TORONTO

STAFF REPORT
ACTION REQUIRED

City Participation in Phase 2 Review of Provincial Integrated Power System Plan and Procurement Processes

Date:	June 12, 2008
To:	Executive Committee
From:	Deputy City Manager Richard Butts
Wards:	All
Reference Number:	

SUMMARY

This report seeks Council's authorization for (i) the City's continued participation as an intervenor in Phase 2 of the Ontario Energy Board's review of the Integrated Power System Plan and Ontario Power Authority procurement process; and (ii) the retention and funding of external technical and legal consulting services to assist in such participation.

RECOMMENDATIONS

Deputy City Manager Richard Butts recommends that:

1. the City continue to participate as an intervenor in Phase 2 of the Ontario Energy Board ("Board") review of the Integrated Power System Plan ("IPSP") and Ontario Power Authority ("OPA") procurement process ("Phase 2"), anticipated to conclude in 2009;

2. Council authorize Deputy City Manager Richard Butts to co-ordinate the preparation and submission of the City's submissions and representations in Phase 2 based upon the issues and concerns set out in Appendix "B", in consultation with the City Solicitor and Deputy City Manager and Chief Financial Officer and other appropriate City officials, to instruct the City Solicitor and external legal counsel in the proceedings, including attendance, before the Board;

3. external legal and technical consulting services be retained, up to a maximum gross amount of $600,000, with the expense of such services, net of any cost awards by the Board be charged to Facilities and Real Estate's 2008 Operating Budget on an interim

basis and that the costs be passed on proportionately to City divisions (cited in the Financial Implications section of this report), Toronto Community Housing Corporation and Toronto Transit Commission based on their proportionate use of electricity;

4. Council ratify and approve the retainer of the firm of Macleod Dixon LLP for the provision of external legal services to the City during Phase 2;

5. through its participation in Phase 2, the City advocate that the OPA accommodate the City's priorities and views (including those articulated in the City's Official Plan and its Climate Change, Clean Air and Sustainable Energy Action Plan) in the further development work proposed to address the City's electricity reliability needs in the mid-term and in order to preserve technically and financially viable options, which may include distributed generation, renewable energy projects, conservation and improvement of the existing short-circuit capacity rating, as measures impacting demand estimates giving rise to Toronto transmission requirements and as alternatives to the proposed Toronto Third Supply Line Option - North Parkway Station to Hearn Station; and

6. the appropriate City staff be authorized to take any action necessary to give effect to the above recommendations.

FINANCIAL IMPACT

An accurate estimate of the amount required to fund needed external technical and legal consulting services cannot be determined until further on in the proceedings when the nature of the issues that the City needs to address are better defined. Funding of up to $50,000 to address external legal services utilized in preparing and filing the City's written interrogatories on May 21st will come from a Toronto Environment Office account.

Further funding of up to $600,000 for outside legal and consulting services as may be required to assist staff in representing the City in the balance of the Phase 2 review of the IPSP will be provided in the following amounts by allocation to the following business units:

$35,600	from Facilities and Real Estate
$37,800	from Parks, Forestry and Recreation
$7,000	from Solid Waste Management
$42,400	from Transportation Services
$189,000	from Toronto Water
$137,700	from TCHC
$150,500	from TTC

The net legal and technical consulting expenses will be invoiced to the above participants through the consolidated power purchase billing service provided to the City of Toronto by Toronto Hydro Energy Services Inc.

The Board has issued an order determining that the City is eligible to apply to the Board for recovery of a portion of its costs reasonably incurred in the course of its intervention in this proceeding under the Board's Practice Direction on Cost Awards. The net technical legal and technical consulting services costs will be allocated to the business units described above. The Board makes no guarantee as to the extent of awards for costs incurred by intervenors, however, at the conclusion of Phase I the City's total external legal costs were $50,368.55, for which the Board awarded the City $34,188.69 in cost recoveries.

The Deputy City Manager and Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

City Council at its meeting of December 11, 12 and 13, 2007 adopted the recommendations in Ex. 15.44 titled "City Participation in Review of Provincial Integrated Power System Plan and Procurement Processes". Among those recommendations was that Deputy City Manager Richard Butts in consultation with the City Solicitor, the Manager, Energy Efficiency Office and the Director, Toronto Environment Office, provide written comments on the issues to be considered by the Board during Phase 2 of the review of the IPSP and procurement process, to address the matters outlined in Appendix "C" to the background Report; and report back to Council with respect to the City's participation in Phase 2 of the application, including a recommendation regarding necessary resources and cost.

www.toronto.ca/legdocs/mmis/2007/cc/decisions/2007-12-11-cc15-dd.pdf

ISSUE BACKGROUND

The OPA filed an application with the Board dated August 29, 2007 under the *Electricity Act, 1998*, S.O. 1998, c. 15, Schedule A. The applicant is seeking an order of the Board approving the IPSP and certain procurement processes.

The IPSP is a 20 year plan for the management of Ontario's electricity system. It identifies the electricity conservation, generation and transmission investments that the OPA proposes for the adequacy and reliability of electricity supply and demand management in Ontario. The procurement processes are designed to manage electricity supply, capacity and demand in accordance with the IPSP. The IPSP affects the supply of electricity to all Ontario consumers.

Phase 1 involved the development of an issues list and sought submissions and written comments as to the issues that should form the basis for the review of the application. A hearing was convened between January 14 and January 18, 2008 to hear oral submissions on the issues to be addressed in Phase 2, the review of the application. Representatives of the City attended that hearing.

Phase 1 of this proceeding was completed with the issuance by the Board on March 26, 2008, of an Issues Decision establishing an issues list for the proceeding.

Implementation Points

The Board intends to proceed with its review of the Integrated Power System Plan and OPA procurement processes in Phase 2.

In Phase 1, the Board received and considered over 40 written submissions and 29 comments, including a written submission and an oral presentation from the City of Toronto. The Board developed an issues list which is appended to this report as Appendix "A". This list sets forth the issues that will be addressed in Phase 2 of the review of the application. Only those issues on the approved issues list will be considered during the review.

On April 8, 2008 the Board issued Procedural Order 3. The procedural order deals with the procedural steps in Phase 2 of the proceeding:

1. The first step required that written interrogatories be filed with the Board and delivered to the OPA by May 21, 2008. It was necessary to retain counsel on an interim basis to assist in reviewing the filed evidence in order to better inform Council regarding any recommendation to continue to participate in Phase 2; and to file interrogatories in order to protect the City's position pending Council authorization to participate in Phase 2.

2. The OPA will file complete responses to the interrogatories with the Board and deliver all the responses to all the intervenors on or before June 18, 2008.

3. If the City wishes to present evidence on the City's priorities and views as set out in City's Official Plan and its Climate change, Clean Air and Sustainable Energy Action Plan or evidence which is relevant to the proceeding, it must file that evidence with the Board and deliver it to the OPA and the other intervenors on or before July 9, 2008.

4. If the City requires additional information related to any evidence filed by any other intervenor, or if any intervenor, the OPA or Board staff requires additional information related to the City's filed evidence, such additional information it must be requested by written interrogatories filed with the Board and delivered to the intervenor that filed the evidence on or before July 23, 2008.

5. Responses to the interrogatories are to be filed with the Board and delivered to the OPA and all the other intervenors on or before August 6, 2008.

6. The evidentiary phase of the oral hearing will commence at 9:30 a.m. on August 11, 2008.

The foregoing dates are subject to change by the Board, and there are currently motions for some revision of the schedule for the filing of evidence, interrogatories and responses.

City staff requires the expertise of technical and legal consultants to assist in each of the stages of Phase 2.

COMMENTS

The City's Positions

In its written comments and during oral presentations during the Phase 1 hearings, the City took the position that the Board needed to review whether the OPA:

1. in setting out only a "plan for a plan" for transmission in the City of Toronto, met all of the relevant criteria of the Supply Mix Directive and Section 1 of Regulation 424/01 of the Electricity Act;

2. has met the regulatory requirement to consult with the City in developing a transmission plan;

3. has met the regulatory requirement to ensure that safety, environmental protection and environmental sustainability have been considered in formulating transmission solutions for Toronto; and

4. has met the regulatory requirement to ensure that for those projects which meet certain criteria relating to environmental assessments and approvals, that the plan for transmission solutions in Toronto contains a sound environmental rationale.

The significance of the Board's review of the IPSP and the relevance of the City's position with respect to the issues to be reviewed are set forth in Appendix B.

Phase 1 Ontario Energy Board Decision

Phase 1 of the proceeding was completed with the issuance by the Board on March 26, 2008, of an Issues Decision establishing an issues list for the proceeding. The Board has explained that an issues list in an issues decision has two purposes: 1) it defines the scope of the proceeding; and 2) it articulates the questions which the Board must address in reaching a decision on the application. The Board did not believe it was appropriate to define the Issues List in complete detail. For many of the issues, the Board expects that

sub-issues will arise during the course of the proceeding which will need to be addressed in argument and in the final decision. It is not possible to identify all of those detailed issues now so early in the process.

None of the issues raised by the City in Phase 1 were rejected by the Hearing Panel and as a result the concerns and interests that are specific to the City of Toronto may be properly raised in Phase 2 of the IPSP review.

The Issues Decision sustains all of the issues that the City contended ought to form the subject matter of the hearings and endorsed the City's position that these issues should be considered from the perspective of the City, rather than generically. This enables the City to reflect its policy and planning priorities in the Phase 2 hearing process. The result is that the statement of the issues does not provide the OPA with grounds to object to the pursuit of the City's proposed issues in Phase 2.

Legal Representation

In December of 2007 the City Solicitor invited submissions from six major Toronto law firms with substantial practice areas that included appearing before the Ontario Energy Board in electricity related matters and who did not appear to have a conflict of interest in representing the City before the Board in Phase 1 of the IPSP hearing.

After reviewing the various proposals and conducting interviews with each of the proponents, staff identified two firms having the highest responsive scoring -- the firms of Heenan Blaikie and Macleod Dixon LLP. Upon staff's recommendation, Heenan Blaikie represented the City during Phase 1. However, the City Solicitor has determined that a conflict of interest issue exists with Heenan Blaikie and that it would be inappropriate to continue to retain that firm for Phase 2. The City Solicitor has recommended that the City retain the runner up proponent, the firm of Macleod Dixon LLP, to represent the City in Phase 2.

CONCLUSIONS

Phase 2 of the IPSP application will involve the review of a plan that will have significant importance to the reliability of electricity supply to central and downtown Toronto, as well as to achievement by the City of its energy and sustainability planning goals.

Staff have recommended that the City participate in the review to ensure that the City's priorities and views (including those articulated in the City's Official Plan and its Climate Change, Clean Air and Sustainable Energy Action Plan) are considered in further development work to address the City's reliability needs in the mid-term and to preserve technically and financially viable options, which may include distributed generation, renewable energy projects, conservation and improvement of the existing short-circuit capacity rating, as measures impacting demand estimates giving rise to Toronto

transmission requirements and as alternatives to the proposed Toronto Third Supply Line Option - North Parkway Station to Hearn Station.

Staff have also identified the need to engage external legal and technical consulting services to provide assistance as needed with the complex technical matters outlined above.

CONTACTS

Michael A. Smith
Solicitor, Legal Services Division
Office: 416-392-7245
Fax: 416-392-1017
Email: msmith10@toronto.ca

Richard Morris
Manager, Energy Efficiency Office
Office: 416-392-1452
Fax: 416-392-1456
Email: rmorris@toronto.ca

Jim Anderson
Director, Legal Services Division
Office: 416-392-8059
Fax: 416-397-5624
Email: janders1@toronto.ca

Lawson Oates
Director, Toronto Environment Office
Office: 416-392-9744
Fax: 416-338-0808
Email: loates@toronto.ca

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Richard Butts
Deputy City Manager, Cluster B

ATTACHMENTS

Appendix “A” - Board Approved Issues List
Appendix “B” – Significance of the IPSP and City Issues

APPENDIX "A"
BOARD APPROVED ISSUES LIST

EB-2007-0707

A. The Integrated Power System Plan ("IPSP")

The Electricity Act, section 25.30(4):
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.

Issues:

Conservation (including conservation vehicles and load reduction initiatives as listed in the Supply Mix Directive)

1. Does the IPSP define programs and actions which aim to reduce projected peak demand by 1,350 MW by 2010, and by an additional 3,600 MW by 2025?

2. Has the OPA, in developing the IPSP, identified and developed innovative strategies to accelerate the implementation of conservation, energy efficiency and demand management measures?

3. Is the mix of conservation types and program types included in the Plan to meet the 2010 and 2025 goals economically prudent and cost effective?

4. Would it be more economically prudent and cost effective to seek to exceed the 2010 and 2025 goals?

5. Is the implementation schedule for conservation initiatives economically prudent and cost effective?

Renewable Supply (including sources of renewable energy as listed in the Supply Mix Directive)

6. Does the IPSP assist the government in meeting its target for 2010 of increasing the installed capacity of new renewable energy sources by 2,700 MW from the 2003 base, and increase the total capacity of renewable energy sources used in Ontario to 15,700 MW by 2025?

7. Is the mix of renewable resources included in the Plan to meet the 2010

and 2025 targets economically prudent and cost effective?

8. Would it be more economically prudent and cost effective to seek to exceed the 2010 and 2025 targets?

9. Is the implementation schedule for the renewable resources in light of lead times for supply and transmission economically prudent and cost effective?

Nuclear for Base-load

10. Does the IPSP plan for nuclear capacity to meet base-load requirements and limit the installed in-service capacity of nuclear power over the life of the Plan to 14,000 MW?

11. What is the base-load requirement after the contribution of existing and committed projects and planned conservation and renewable supply?

12. Is the IPSP's plan to use nuclear power to meet the remaining base-load requirements economically prudent and cost effective?

13. In the context of the determination of economic prudence and cost effectiveness, is the IPSP sufficiently flexible to accommodate building new nuclear plants or refurbishing existing plants or both?

14. Is the schedule for implementing base-load resources in light of lead times for supply and transmission economically prudent and cost effective?

Natural Gas

15. Does the IPSP maintain the ability to use natural gas capacity at peak times and pursue applications that allow high efficiency and high value use of the fuel?

16. Has the OPA, in developing the IPSP, identified opportunities to use natural gas in high efficiency and high value applications in electricity generation?

17. How can gas be used for peaking, high value and high efficiency purposes?

18. How can gas-fired generation contribute to meeting transmission capacity constraints?

19. Is the IPSP's plan for additional gas resources for peaking, high value and high efficiency purposes and for contributing to transmission capacity constraints economically prudent and cost effective?

Replacement for Coal-Fired Generation

20. Does the IPSP plan for coal-fired generation in Ontario to be replaced by cleaner sources in the earliest practical time frame that ensures adequate generating capacity and electricity system reliability in Ontario?

21. How do existing, committed and planned conservation initiatives, renewable resources and nuclear power contribute to meeting the contribution that coal-fired generation currently provides to meeting Ontario's electricity needs with respect to capacity (6,434 MW), energy production (24.7 TWh) and reliability (flexibility, dispatchability, and the ability to respond to unforeseen supply availability)?

22. What are the remaining requirements in all of these areas?

23. Will the IPSP's combination of gas and transmission resources meet these remaining requirements in the earliest practical timeframe and in a manner that is economically prudent and cost effective?

Transmission

24. Does the IPSP plan to strengthen the transmission system to:
(a) Enable the achievement of the supply mix goals set out in the Supply Mix Directive?

(b) Facilitate the development and use of renewable energy resources such as wind power, hydroelectric power and biomass in parts of the province where the most significant development opportunities exist?

(c) Promote system efficiency and congestion reduction and facilitate the integration of new supply, all in a manner consistent with the need to cost effectively maintain system reliability?

25. What is the effect, if any, on the IPSP of the results of the OEB consultation *Review of Cost Responsibility Policies for Connection to Electricity Transmission Systems?*

26. Is the IPSP strategy for transmission economically prudent and cost effective?

Consultation with non-Aboriginal Interests in Developing the IPSP

27. Has the OPA, in developing the IPSP, consulted with consumers, distributors, generators, transmitters and other persons who have an

interest in the electricity industry in order to ensure that their priorities and views are considered in the development of the Plan?

Procurement-Related Issues in Developing the IPSP

28. Has the OPA, in developing the IPSP, identified and developed innovative strategies to encourage and facilitate competitive market-based responses and options for meeting overall system needs?

29. Has the OPA, in developing the IPSP, identified measures that will reduce reliance on procurement under section 25.32(1) of the Act?

30. Has the OPA, in developing the IPSP, identified factors that it must consider in determining that it is advisable to enter into procurement contracts under subsection 25.32 of the Act?

Environmental Issues in Developing the IPSP

31. Has the OPA, in developing the IPSP, ensured that safety, environmental protection and environmental sustainability are considered?

32. Has the OPA, in developing the IPSP, ensured that for each electricity project recommended in the Plan that meets the criteria set out in subsection 2(2) of Regulation 424/04, the Plan contains a sound rationale including:

    (a) an analysis of the impact on the environment of the electricity project; and

    (b) an analysis of the impact on the environment of a reasonable range of alternatives to the electricity project?

IPSP in General

33. Do the forecasts relied upon by the OPA in developing the IPSP, and the uncertainties attributed to them, present a reasonable range of future outcomes for planning purposes?

34. Does the IPSP meet its obligation to provide adequate electricity system reliability in all regions of Ontario?

B. Procurement Processes

1. Do the OPA's procurement processes provide for simpler procurement processes for electricity supply or capacity to be generated using alternative energy sources or renewable energy sources, or both, where

the supply or the capacity or the generation facility or unit satisfies the prescribed conditions?

2. In developing its procurement processes, has the OPA complied with the following principles:

   (a) Procurement processes and selection criteria must be fair and clearly stated and, wherever possible, open and accessible to a broad range of interested bidders;

   (b) To the greatest extent possible, the procurement process must be a competitive process;

   (c) There must be no conflicts of interest or unfair advantage allowed in the selection process; and

   (d) To the greatest extent possible, the procurement process must not have an adverse impact outside of the OPA procurement process on investment in electricity supply or capacity or in measures that will manage electricity demand as described in subsection 25.32(1) of the Electricity Act.

3. Should the Board approve the OPA's proposed procurement processes as being appropriate for managing electricity supply, capacity and demand in accordance with the IPSP?

C. Aboriginal Peoples Consultation for both the IPSP and the Procurement Processes

1. Have all Aboriginal Peoples whose existing or asserted Aboriginal or treaty rights may be affected by the IPSP or the procurement processes been identified, have appropriate consultations been conducted with these groups, and if necessary, have appropriate accommodations been made with these groups?

APPENDIX "B"

Significance of the IPSP and City Issues

Significance

The outcome of the Board's consideration of the IPSP may have a significant impact on the supply of electricity to residential, business and industrial consumers of electricity in Toronto, and on the rates which those consumers will pay for that supply.

The outcome may also have a significant impact on the City's Official Plan, which has policies and designations that protect residential lands throughout the City from industrial use. In addition, the City of Toronto's Climate Change, Clean Air and Sustainable Energy Action Plan contains numerous policies and programs that support significant electricity demand reduction through energy efficient design, renewable energy generation and district-based heating and cooling.

In addition to electricity conservation initiatives, the OPA has identified three new transmission and various distributed electricity generation alternatives that require development for meeting potential mid-term and long-term reliability needs of central and downtown Toronto.

The development of options for meeting forecasted mid-term and long-term electricity reliability needs of central and downtown Toronto, based on a scenario of steadily increasing demands and aging infrastructure, may have a negative impact on City residents' health, land use and planning, community cohesion and air quality.

Reliability Needs of Central and Downtown Toronto

Section E of the OPA's application contains the transmission evidence. Exhibits E-2-1 to E-2-7 describe generally how the OPA planned transmission to address reliability and meet the three transmission objectives mandated by the Supply Mix Directive. In Exhibit E-5-5 the OPA has considered and developed options for meeting potential mid- and long-term reliability needs of central and downtown Toronto. It has considered the mid- to long-term potential reliability needs to be (a) supply capacity, (b) infrastructure renewal, and (c) vulnerability to high-impact events (such as loss of one of the two supply paths). The OPA has identified a number of options to address these needs, including distributed generation and transmission; all options are addressed in detail. These options are complex undertakings and would involve long lead times.

At this stage, the OPA is not recommending solutions to address potential reliability needs for Toronto. Rather, the OPA recommends that development work be undertaken so that appropriate solutions are available to address reliability needs if they materialize in the mid-term (2015 to 2017). Early development work needs to be undertaken in order to preserve some potential options with long lead times (e.g. distributed generation or new transmission) as available solutions for the 2015 to 2017 time period. The OPA acknowledges that it may be that reliability needs will not emerge in this time period, or

that, if they do, these options are not the appropriate solutions. However, the OPA considers it prudent to consider and develop these options so that they are available, if and when required. Any preferred solution will be subject to applicable regulatory processes (e.g., environmental assessment, leave-to-construct).

Toronto 3rd Supply Options

The OPA is currently considering three transmission options connecting to the Hearn station. One option involves a conventional high voltage alternating current connection from the Parkway station north of the City. The other two involve a high voltage direct current connection from the Sir Adam Beck station in Niagara Falls or from the Bowmanville station east of the City. Based on information received from transmitters, the OPA has concluded that transmission options require long lead times, potentially up to eight years.

There is an Option B1 that proposes a 3rd transmission line for approximately 900 MW running underground from Parkway Transformer Station to Hearn Substation (approximately 26 km long), costing $353 Million plus $57 Million to rebuild Hearn Substation for a total of $410 Million.

Option B2 proposes a 3rd transmission line for approximately 900 MW running underground from Parkway Transformer Station to Hearn Substation, with the exception of a 6 km stretch from Pharmacy Avenue to Leaside Transformer Station which will be overhead on existing right-of-way, costing $294 Million plus $57 Million to rebuild Hearn Substation for a total of $351Million.

Option C proposes to install 2 x 230 kilovolt circuits in an underground tunnel from the Esplanade to Hearn Substation including terminations at the two stations costing $100 Million plus $57 Million to rebuild Hearn Substation for a total of $157 Million.

Alternatively, the Niagara HVDC option proposes to install 2 x 300 MW circuits from Sir Adam Beck Generating Station to Hearn Substation using HVDC Light transmission system running under Lake Ontario from Niagara to Toronto estimated at $484 Million.

Distributed Generation

Initial reviews by the OPA indicate that the application of distributed generation on a scale of 300 MW in Downtown Toronto faces a number of technical issues and challenges. Addressing the short circuit issues at the main 115 kV transmission stations is essential to connecting additional generation at the transmission or distribution level. Issues of grid connection, siting and sizing to avoid adverse effects, generator coordination, frequency and voltage control need to be addressed. Further investigation is also required to determine better costing as well as the potential of new technologies to meet central and downtown Toronto needs.

The OPA Recommendations

To meet the potential range of needs facing central and downtown Toronto, the OPA has identified the need for the following development work in the near term:

1. technical and survey studies to assess potential performance issues and costs, and to develop a plan for large scale application of distributed generation in Toronto;

2. investigations to explore the feasibility and scope of work of increasing the short circuit capacity at the Leaside, Manby and Hearn stations;

3. engineering and technical studies to establish the scope of facilities and detailed costs for the transmission options;

4. due diligence study for the suitability of direct current transmission technology for supply to Downtown Toronto; and

5. initiation of the work to obtain the necessary environmental assessment approvals for the preferred plan.

The OPA concludes that commencing this development work will provide the flexibility to meet potential needs in the 2015 to 2017 timeframe. The OPA's estimated cost of the development work is expected to be approximately $10 million to $12 million representing 2% of a potential plan cost for a new supply source in Toronto. The OPA believes these are prudent expenditures necessary to permit effective decision making for complex and large capital cost projects in a period and environment of significant uncertainty.

The City's Submissions

In its written comments and during oral presentations during the Phase 1 hearings, the City presented the following issues:

1. Transmission System Issues

The City expressed specific concerns with respect to OPA's plan to strengthen the transmission system including the following:

(a) Incomplete Plan

The IPSP does no more than set out a plan for a plan for transmission in the City of Toronto. The OPA has not met the criteria of the Directive.

This failure is important in the context of, amongst other issues, the OPA's continuing obligation to consult with the City in accordance with the regulations. The duty to

consult attaches to the OPA's development of a plan, including a plan for transmission. If the Board deems the plan for transmission to be complete as drafted, the door may be closed on OPA's duty to consult in future.

In general, the IPSP as presently developed, shows a lack of consideration of the City's Climate Change, Clean Air and Sustainable Energy Plan, its Official Plan and its conservation and demand management initiatives.

The Official Plan contains numerous policies that support electricity demand reduction through energy efficient design, renewable energy generation and district-based heating and cooling within the context of its contemplated growth scenario. The implications of an increased energy supply proposed by the OPA should be evaluated in the context of the reduced energy future that is contemplated by the Official Plan.

(b) Distributed Generation and Renewable Energy

The IPSP does not address the ability to connect energy generated from distributed generation and renewable sources to the extent it needs to be addressed in central and downtown Toronto. Goal #2 of the Ministerial Directive requires an increase in Ontario's use of renewable energy.

(c) Impact on "Utility Corridors"

Several of the preliminary route proposals fall within the areas designated as "utility corridors" and so may conflict with City's secondary uses of these corridors, including use for parks, pedestrian bicycles trails, agriculture, parking lots, open storage, essential public services, storm water management problems, public transit facilities and garden centres with temporary buildings.

(d) Impacts on Transit

There are several areas where the proposed route for a new transmission line could impact future systems for transit as identified in the Official Plan.

(e) Impacts on Natural Areas

The Official Plan provides that Natural Areas are to be maintained in a natural state, allowing for utilities only where "no reasonable alternatives are available" and where the utilities are "designed to have only minimal adverse impacts on natural features and functions". The proposed transmission lines could create hazards for migratory bird populations and other aspects of Toronto's natural heritage.

(f) Impacts on Public Realm

Where wires are not buried under the City's streets consideration must be given to improving and protecting the quality of the public realm.

(g) Visual and servicing impacts of new transmission powerlines on adjacent development projects.

(h) Potential health effects of exposure to electromagnetic fields

In 1993, the City adopted a policy to encourage limiting public exposure to electromagnetic frequencies (EMFs) in public places where practical and feasible at little or no cost. Given the built up nature of the City, any new aboveground transmission line running through the City will likely subject many additional properties to increased exposure of EMFs.

2. Reliability of Supply

In providing for a plan to develop a plan, the IPSP does not provide a solution for the reliability of supply in central and downtown Toronto.