

November 30, 2006

Kirsten Walli
Secretary, Ontario Energy Board
P.O. Box 2319
2300 Yonge St. 27th Floor
Toronto, Ontario
M4P 1E4

Re: Draft Board Report on the Review of the Ontario Power Authority's Integrated Power System Plan and Procurement Process (Board File No.: EB-2006-0207).

Dear Ms. Walli,

I am writing to provide the Pembina Institute's comments on the Ontario Energy Board's (OEB) draft board report on the Board's approach to the review of the Ontario Power Authority's (OPA), Integrated Power System Plan (IPSP).

The Institute's specific comments on OEB Paper are as follows.

Part II. Scope of Review (Board Mandate and the Supply Mix Directive)

The Pembina Institute continues to disagree with Ontario Energy Board (OEB) regarding the interpretation of its mandate under the *Electricity Act* in relation to the Integrated Power System Plan (IPSP). The board's interpretation suggests that "economic prudence" and "cost-effectiveness" can only be considered in the context of the overall structure of the supply mix directive. The cost-effectiveness and prudence of the IPSP per se, cannot be considered.

The Pembina Institute does not believe that this approach is consistent with the mandate provided to the Board with respect to the IPSP via the *Electricity Act*.

S.25.30 (4) of the act provides that:

"The Board shall review each integrated power system plan submitted by the OPA to ensure it complies with any directions issued by the Minister and is economically prudent and cost effective."

In the Pembina Institute's view, this provision provides for three distinct tests that must be met by the IPSP:

- Compliance with any directives issued by the Minister
- Economic prudence
- Cost effectiveness

In other words, it is possible that the Board could find that the IPSP complies with the directives issued by the Minister, but that the resulting plan fails the tests of "economic prudence" or "cost-effectiveness." It is similarly possible than an alternative plan to the IPSP may not comply with the Minister's directive, but may be found to be more "prudent" and "cost effective." In that case, the IPSP would have to be referred back to the OPA.

Part II. (B) Interpretation of the Supply Mix Directive

The Pembina Institute agrees with OEB's proposed interpretation of the supply mix directive that prudent and cost-effective conservation and renewable energy resources, beyond the minimum levels established by the directive, can be considered within the plan. Similarly the Pembina Institute believes that the supply mix directive should be interpreted to permit the use of high value and high efficiency use of natural gas up to levels that are economically prudent and cost effective.

In addition, the OEB should clarify the obvious corollary to these interpretations: that where cost-effective and prudent higher levels of conservation, renewable and natural gas resources are available, the required level of installed in-service nuclear capacity may be reduced. This is implicit in the directive's approach of setting the targets for conservation and renewables as minimums, and those for nuclear capacity as maximums, but should be explicitly acknowledged by the OEB.

Part II (D) Definition of Economic Prudence and Cost-Effectiveness

The draft board report proposes to define economic prudence as the ability to adapt to different contingencies without causing major changes in overall costs. In the Pembina Institute's view, this is an extremely narrow definition of prudence, which could be interpreted as implying that the only risk of concern is the possibility of increases in electricity prices arising from higher overall costs associated with plan implementation. Such an approach may exclude full consideration of the broader economic costs to society that may arise as a result of failures of the system proposed through the IPSP.

Prudence should be defined in terms of resiliency and flexibility in the face of a range of technological, economic, environmental, and security risks. This would imply that in order

to meet the test of prudence, the plan would need to identify key areas of risk in relation to it. These areas of risk may include such things as delays and cost overruns on facility construction, shifts in fuel costs, the impact of unreliability of different types of generating facilities (taking into consideration the scale of different types of facilities and the resulting implications of their failure for the overall system), and shifts in economic structure or conditions that may affect projected demand. The plan should be required to demonstrate that such risks have been minimized, and that it is sufficiently flexible and resilient to accommodate changing circumstances and unexpected events. Among other things this might imply a minimization or avoidance of excessive reliance on single generating technologies or fuels and of irrevocable commitments to large-scale supply projects with very long planning and construction times, in favour of smaller scale projects with shorter planning and construction horizons.

The draft report proposes to define cost-effectiveness as the achievement of the goals of the IPSP at lowest cost on per kw or kwh basis. However, the Board recognizes that this does not necessarily mean that the “least cost” option must be adopted.

The paper does not provide a detailed definition of “cost,” or a discussion of what factors may be considering in determination of the cost of an initiative. In section Part III (F)(3) the paper does note that in assessing cost effectiveness, the board may be called upon to assess externalized costs associated with different initiatives, including environmental externalities. The Pembina Institute welcomes this recognition by the Board.

In the Pembina Institute’s view, the achievement of the IPSP’s goals with the lowest possible risks and impacts on public safety and the environment should be integral components of the tests of prudence and cost-effectiveness of the plan. However, the board paper provides only a minimal discussion of how externalities, including environmental externalities, might be considered.

The Pembina Institute notes that considerable progress has been made over the past few years in the monetization of the value of certain types of environmental externalities, particularly in relation to conventional air pollution¹ (i.e. smog) and greenhouse gas emissions. Attaching monetary value to other types of environmental impacts, such as effects on ecosystem structure and function and delivery of ecosystem services, presents considerably greater challenges.² This implies a risk that a simple monetization approach

¹ See, for example, *The Illness Costs of Air Pollution* (Toronto: Ontario Medical Association, June 2005), <http://www.oma.org/phealth/smogmain.htm>

² See, for example, M.Anielsi and S.Wilson, *Counting Canada's Natural Capital: Assessing the Real Value of Canada's Boreal Ecosystems* (Ottawa: Pembina Institute and Canadian Boreal Initiative, 2005) <http://www.pembina.org/environmental-governance/doc.php?id=204>

may distort the assessment in the direction of externalities that can be more easily monetized, even though these may not reflect the most significant impacts to be considered.

There is also considerable debate about how externalized costs that may involve the transfer of risks and costs far into the future should be addressed. A simple present value calculation of these costs may not fully capture their risks to and impacts on future generations, particularly where extremely long timeframes and major uncertainties may be involved. Such an approach, which may involve the discounting of the value of impacts and risks to future generations, is also difficult to reconcile with basic principles of sustainability, which emphasize intergenerational justice.

In addition, monetization may fail to capture certain types of risks, particularly where they are of a low-probability but high consequence character. Accident liability relief provided to certain types of generating projects through federal legislation (e.g. the *Nuclear Liability Act*) may further distort estimates of the societal costs associated with dealing with such potential externalities.

The foregoing discussion highlights the points that it is critically important that externalities be considered in determinations of costs for the purposes of the evaluation of the IPSP. At the same time, however, the use of a single metric (i.e. monetization) may result in an incomplete or distorted picture of actual costs. Qualitative recognition of some externalized risks and costs may also be required and taken into consideration in decision-making.

Part III (B) (3) Demand and Supply Forecasts

The paper's discussion of the requirements in relation to the identification of variables that may affect load forecasts is almost entirely focused on commodity and fuel prices. The load forecast needs to consider the impact of additional factors such as structural economic change, economic trends in key markets and changing economic conditions.³

Part III (C) (2) Resource Assessment – Conservation Resources

The report proposes to approach the assessment of conservation resources entirely on an individual initiative basis. A portfolio-based approach may be more appropriate, particularly in Ontario's current situation. There has been little activity on electricity conservation in Ontario over the past decade. As a result, considerable infrastructure and capacity

³ See generally, M. Winfield, *Pembina Institute Comments on IPSP Discussion Paper #2: Load Forecast* (Toronto: Pembina Institute, October 2006).

development activities may be required for the successful implementation of an overall conservation strategy. It is possible that certain initiatives may not directly result in reductions in demand and energy consumption, but will be essential to enabling initiatives that will have those types of impacts. Such capacity building initiatives should be permitted within the IPSP.

Part III (C) Resource Assessment - Generation resources

The paper's proposed approach generally fails to require the identification of potential environmental, health and safety impacts and risks in relation to all types of generation resources.

Part III (F) Satisfying the requirements of the IPSP Regulation

The Pembina Institute agrees with the board's proposed interpretation of the supply mix directive that the board's assessment of compliance with the directive must include an assessment of whether the requirements of the IPSP regulation have been met. However the Pembina Institute remains disappointed at the extremely narrow and unclear definitions of safety, environmental protection and environmental sustainability that the OEB proposes to use in assessing whether the IPSP fulfils the requirement that it demonstrate how these issues have been "considered" in the development of the plan.

"Safety"

The board proposes to define "safety" simply as compliance with all applicable laws related to the construction and operation of facilities. This is a wholly inadequate approach, as it does not require the identification of specific health and safety impacts and risks in relation to generation projects. Rather it assumes regulatory compliance results in a situation of zero risk. This is not an appropriate assumption, as most regulatory systems are designed to reduce risk to a level that is deemed 'acceptable' by the regulator in light of a range of economic and social considerations, not eliminate risk altogether. A thorough assessment of the safety is essential to assessing the relative risks and impacts of different options available within the plan.

The definition of 'safety' should include specific endpoints or outcomes to be considered, such as occupational and community health and safety risks arising from facility construction, normal operations and accidents. Situations where facilities offer unique or particularly hard to manage safety risks should be identified.

The proposed definition of "safety" fails to identify potential security risks associated with facilities. Security risks should be an integral component of considerations of safety.

“Environmental Protection”

The proposed definition of “environmental protection” is marginally more advanced than that offered for “safety,” as it does require the identification of specific adverse effects arising from individual projects, and how those effects might be mitigated.

However, the definition of environmental protection again fails to identify specific endpoints or outcomes by which the environmental impacts, risks and effects of different types of facilities might be assessed. This would require the identification of specific types of impacts or risks (e.g. atmospheric releases of pollutants, releases of pollutants to surface and groundwater, waste generation, landscape and ecosystem impacts). Mechanisms should also be identified to assess the significance of impacts or risks within these categories. Considerations of “significance” might include such factors as the hazard properties of different waste streams, impacts that are short term in duration and will be largely experienced by present electricity consumers, vs. impacts that will transfer risks and costs onto future generations, such as the generation of hazardous waste streams that require perpetual care.

In examining the environmental and health risks and impacts of electricity sources, it is important to consider that the most significant risks and impacts may occur at locations other than the point of electricity generation. A life cycle (i.e. fuel extraction and production impacts as well as facility operation impacts) approach to assessing the impacts and risks of generating options should be taken to address this consideration.

“Environmental sustainability”

The definition of environmental sustainability offered in the paper is perhaps its most disappointing aspect. The definition has been modestly adjusted in relation to the definition provided in the September 2006 staff discussion paper. However, it continues to fail to provide any specific tests, criteria or endpoints by which the consideration of environmental sustainability in the development of the IPSP might be assessed.

We note that the OPA itself has made considerable progress in identifying and defining key principles and requirements for assessing the sustainability of projects and plans.⁴ The principles and requirements identified by the OPA include:

- Socio-ecological system integrity.

⁴ See *IPSP Discussion Paper 6: Sustainability* (Toronto: Ontario Power Authority, November 2006).

- Livelihood sufficiency and opportunity.
- Intergenerational equity.
- Intra-generational equity.
- Resource maintenance and efficiency.
- Socio-ecological civility and democratic governance.
- Precaution and adaptation.
- Immediate and long-term integration.

The authority has also made efforts to define context specific evaluation criteria for the IPSP. These criteria include:

- Feasibility.
- Reliability.
- Cost.
- Flexibility.
- Environmental performance.
- Social acceptance.

However, the Pembina Institute is concerned that the OPA's proposed context-specific evaluative criteria for the IPSP fail to fully integrate key sustainability requirements as identified in the OPA paper. The Institute is particularly concerned that the requirements of intergenerational equity and intra-generational equity are very weakly articulated in the context specific criteria. The proposed indicators of environmental performance, for example, fail to identify environmental impacts and risks that may affect future generations, as opposed to present consumers of electricity, or to weight such intergenerational risks or impacts more heavily than other types of impacts. More generally, with the exception of cost, the OPA has failed to identify specific tests or outcomes against which the conformity of the IPSP with these context specific criteria can be assessed. The Pembina Institute will be commenting in detail on the OPA's proposed approach to sustainability issues. The Institute's comments on the matter will be provided to the OEB upon submission to the OPA.

Part III (F) 3 General discussion of Environmental Issues

This section attempts to establish a framework for meeting the requirements for the assessment alternatives under the Ontario *Environmental Assessment Act* for certain types of electricity projects, with the implication that project specific assessments might then be very narrowly 'scoped' to only consider site-specific impacts.

The Pembina Institute notes that alternatives to specific projects can only be meaningfully assessed in the context of the overall IPSP. The Institute and other have consistently called for an environmental assessment of the IPSP as whole, rather than individual components of the plan for these reasons.

The board paper's proposals may lay the groundwork for meeting certain substantive criteria laid out in the *Environmental Assessment Act*, but fail completely to meet the procedural requirements of the Act in terms of public consultation, and intergovernmental and intra-governmental review of proposed projects.

I would be pleased to discuss the Pembina Institute's views on these matters with the board and other interested stakeholders.

Yours sincerely,

A handwritten signature in black ink, appearing to read "M.S. Winfield", with a long, sweeping flourish extending to the right.

Mark S. Winfield, Ph.D.
Director, Environmental Governance

Cc: Gordon Miller, Environmental Commissioner of Ontario