of electricity generators within a open and competitive power industry in Ontario."

APPrO's objective in electricity restructuring is an open and competitive power industry in Ontario with multiple sellers and buyers, providing reliable supply and incenting reliable and economically efficient supply, supporting private sector investment and appropriate allocation of risk, and providing a healthy, equitable and environmentally responsible business environment.

Despite continued demand growth in world and North American energy markets, investments in energy supply and infrastructure (which includes electricity transmission and distribution) in Ontario are lagging. A new reality of higher prices coupled with very large investment needs for new and replacement capacity as well as new technology and environmental improvements has put energy back into the public policy and investment climate spotlight.

In short, energy has become a strategic issue because energy is the essential underpinning to much of Ontario's economic prosperity.

As Ontario discovered so graphically in August 2003, with a blackout that affected 50 million people and 61,800 MW of electric load in Ohio, Michigan, Pennsylvania, New York, Vermont, Massachusetts, Connecticut, New Jersey and Ontario, electricity has value well beyond that normally recognized in its price.

Most important, though, it illustrated the central importance of electricity to the functioning of modern society. It also revealed the vulnerability of our electric system and raised serious questions about the management and operation of the North American electric system.

It underscored a key issue for all participants in Ontario's electricity sector: it's about security and reliability for Ontario's citizens, and affordability both for individual consumers and to support the industries on which they rely for jobs.

APPPrO has argued that the overall policy framework for Ontario's energy industry needs to be clear, stable, and sensitive to the competition for investor capital: Ontario needs an energy framework that reconfirms its commitment to a rules-based, competitive approach to energy investment and supply. If our policy and regulatory processes are clear, efficient and effective, these and many other attractive features will ensure we are a destination of choice for energy investment.

All investors in generation, transmission and distribution (private and public) recognize that their investments are for the long term. A stable energy framework is necessary in order that infrastructure capital costs and financing can be spread over a long period.

Uncertainty makes it difficult to predict industry structure or market models, and this deters long term, large-scale capital investment.

Given the long lead times required to bring new capacity and transmission on-line, we need to stabilize our energy policy in order to provide a more certain foundation for the sector over the long-term, and to attract new investment to Ontario. A period of regulatory and legislative stability will demonstrate that Ontario is a solid jurisdiction in which to invest.

In this context, APPPrO is pleased to submit comments in response to the Ministry of Energy's consultation paper Electricity Transmission and Distribution in Ontario – A Look Ahead dated December 21st, 2004. The province is at an important stage in the development of policy which will fundamentally impact the evolution of the overall industry framework under Bill 100. The sector strategy for

Transmission and Distribution is important, both in its own right and for its major impact on generation investment and operation in Ontario.

The Ministry's consultation paper identifies the challenges largely from the perspective of the participants in the transmission and distribution sub-sectors. It is important that Ontario transmission and distribution issues be viewed in the broader industry context, and that the policy solutions drive towards the safety, reliability and economy of supply to consumers in a way that is stable and sustainable for the whole electricity sector. APPrO therefore focuses its comments on the issues where there is strong interaction with the supply sub-sector.

We have consulted widely among our members in the preparation of these comments in order to identify the Transmission and Distribution issues with the strongest interaction with generation investment and operations, and these comments therefore represent broad consensus amongst APPrO members on those issues. As always, APPrO recognises that its individual members may also be submitting their own comments representing their own particular interests or perspectives.

Sector objectives and guiding principles for policy development

As a basis for our comments we have identified certain principles that we see as guiding the present round of policy development, namely that objectives of such policy development must include:

- ◆ Electricity delivered to consumers must be safe, reliable, and economic.
- ◆ The Electricity sector must provide such supply to consumers on a sustainable basis.
- ◆ The sector must attract the human, technical, and financial investment resources necessary to achieve these objectives.
- ◆ Policy must be consistent between the hybrid (mixed regulated and competitive) generation sub-sector and the regulated transmission and distribution sub-sectors.

APPrO's believes that these objectives are best achieved within the supply sub-sector through an open and competitive generation sub-sector in Ontario with multiple sellers and multiple buyers, providing reliability and operating under competitive incentives to provide economically efficient supply, supporting private

sector investment and appropriate allocation of risk, and providing a healthy and equitable business environment.

The Integrated Power System Planning process and supply adequacy

The policy solutions for distributed generation and for transmission need to be viewed in the context of the Integrated Power System Plan which will be developed by the OPA, subject to OEB oversight. The OPA has in its hands the levers to control transmission investment, much generation investment, and the interaction between the two. Before embarking on analysis of the challenge areas identified by the Ministry we think it appropriate to set out principles that should guide the Integrated Power System Plan, as well as other investment initiatives that may be directly policy-driven, towards the fulfillment of the broad sector objectives. APPrO therefore proposes the following principles for investment planning:

1. Central system planning should be based on the transparent application of rational and consistent economic principles, within a durable policy framework including explicit environmental objectives.
2. Central system planning must clearly start from recognition of the existing Integrated Electricity System and its capabilities and interdependencies.
3. Risk assessment of alternatives should be explicit, including with respect to the risk to consumers of regulated cost pass-through.
4. These principles should be well understood and generally accepted across the industry, in order to achieve confidence and sustainability.

Comments on “challenge” areas

The balance of our comments are organised according to the broad “challenge” areas, and seek at this stage to address principles rather than detailed implementation.

Furthering Efficiencies in Distribution

It will be no small challenge to identify and achieve the full potential for efficiencies within the distribution sub-sector. Without seeking to address specifics, APPrO supports the use of voluntary processes motivated by policy-driven economic incentives. We do not therefore seek to address the particular

questions identified in this section of the consultation paper, but would like to identify an additional and important issue that should set the context for the evolution of policy in this area.

The regulated default supply to residential and certain other small consumers is recognised as an essential component of the sectoral framework. The present arrangements for such default supply rely on local settlement administration by distributors in conjunction with price setting by the OEB and variance support by the OPA. The cost of the supply is essentially determined by the spot market, adjusted through the global adjustment to incorporate regulated and contracted supply elements. The market portion of the supply is therefore excluded from any forward market, and therefore frustrates the development of forward market dynamics.

We believe that the regulatory framework should evolve to support the enhancement of the forward market dynamics, recognising the benefits brought by competition and the appropriate contractual allocation of risk. Multiple buyers and multiple sellers are essential to the dynamics of a sustainable contract market for energy. We therefore support a framework for the development of “LSEs” that would operate within a regulatory context to undertake competitive contract procurement of the default residential energy supply, thus bringing the discipline of multiple buyers and multiple sellers to this portion of the Ontario load. We urge that the regulatory framework of the distribution sector should support, and not preclude, such a framework, which we believe will best serve the interests of the consumers in the long run. We are agnostic on whether the LSE functions should be performed by distributors or others.

Distributed Generation

APPPrO has long advocated distributed generation (DG) as an important part of the Ontario supply portfolio. As noted in the consultation paper, DG projects in appropriate locations can offer a range of benefits to the system as well as to particular end users. The benefits offered by a particular project are indeed specific to project location (geographic and electrical) as well as the technology and capabilities of the project. Our comments are offered in the context that DG projects tend to be located close to load, as they are often but not necessarily driven by arrangements with consumers. In the context of the massive investments needed in generation in Ontario over the next years, we suggest that there are few areas of the province where DG investment would not bring benefits in the long run.

1. *What are some key concerns, particularly for distributors and transmitters, arising from the emergence of, and expected increasing reliance on, distributed generation in Ontario?*

For generators, the key concerns are the removal of inappropriate economic and institutional barriers to the development of distributed generation. On the one hand, the benefits arising from distributed generation should accrue to the generation investor. On the other hand, distributors hosting embedded generation should not suffer economic loss which would pre-dispose them against DG. The Distributed Generation Task Force has recently been addressing these issues in greater depth and will be submitting its views to the Ministry for consideration. Rather than seeking to duplicate their submission here, we simply confirm our general support for it.

2. *Are there any specific legislative, regulatory or institutional gaps or inconsistencies that might need to be addressed in order to facilitate distributed generation?*

The continued development of appropriate common connection standards and agreements is important.

The level of understanding by distributors of distributed generation varies considerably. This can be an issue in some areas.

There have been suggestions that licenced distributors should be permitted to own generation directly. We consider that the present separation of generation from licenced distribution is necessary and should continue. It would be inappropriate for licenced distributors to be effectively in competition with other investors seeking to connect to their regulated distribution systems, and it would undermine the confidence necessary for private investment.

3. *In light of increased deployment of distributed generation, are there longer-term strategies necessary to ensure safety and reliability, and efficient system planning?*

Distributed generation can provide significant but not massive contributions to the overall adequacy of generation resources in Ontario. On the other hand, the burden of full participation in the IESO is too onerous for small generators, so that their adequacy value is at risk of being somewhat reduced. In order to secure the full system value of distributed generation, and to provide to small generators the same economic incentives available through e.g. the CES contracts, the OPA should establish standard-offer contracts, valued on the basis of the CES /

DR proposal results, for DG developers. Such a standard-offer contract would be simple to understand and administer, and would provide a stream of ongoing capacity payments in exchange for demonstrated assurance of operation at the call of the IESO (i.e. typically in peak periods), somewhat similar to the current proposed DR contract arrangements. And in the same manner, these standard-offer contracts should provide locational signals equivalent to those available under the CES / DR contract evaluation processes.

Transmission

Context and principles relevant to generation – transmission interaction.

Before addressing ourselves to the Ministry's particular questions, we think it will be useful to expand on the high level principles identified in the introduction as they apply to transmission development in the context of Bill 100 and the strong interaction between generation and transmission investment.

APPo supports a significant degree of integrated system planning in order to achieve the necessary reliability and overall economy at this time. The central system planning process should apply rational and consistent principles in a transparent manner to the integration of regulated transmission development with each of market-based, centrally contracted or regulated generation development, and should not disadvantage any basis for generation investment. Central system planning needs to recognise the locational interactions of generation and transmission, including the cases in which generation and transmission are necessary complements and the cases in which they provide alternative solutions. At one end of the spectrum small scale distributed generation has certain particular features arising from its embedment within distribution systems or co-location with load. The middle of the spectrum comprises projects connected to the transmission system close to load centres, which in some cases may provide alternatives to transmission upgrades. And at the other end of the spectrum generation that is sited distant from load depends on long distance transmission for market access. Our initial comments set out conditions necessary to achieve such economically efficient interaction between generation and transmission investment.

The Market Design Committee conceptualised a system in which competitive market forces would incent investment in appropriate generation types and locations. Absent extensive market-based investment, the selection or incenting of appropriate generation types devolves to a central planning function. This central planning function will need to address the need for defining supply mix

(base load / intermediate / peaking supply), providing locational signals, and incorporating province-wide environmental approaches.

The recent RFP for 2500 MW of CES / DR / DSM adopted a rational and largely transparent framework for assigning network transmission upgrade costs to generator investment locations. While there may be concerns at the determination of the various zonal costs, APPrO supports this as an appropriate framework, and notes the related imperatives that the IESO resolve the issues around the administration and impact of its “connection queue” policy, and that the various processes by which new generation investments may be contracted reconcile with these IESO processes. The evaluation of projects recognises the need to net-back the cost of network transmission upgrades. Use of this framework in the competitive evaluation of these projects also makes good sense. This principle needs to be adopted for all centrally contracted and regulated project investments, and its application needs to be fully transparent. As noted below, the transmitters should have explicit obligations to implement (including finance) the transmission upgrades associated with successful projects.

The 2500 MW RFP also adopted positive evaluation incentives to recognise that certain generation can have locational value in fulfilling needs for grid stability or explicit ancillary services. Such recognition needs to be adopted for all centrally contracted and regulated project investments. Recognition should be extended to those cases where generation investment is an alternative to transmission; the avoided costs benefits should be credited to the generation project. And it is necessary to provide equivalent incentives for the location of market-based generation investment. The form of the locational incentive would need some modification for such application. Such locational incentive should rationally apply also to distribution-connected projects within the relevant zones. As always, the application needs to be transparent.

Special considerations may apply where rational implementation of the coal phase-out program requires direct replacement of generation assets. In this case the locational needs may be closely defined, and the nature of any competitive RFP will need to acknowledge this.

Finally the rational framework for generator location assessment needs to take account of the energy losses in transmission and of any unrelieved congestion impacts (i.e. congestion whose cost is less than the cost of remedy). The assessment basis for loss impacts and unrelieved congestion needs to be derived from historical records and design projections in a rational and transparent way.

1. *Once an Integrated Power System Plan has been approved by the OEB, what opportunities exist to further streamline subsequent approvals?*

The IPSP may be a very important part of the input to subsequent approvals, defining as it should the needs of the system and in particular the nature of strategic investments in the system. But when we consider the likely interaction of the Integrated Power System Planning process with the competitive acquisition of contract-based generation, it seems unlikely that the Integrated Power System Plan (IPSP) can be definitive in all respects, even with respect to medium term transmission needs.

The interaction of competitive generation entry (market-based or centrally contracted) with transmission planning is likely to require an iterative approach. If needs are identified in one iteration of the plan, their fulfilment will hopefully be identified well before the next three-yearly planning cycle, and projects should proceed directly to implementation. Transmission plans would thus evolve as a result of serving new generation projects, or as a result of a decision between a transmission solution and a generation alternative. The alternative is that the needs definition and tendering processes for any contract-based generation investment should be required to be completed and resolved in advance of the public consultations on the proposed IPSP.

While the fully integrated planning work and broad consultations will follow the three-year cycle, the baseline transmission plan needs freedom to evolve within the period as project decisions are made. This suggests the need for the fully integrated planning exercise to define certain major strategic projects, and to define the planning envelope for other potential developments. These other potential developments would thus be subject to the appropriate collaborative consultation process in the context of the integrated system planning.

Long term strategic projects and certain particular load-serving projects without viable generation alternatives can therefore be crystallized in the IPSP, as a firm basis for subsequent approvals. The value of the IPSP with respect to other project approvals is in its demonstration of the needs and the analysis of alternatives.

2. *Should the OEB's decision on leave to construct explicitly authorize cost recovery through rates by avoiding / incorporating the need for section 78 approval?*

APPrO's principal concern relates to any additional delays in "leave to construct" applications as a result of widening the scope of the "leave to

construct” application. On the other hand, we suggest that the combination of a leave to construct and the prior inclusion in an integrated system plan (or subsequently as a consequence of a generation RFP or equivalent process) would seem to imply a right to recovery of prudently incurred costs. Specifics would then be subject to inclusion in a rate proceeding at which time any offsetting reduction in other net asset values (e.g. through depreciation) would be considered.

3. *Should transmission companies be provided with financial incentives to encourage investment?*

Could this be achieved by a new pricing regime that provides higher rates of return for new investment; rates based on levelized cost of capital recovery; or, a non-traditional depreciation schedule for new investment?

Could this be achieved through the concept of “franchise areas” and requirements to construct needed facilities within those areas? Are there other solutions?

APPo would have a serious general concern if transmitters have incentives to invest in new transmission, other than in fulfillment of clear service requirements. And in fulfillment of such service requirements, it is surely a fundamental part of the regulatory construct that the licenced network transmitters undertake appropriate service investments, particularly where these are closely integrated into their existing systems. IESO Market Rule 6.1A gives the IESO the authority to require all upgrades required for reliability purposes. Connection assets other than part of the existing transmitter’s system are contestable, and therefore may carry less obligation on the part of the transmitter.

We would like to expand on three particular concerns related to transmission investment

Our first particular concern relates to the implementation of transmission investments necessary to connect or provide bulk transfer capability for new generation. We also suggest that major strategic transmission investments may benefit from a contestable approach as discussed below. And finally we draw attention to the issue of cost certainty in undertaking transmission where there is a generation alternative.

1. Transmission implementation related to generator connections.

In the context of Integrated Power System Planning, it is implicit that any network transmission upgrade that is clearly associated with a particular generation project, and is part of the evaluation of that

project, should proceed if the generation project proceeds. This should be made explicit. As noted above, the central transmission planning process is therefore iterative. Locational generation impacts are defined on the basis of a baseline transmission configuration; projects are selected; the baseline transmission configuration must be updated and implemented without waiting for the full three-year integrated planning cycle.

It is equally important that potential generation investors can depend on firm transmitter commitments to complete connection arrangements on time and within budget. The assumptions by generators (who have no control of the risks) of risks associated with construction by regulated transmitters (who have control of the risks) is economically inefficient and inappropriate. Transmitters should be required to make normal commercial commitments with respect to time of completion as well as cost, and should be expected to complete such works with at least the same expedition as priority transmission upgrades. IESO Market Rules 6.1.10 presently provides for “best efforts” which may be hard to quantify, and cause concerns where implementation may be resource-limited.

2. Transmission investment – by whom?

The government is encouraging private sector investment in Ontario’s electricity system to minimize both the burden on the public purse of the massive capital investment needed and to ensure that risk is allocated where it can be best managed. APPrO supports this approach to privately financed competitive investment as the best way to achieve sector development wherever appropriate. We believe that this results in competitive economies and appropriate risk allocation. In the case of transmission development, there are countervailing factors to consider. Firstly it is impractical and likely uneconomic to seek integration of small private elements within an existing transmitter’s system. Secondly the grid operation needs to be appropriately integrated. There are however two circumstances in which privately financed investment has potential to bring net benefits:

Transmission connections directly associated with private generation or load, and in many instances fully funded by that generation or load, can be associated with the generation or load without creation of additional interfaces, thus enabling competitive pressures to be brought to the construction cost, and

For large scale green-field strategic transmission investments the scale of the potential benefits are likely to outweigh the interface management issue. Such transmission would operate under the direction of the IESO, as is all network transmission. The basis for competitive entry would be the project revenue requirement.

The former case is unlikely to be contentious. The latter case raises a number of issues. Most critically, the route development, rights of way, and environmental assessments impose risks that are inappropriate to any party developing a project under fixed price arrangements. These activities would need to be completed prior to the competitive process, and should therefore be required of Hydro One under special cost recovery arrangements. Would this still leave scope for meaningful competition, other than in construction? We are not sure, and believe that this would need careful consideration.

To the extent that these issues can be resolved, then the framework exists for operation of a separately owned line under IESO direction, and the framework exists for collecting the revenue requirement through the uniform transmission tariff in place today.

3. Transmission implementation cost certainty

As noted above, there are circumstances where supply reliability problems may be resolved by transmission or generation alternatives. Under present regulation, any cost risk associated with a generation project would typically be borne by the investors, whereas any cost risk associated with transmission would typically be borne by customers through cost-based tariffs. This needs to be addressed either through risk adjustment in the evaluation of alternatives, or in exclusion from rate-base of any transmission costs in excess of those used for the comparative evaluation.

4. *What opportunities exist for harmonizing approvals between different levels of government?*

In general APPrO supports the rationalization of the approval process for electricity sector projects, while recognising the important purposes served by the need for approvals.

5. *With reference to any other transmission issues, are there specific legislative, regulatory or institutional gaps that might need to be addressed? If so, how might these be addressed?*

APPrO considers that the role and objectives of Hydro One Networks are not sufficiently transparent for a government owned regulated monopoly service company. There is no clear balance between the inherent profit obligation of any business corporation and the monopoly service obligations appropriate to Hydro One's role in the Ontario electricity sector. We believe that a necessary step to resolve this is the use of a public shareholder declaration, similar to that envisaged for OPG.

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