Corporate Report

Clerk's Files

Originator's Files CD.09.ELE

DATE: February 7, 2006

TO: Chair and Members of Planning and Development Committee
Meeting Date: February 27, 2006

FROM: Edward R. Sajecki
Commissioner of Planning and Building

SUBJECT: **Power Generating Facilities – Report on Comments**

RECOMMENDATION: 1. That the report dated February 7, 2006 from the Commissioner of Planning and Building recommending approval of the amendments to the Official Plan and Zoning By-law 5500, Streetsville and Port Credit Zoning By-Laws, be adopted in accordance with the following:

(a) That the following definitions be added to Mississauga Plan, the existing Zoning By-laws and the Draft Comprehensive Zoning By-law:

POWER GENERATING FACILITY means a building or structure used for the production of electrical power, where output is greater than 5 MW and where the method of production is limited to combined cycle, cogeneration and renewable energy.

COGENERATION means the production of heat energy and electrical or mechanical power from one fuel source in the same facility.

COGENERATION FACILITY means a building or structure or parts thereof used for the production of electrical power, where the method of production is by means of cogeneration.

COMBINED CYCLE means a generation technology in which electricity is produced from an integrated cycle comprised of one or more gas combustion turbines where steam is generated through the recovery of thermal energy in the exhaust flow of the combustion turbine(s) to power the steam turbine.

RENEWABLE ENERGY means the production of electrical power from an energy source that is renewed by natural processes including, but not limited to, wind, water, a biomass resource or product, or solar and geothermal energy.

(b) That Section 3.4.1.1.n Industrial, in Mississauga Plan and all other references to "Power Generating Stations" be replaced with "Power Generating Facility";

(c) That Section 110 (1) of Zoning By-law 5500 be amended as follows:

"In an "M1" (Industrial) zone, any person may use land or erect or use a building or structure for the purpose of manufacturing (except for a power generating facility), or industrial undertakings that…."

(d) That Section 111 (1) of Zoning By-law 5500 be amended as follows:

"In an "M2" (Industrial) zone, any person may use land or erect or use a building or structure for the purpose of any manufacturing (except for a power generating facility) or industrial undertakings including…"

(e) That Section 18 (1) (b) of the Streetsville Zoning By-law be amended as follows:

"Business Uses:

A bank, financial institution or money lending agency.

Any building for manufacturing (except for a power generating facility) or warehousing purposes including…."

(f) That Section 17 (1) (1) of the Port Credit Zoning By-law be amended as follows:

"Any manufacturing (except for a power generating facility), processing, repairing….."

(g) That Section 18 (1) (1) of the Port Credit Zoning By-law be amended as follows:

"Any manufacturing (except for a power generating facility), processing, repairing….."

(h) That Mississauga Plan be amended to allow a "Cogeneration Facility" to be permitted as an accessory use on lands designated "Institutional" except for the Britannia Farm;

(i) That all lands that are designated "Industrial" in Mississauga Plan and zoned "M1", "M2", "M2-297", "M2-1678", "M2-141", "M2-2616" be rezoned to "M2 - Special Sections" to permit a "Power Generating Facility" in addition to their current permitted uses;

(j) That the former Lakeview Generating Station site be rezoned from "M1" to a "M2 – Special Section" to permit a Power Generating Facility";

(k) That Section "I-1770" (Institutional) of Zoning By-law 5500 be amended to permit a "Cogeneration Facility" in addition to their current permitted uses;

(l) That Section "I-1301" (Institutional) of Zoning By-law 5500 be amended to permit a "Cogeneration Facility" in addition to their current permitted uses;

2. That the Planning and Building Department be directed to undertake a study of the appropriateness of permitting a "Cogeneration Facility" as an accessory use within the "Business Employment" designation, the City Centre Planning District" and larger city owned facilities;

3. That City Council direct staff to implement the Revised Expanded Development Conditions and Requirements (Part A of Appendix 2) contained in the report titled "Power Generating Facilities - Report on Comments" dated February 7, 2006 from the Commissioner of Planning and Building for consideration in all Requests for Proposals (RFPs) and in the evaluation of all applications for power generating facilities;

4. That City Council direct staff to forward to the Province and the Region of Peel the Revised Expanded Development Conditions and Requirements (Part B of Appendix 2) contained in the report titled "Power Generating Facilities - Report on Comments" dated February 7, 2006 from the Commissioner of Planning and Building for consideration in all Requests for Proposals (RFPs) and in the evaluation of all applications for power generating facilities;

5. That City Council authorize staff to retain consultants in the power generation field, on an as needed basis, to provide expert advice in the review and evaluation of all applications for power generating facilities;

6. That the report titled "Power Generating Facilities – Report on Comments" dated February 7, 2006 from the Commissioner of Planning and Building be forwarded for information, by the City Clerk, to the Ontario Power Authority, Ministry of Energy, Ministry of Environment, Ministry of Municipal Affairs and Housing, Peel District School Board, Region of Peel, City of Brampton, Region of Halton, Town of Oakville, Town of Milton, Town of Halton Hills, and the City of Toronto.

BACKGROUND:

The report titled "Power Generating Facilities – Public Meeting" dated November 15, 2005 from the Commissioner of Planning and Building is attached as Appendix 1.

The statutory public meeting was held by the Planning and Development Committee on December 5, 2005. The purpose of the public meeting was to obtain comments on the proposed amendments.

COMMENTS:

The comments are grouped as follows:

Definitions

Several concerns were raised both in writing and at the public meeting regarding the definition of "Power Generating Facility", "Cogeneration", "Combined Cycle" and "Renewable Energy". The following definitions have been updated based on further research and suggested rewording.

POWER GENERATING FACILITY

Concerns were raised with respect to small and medium sized generation facilities (less than 5 MW) and the impact the proposed requirements would have on these smaller scale generation facilities. There are existing power generators which are accessory to buildings, as well as emergency generators. Enersource is looking to connect such small generators to the power grid in an effort to augment power supply in times of peak demands. They are also looking to encourage the development of small and medium size power generation (less than 5 MW).

The intent of the report titled "Power Generating Facilities" dated October 24, 2005 was to address large power generating facilities in Mississauga, such as the Eastern Power Greenfield South or the Sithe proposal. It was not the intent to regulate small scale power generation.

In order to clarify that the reference to "Power Generating Facilities" is for larger scale generation, it is proposed that the definition of "Power Generating Facilities" be modified to remove the words "or parts thereof" and to clarify that "Power Generating Facilities" are referring to larger scale power generation. The definition is proposed to be modified by clarifying that the output must be greater than 5 MW. As such, the definition of Power Generation Facility has been modified as follows:

Power Generating Facility means a building or structure ~~or parts thereof~~ used for the production of electrical power *where output is greater than 5 MW and* where the method of production is limited to combined cycle, cogeneration and renewable energy.

COGENERATION

Experts in the electricity industry have indicated that the definition of "Cogeneration" is not accurate. It is not necessarily the simultaneous production of heat and power. As such, it is proposed that the word "simultaneous" be removed from the definition. The amended proposed definition for Cogeneration is as follows:

Cogeneration means the ~~simultaneous~~ production of heat energy and electrical or mechanical power from one fuel source in the same facility.

COMBINED CYCLE

Experts in the industry have pointed out that electricity produced from the integrated cycle may not necessarily have been lost heat. Therefore, in order to clarify the definition of "Combined Cycle", it is proposed that the words "from otherwise lost heat exiting" be removed as follows:

Combined Cycle means a generation technology in which electricity is produced ~~from otherwise lost heat exiting~~ *from an integrated cycle* comprised of one or more gas *combustion* turbines *where steam is generated through the recovery of thermal energy in the exhaust flow of the combustion turbine(s) to power the steam turbine*.

RENEWABLE ENERGY

Concerns were raised regarding the inclusion of biomass resources or products. Renewable Energy Systems are defined in the Provincial Policy Statement (PPS). The City's policy framework is required to be consistent with the PPS and, as such, the PPS definitions are used in Mississauga Plan. Any concerns regarding biomass will be addressed through the Expanded Development Conditions and Requirements, as shown in Appendix 2 – Revised Expanded Development Conditions and Requirements.

As such, the definition of Renewable Energy will remain as follows:

The production of electrical power from an energy source that is renewed by natural processes including, but not limited to, wind, water, a biomass resource or product, or solar and geothermal energy.

Proposed Modifications to Expanded Development Conditions and Requirements

A component of the report titled "Power Generating Facilities" dated October 24, 2005 was a list that staff compiled of expanded development conditions and requirements for all new power generating facilities.

Representatives from the industry requested modifications and met with staff to assist in resolving their concerns and to clarify the intent of each proposed expanded development condition and requirement.

The proposed modifications generally provide further direction on who is responsible for each additional requirement and what is necessary to fulfill each development condition and requirement. For example, all references to "proponent" have been replaced with "applicant". Another proposed modification is with respect to

providing more detail regarding the peer review of the applicant's technical reports in the first requirement of the City.

Attached as Appendix 2 is a revised list of expanded development conditions and requirements for the City and those that staff are recommending to the Region and Province for implementation.

Separation Distances

At the public meeting, Committee members requested staff to further research the issue of including a separation distance in the Zoning By-law to address concerns of compatibility.

Appendix 3 – Separation Distance Requirements For Power Generating Facilities, is a summary of additional research from a number of municipalities across Canada and whether or not they require a separation distance in either their Official Plan or Zoning By-law, between power generating facilities and residential uses.

Further, to assist in trying to develop a defendable number to regulate the separation distance appropriate for power generating facilities to residential development, City staff also met with the power generating industry.

Generally, it was found that most municipalities do not include a separation distance requirement for power generating facilities. Instead they rely on input/approval and guidelines from relevant provincial agencies (e.g. Ministry of Environment, Ministry of Energy, Energy Board, etc.) and relevant statues such as the *Environmental Assessment Act* in considering development approval. Some municipalities, such as the City of Vancouver, have separation distance requirements from power lines only. As most municipalities have not yet received an application for a power generating facility that is not operated by a public agency, they have not introduced separation distance requirements in their Zoning By-laws.

Ministry of Environment Guidelines:

One of the issues raised was the difference in minimum separation distances and areas of influence outlined in the various provincial guidelines.

The Ministry of Environment (MOE) D-6 series guidelines recommend minimum separation distances between industrial facilities and sensitive receptors such as residential land uses. For natural gas-fired electrical generation facilities, which are, for the most part, considered Class II facilities, the D-6 guidelines require a minimum separation distance of 70 metres (230 feet) with a potential area of influence of 300 metres (984 feet). The potential area of influence is defined as an area where adverse effects are generally expected to occur. The actual area of influence and separation distance, are determined through the specific studies for noise, dust and odour.

The MOE Requirements for Electricity Projects require that a natural gas electricity project greater than or equal to 5 MW go through an Environmental Screening Process. The screening criteria, provided in the Guide, require that impacts on residential, commercial or institutional lands uses be examined within 500 metres (1,640 feet) of the site. If there is a potential for negative environmental effects identified, the applicant must provide additional information and analysis to describe those effects, identify mitigation or impact management measures to prevent or reduce the effects and assess the significance of any remaining net effects.

As such, the MOE D-6 and Electricity Projects guidelines require that an area of influence be examined – 300 metres (984 feet) or 500 metres (1,640 feet) and the D-6 guidelines require minimum separation distances. However, these are guidelines and not zoning requirements. The various required studies will determine the actual areas of influence and separation distances on a site-by-site basis.

It is through the regulatory review of power generating facility proposals that the specific setback and other technical requirements are established. General setback and technical requirements are, therefore, difficult to establish as each power generating facility varies in type, size, etc.

Restrictions for Fuel Storage

As a result of the concerns identified with respect to the large fuel tank storage being proposed on the Eastern Power South Site application, it was requested that staff research and bring forward more information with respect to fuel tank storage.

Tanks for fuel storage are regulated by the Fuel Oil Code (Ont. Reg. 213/01) under the *Technical Standards and Safety Act*. This code regulates the design, installation and supply of fuel oil to the tanks but does not speak to locational requirements.

This issue will be addressed on a site-by-site basis following the adoption of this report which will bring the Zoning By-law into conformity with Mississauga Plan.

Vibration

Another issue identified at the public meeting was the impact of vibration of large power generating facilities on residential development in close proximity. The issue of vibration can be included as a component of the Noise Assessment, if it is identified as a potential impact.

Existing Application - Greenfield South-Eastern Power

A number of comments received at the public meeting and in writing related to the Greenfield South Eastern Power application. As stated in the previous report, as a result of the applications already being filed, they must be processed under the zoning in place on August 4, 2005 (the date the application was filed).

On September 19, 2005, City Council considered a report dated September 12, 2005 titled "Environmental Screening and Review Report (August 17, 2005), Greenfield South Power Project, Eastern Power Limited (Ward 1)" from the Commissioner of Transportation and Works and adopted the following (Resolution 0210-2005):

"That the Commissioner of Transportation and Works be authorized to write the Director, Environmental Assessment and Approvals Branch, Ministry of Environment, prior to the end of the 30-day review period of the Notice of Completion of Environmental Screening and Review Report for the proposed Greenfield South Power Project, which expires on September19, 2005, requesting that the project be elevated to an individual Environmental Assessment; and that a copy of the aforementioned request be forwarded to Eastern Power Limited."

On January 19, 2006 the Ministry of Environment denied the City's request for an individual environmental assessment for the Greenfield South Power Project, Eastern Power Limited (Ward 1). According to the Guide to Environmental Assessment Requirements for Electricity Projects, a party may request that the Minister of Environment review the Director's decision on an elevation request. On February 1, 2006, City Council considered a report dated January 26, 2006 from the Commissioner of Transportation and Works and passed a resolution to forward a letter to the Minister of Environment requesting that the Minister review and vary the Director's decision.

At the public meeting Eastern Power submitted a letter objecting to the recommendations of the report and the proposed approach that the City is considering. Specifically, Eastern Power expressed a concern that the report was developed without the appropriate consultation with electricity generating project developers, and without extensive input from qualified experts in the field. Other concerns raised by Eastern Power were with respect to the restrictions being proposed being in contravention of the Provincial Policy Statement, the recommendations and restrictions are unclear and ambiguous and finally that the Expanded Conditions and Requirements staff is recommending duplicating areas of provincial jurisdiction (i.e. air and

noise emissions, environmental impacts, etc.). Appendix 4 is a copy of the letter that was submitted by Eastern Power.

Bill 51

On December 12, 2005, the Minister of Municipal Affairs and Housing introduced Bill 51, the *Planning and Conservation Land Statute Law Amendment Act,* 2005. It proposes numerous amendments to the *Planning Act* and a few amendments to the *Conservation Land Act* pertaining to conservation easements and covenants.

A major concern identified by staff is the impact of the potential loss of planning control of certain unspecified energy undertakings which will be exempt from the *Planning Act* if approved under, or exempt from the *Environmental Assessment Act*. This proposed amendment would remove energy undertakings from municipal control.

Future Studies

The previous report identified the appropriateness of further studies to be undertaken with respect to cogeneration facilities as an accessory use within the Business Employment designation and the City Centre Planning District. The Community Services Department has requested that City-owned facilities, such as, the Hershey Centre also be considered through this review.

Further, through the review of the new Provincial Policy Statement (PPS) it was identified that the City is required to develop a renewable energy strategy to be consistent with the PPS.

FINANCIAL IMPACT: Not applicable

CONCLUSION: This report includes the analysis by staff of the comments received both in writing and verbally at the statutory public meeting on the recommended changes to the Official Plan and Zoning By-laws to regulate power generating facilities.

Mississauga, as a result of its location within the Greater Toronto

Area, has been identified as a preferred location for additional power generating facilities. As a result, staff undertook a comprehensive review of the City's existing policy framework to determine where it would be appropriate for these facilities to locate.

The proposed amendments to the Official Plan and Zoning By-laws have been updated, where appropriate, to alleviate the concerns raised at the public meeting and the other comments received.

ATTACHMENTS:

APPENDIX 1: Corporate Report titled "Power Generating Facilities Public Meeting" dated November 15, 2005 from the Commissioner of Planning and Building
APPENDIX 2: Revised Expanded Development Conditions and Requirements
APPENDIX 3: Separation Distance Requirements For Power Generating Facilities
APPENDIX 4: Eastern Power Letter – dated December 9, 2005

Original Signed By:

Edward R. Sajecki
Commissioner of Planning and Building

K:\PLAN\POLICY\GROUP\2006 Special Projects\Power Generating Facilities\dc power generation Feb 13, 2006 2.doc

Corporate Report

Clerk's Files

Originator's Files CD.09.ELE

DATE: November 15, 2005

TO: Chair and Members of Planning and Development Committee
Meeting Date: December 5, 2005

FROM: Edward R. Sajecki
Commissioner of Planning and Building

SUBJECT: **Power Generating Facilities**
PUBLIC MEETING

RECOMMENDATION:

1. That the submissions made at the public meeting held at the Planning and Development Committee meeting on December 5, 2005 to consider the recommendations of the report titled "Power Generating Facilities" dated October 24, 2005 from the Commissioner of Planning and Building be received.

2. That the Planning and Building Department staff report back to City Council on the submissions made with respect to the report titled "Power Generating Facilities" dated October 24, 2005 from the Commissioner of Planning and Building.

COMMENTS:

The public meeting scheduled for Planning and Development Committee on December 5, 2005 is the statutory public meeting to fulfil the requirements of the *Planning Act.* Its purpose is to provide an opportunity to the public to make submissions to Planning and Development Committee on the recommendations of the report titled "Power Generating Facilities" dated October 24, 2005 from the Commissioner of Planning and Building (Appendix 1).

The study has been forwarded to the Ontario Power Authority, Ministry of Energy, Ministry of Environment, Ministry of Municipal Affairs and Housing, Peel District School Board, Region of Peel, City of Brampton, Region of Halton, Town of Oakville, Town of Milton, Town of Halton Hills, and the City of Toronto.

Planning and Building Department staff will report back to City Council on all the comments received, including submissions made at the public meeting, with revised recommendations, where appropriate.

FINANCIAL IMPACT: Not applicable.

CONCLUSION: After the public meeting is held and all issues are addressed, the Planning and Building Department will be in a position to make final recommendations with respect to the report titled "Power Generating Facilities".

ATTACHMENTS: APPENDIX 1: Corporate Report titled "Power Generating Facilities" dated October 24, 2005 from the Commissioner of Planning and Building.

Original Signed By:

Edward R. Sajecki
Commissioner of Planning and Building

K:\PLAN\POLICY\GROUP\2005 Special Projects\Power Generating Facilities\dcdec5threport.doc.dot

Corporate Report

Clerk's Files

Originator's Files: CD.09.ELE (Electric Power Plants)

DATE: October 24, 2005

TO: Mayor and Members of Council
Meeting Date: October 26, 2005

FROM: Edward R. Sajecki, Commissioner
Planning and Building Department

SUBJECT: **Power Generating Facilities**

RECOMMENDATION:

1. That a public meeting be held at the Planning and Development Committee to consider the following recommendations as outlined in the report titled "Power Generating Facilities" dated October 24, 2005 from the Commissioner of Planning and Building:

   (a) That the following definitions be added to Mississauga Plan, the current Zoning By-laws and the Draft Comprehensive Zoning By-law:

   POWER GENERATING FACILITY means a building or structure or parts thereof used for the production of electrical power, where the method of production is limited to combined cycle, cogeneration and renewable energy.

   COGENERATION means the simultaneous production of heat energy and electrical or mechanical power from one fuel source in the same facility.

   COGENERATION FACILITY means a building or structure or parts thereof used for the production of electrical power, where the method of production is by means of cogeneration.

COMBINED CYCLE means a generation technology in which electricity is produced from otherwise lost heat exiting from one or more gas turbines.

RENEWABLE ENERGY means the production of electrical power from an energy source that is renewed by natural processes including, but not limited to, wind, water, a biomass resource or product, or solar and geothermal energy.

(b) That Section 3.4.1.1.n Industrial, in Mississauga Plan and all other references to "Power Generating Stations" be replaced with "Power Generating Facility";

(c) That Section 110 (1) of Zoning By-law 5500 be amended as follows:

"In an "M1" (Industrial) zone, any person may use land or erect or use a building or structure for the purpose of manufacturing *(except for a power generating facility)*, or industrial undertakings that…."

(d) That Section 111 (1) of Zoning By-law 5500 be amended as follows:

"In an "M2" (Industrial) zone, any person may use land or erect or use a building or structure for the purpose of any manufacturing *(except for a power generating facility)* or industrial undertakings including…"

(e) That Section 18 (1) (b) of the Streetsville Zoning By-law be amended as follows:

"Business Uses:

A bank, financial institution or money lending agency.

Any building for manufacturing *(except for a power generating facility)* or warehousing purposes including…."

(f) That Section 17 (1) (1) of the Port Credit Zoning By-law be amended as follows:

"Any manufacturing *(except for a power generating facility)*, processing, repairing….."

(g) That Section 18 (1) (1) of the Port Credit Zoning By-law be amended as follows:

"Any manufacturing *(except for a power generating facility)*, processing, repairing….."

(h) That Mississauga Plan be amended to allow a "Cogeneration Facility" to be permitted as an accessory use on lands designated "Institutional" except for the Britannia Farm;

(i) That all lands that are designated "Industrial" in Mississauga Plan and zoned "M1", "M2", "M2-297", "M2-1678", "M2-141", "M2-2616" be rezoned to "M2 - Special Sections" to permit a "Power Generating Facility" in addition to their current permitted uses;

(j) That the former Lakeview Generating Station site be rezoned from "M1" to a "M2 – Special Section" to permit a Power Generating Facility";

(k) That Section "I-1770" (Institutional) of Zoning By-law 5500 be amended to permit a "Cogeneration Facility" in addition to their current permitted uses;

(l) That Section "I-1301" (Institutional) of Zoning By-law 5500 be amended to permit a "Cogeneration Facility" in addition to their current permitted uses;

2. That the Planning and Building Department be directed to undertake a study of the appropriateness of permitting a "Cogeneration Facility" as an accessory use within the "Business Employment" designation and the City Centre Planning District";

3. That City Council direct staff to implement the Expanded Development Conditions and Requirements contained in Part A of Appendix 12 to the report titled "Power Generating Facilities" dated October 24, 2005 from the Commissioner of Planning and Building as part of the evaluation process for all applications for power generating facilities;

4. That City Council direct staff to forward to the Province and the Region of Peel the Expanded Development Conditions and Requirements contained in Part B of Appendix 12 to the report titled "Power Generating Facilities" dated October 24, 2005 from the Commissioner of Planning and Building for consideration in all Requests for Proposals (RFPs) and in the evaluation of all applications for power generating facilities;

5. That City Council authorize staff to retain consultants in the power generation field, on an as needed basis, to provide expert advice in the review and evaluation of all applications for power generating facilities;

6. That the report titled "Power Generating Facilities" dated October 24, 2005 from the Commissioner of Planning and Building be forwarded for information and comment by the City Clerk to the Ontario Power Authority, Ministry of Energy, Ministry of Environment, Ministry of Municipal Affairs and Housing, Peel District School Board, Region of Peel, City of Brampton, Region of Halton, Town of Oakville, Town of Milton, Town of Halton Hills, and the City of Toronto.

BACKGROUND:

This report is in response to the initiative of the Provincial government to reduce the Province's reliance on coal-fired electricity generation and, specifically, the Provincial Ministry of Energy's first Request for Proposal (RFP) sent out in 2004 for power generating facilities to serve the Ontario market.

This initiative provides an opportunity for Mississauga to review and, if necessary, update the existing policy framework and the

Zoning By-law for determining the location for power generating facilities.
On May 11, 2005, City Council adopted a report from the Commissioner of Planning and Building on the Work Program/Special Studies outlining the projects to be undertaken by the Planning and Building Department in 2005, including "Power Generating Facilities".

The report recommended that staff undertake a review of land use policies to determine if they appropriately recognize the emerging technologies and trends in power generating, not only gas-fired plants but in particular cogeneration facilities. Any change to the policies would require changes to the new Draft Comprehensive Zoning By-law.

In addition to the May 11, 2005 report, on July 6, 2005 City Council adopted Resolution 0169-2005 (Appendix 1) directing staff to undertake a review to identify where the Zoning By-law(s) may need to be amended in order to:

(a) implement Mississauga Plan;
(b) establish appropriate regulations and criteria for the location of power generating facilities; and
(c) effect changes to the Draft Comprehensive Zoning By-law to provide that this document also implements Mississauga Plan, consistent with appropriate regulations and criteria for the location of power generating facilities.

This report addresses the broader issue of power generating facilities and their appropriate locations**,** the immediate issue of conformity with Mississauga Plan of both the current Zoning By-law(s) and Draft Comprehensive Zoning By-law. In addition, expanded development conditions and requirements that can be implemented by the City and those that should be implemented by the Province or Region have been identified and will be forwarded to the Province and the Region for consideration in future Requests for Proposals (RFPs).

COMMENTS:

1. Provincial Issues

In 2004, the Province announced the initiative to reduce the Province's reliance on coal-fired electricity generation.

On July 8, 2005, the Independent Electricity System Operator (IESO) released a ten-year forecast which identified that demand is growing faster than new power generating and transmission facilities can be built. This identified shortage of capacity was forecast prior to the announcement of the shut down of all coal-fired plants by 2007 in the Province. The impact of this shut down is a loss of 7 560 Megawatts (MW) of capacity in the Province, with the Lakeview facility representing 1 140 MW.

Earlier this summer, the Minister of Energy directed the Ontario Power Authority to acquire 500 megawatts of new generation in the City of Toronto and 1000 megawatts in the western GTA (Mississauga, Brampton, Oakville).

Although the Province has developed an aggressive conservation plan, the industry (IESO) has concluded that, to meet increasing power demand, new power generating facilities need to be developed. If no new facilities are built, blackouts throughout the Province could result during peak periods. The City of Mississauga recognizes this concern and that new power generating facilities are required to support our residential and business community. Appendix 2 – Comparative Power Generating Capabilities briefly explains, by example, electricity requirements.

(a) Transmission Operating Limits

The Province of Ontario's transmission system has operating limits in the power flow. These operating constraints, called "Interfaces", limit the transfer of generation on the transmission network along the designated interface. One of the major interfaces is known as the "FETT" Interface which stands for "Flow Easterly to Toronto".

(b) Flow Easterly to Toronto (FETT)

The FETT interface is a Hydro One Transmission operating limit affecting transfer of generation from west of the FETT interface to east of this interface. This operating limit has been set to protect the integrity of the transmission system. Failure to respect the operating limit could result in extensive power outages, failure of the transmission system, and long-term blackouts.

Some of the key facts about the FETT interface are:

- approximately 65% of the Ontario electrical load is located east of FETT;
- approximately 15 000 MW of generation is located west of the FETT;
- most of the import of electricity from the United States is from west of the FETT.

The FETT interface line runs in a north - south direction along the westerly edge of Mississauga (approximately Winston Churchill Boulevard). This limit is the result of loading limitations on the transmission system in the interface line.

As a result, Mississauga, being east of the FETT, is one of the preferred locations in Ontario for new power generating facilities to provide additional power for the Greater Toronto Area.

In recent discussions with the Ontario Power Authority, it was identified that specific areas within Mississauga could be facing localized blackouts unless additional supply is made available for these areas.

(c) Proximity to Power and Fuel Lines

Other location requirements for new power generating facilities relate to the proximity to electricity transmission lines and oil and gas lines. Mississauga has four main electricity transmission lines and eight oil and gas pipelines. Appendix 3 illustrates the location of the transmission lines in Mississauga.

2. Power Generation Categories

The following describes some of the main types of power generating categories: renewable energy, combined cycle and cogeneration:

(a) Renewable Energy

The new Provincial Policy Statement defines "renewable energy" as the *production of electrical power from an energy source that is renewed by natural processes including, but not limited to, wind, water, a biomass resource or product, or solar and geothermal energy*. Unlike traditional sources of power (e.g. fossil fuel), most renewable energy, such as wind and solar, have minimal environmental impacts.

Concerned about climate change, air quality and the associated health implications, the Ontario Public Health Association stated: *"If we are to stabilize the global climate, improve air quality, and protect public health, we must make a shift in our economy. We must move away from our reliance on fossil fuels. We must develop renewable energy sources that do not damage the environment upon which human life depends"*.

Currently, about 26% of Ontario's power generation mix comes from renewable energy sources, including waterpower. The remainder is derived from coal, natural gas and nuclear facilities.

The MMAH is preparing implementation material to assist municipalities in developing planning documents that address renewable energy policies stipulated in the new Provincial Policy Statement (PPS).

In response to a variety of factors, including negative health consequences associated with traditional methods of power generation (e.g. coal-fired plants), both Provincial and Federal levels of government have placed strong emphasis on increasing the supply of renewable energy. There are six main types of renewable energy that are outlined in Appendix 4 – Types of Renewable Energy.

Mississauga has not yet received any proposals for renewable energy power generation. However, Mississauga will consider opportunities for alternative energy systems as indicated in the new Provincial Policy Statement as part of Official Plan Amendment 25 (Proposed Amendments to Mississauga Plan that were released for public consultation at the January 10, 2005 Planning and Development Committee meeting), and will be presented to the Planning and Development Committee early in 2006.

(b) Combined Cycle

Combined cycle power generation brings together a gas turbine with a steam turbine. The new Provincial Policy Statement defines combined cycle generation as *a generation technology in which electricity is produced from otherwise lost heat exiting from one or more gas turbines. Exiting heat is routed to a boiler or a heat recovery steam generator for use by a steam turbine. This increases the efficiency of the generating unit.* Essentially, combined cycle power generation involves the burning of natural gas to drive a gas turbine. Heat and steam produced during the process is then used to drive a steam turbine.

Mississauga has received two proposals for combined cycle power generating facilities, known as Greenfield North and Greenfield South.

(c) Cogeneration

The formal definition of "cogeneration" is *the simultaneous production of heat energy and electrical or mechanical power from the same fuel in the same facility* which means, the production of two useful energy sources from one fuel source at the same time.

Traditional coal, oil or natural gas-fired thermal generating stations convert only about one-third of the initial energy contained within the fuel into useful electricity and the remainder of the energy is discarded as waste heat.

Cogeneration can increase fossil fuel efficiency from an average of 40% to over 80%. This increase in efficiency can translate into lower costs and fewer pollutant emissions than the conventional alternative of generating electricity and heat separately. Cogeneration equipment can be fired by fuels other than natural gas, such as, wood, agricultural waste, peat moss, and a wide variety of other fuels depending on local availability.

The major benefits of cogeneration facilities are:

- increased energy efficiency;
- provides better use of energy;
- reduces greenhouse gas emissions;
- reduces losses on electricity grids;
- stabilizes energy costs; and
- assists in addressing Provincial issues.

Some of the limitations of cogeneration facilities are:

- requires a substantial initial investment;

- financial returns vary according to price of electricity and fuels;
- location in populated areas; and
- impractical to transport heat produced over any distance.

As a result of the limitations outlined above, cogeneration facilities tend to be smaller. As it is impractical to transport heat over any distance, cogeneration equipment should be located physically close to its heat user. Because cogeneration systems require a thermal host for processing heat (steam), it is used to power many industrial processes and for space heating in buildings used for commercial, industrial and residential uses. As a result, it is appropriate for cogeneration systems to be built in populated areas, subject to extensive environmental assessment and higher urban design standards.

Within Ontario there are many examples of existing cogeneration projects. These range from smaller scale projects (10 MW) in Markham used for commercial and small industrial development, to medium scale projects (10-150 MW) in Ottawa used as the power source in a number of the hospitals, and finally to larger scale projects (150-650 MW) in Sarnia used for large industrial operations.

Within Mississauga, a 90 MW cogeneration facility is being developed by the Greater Toronto Airports Authority.

3. Regulatory Process for Power Generation

Although a new power generation facility is a permitted use in Mississauga Plan and the Zoning By-law(s), there are a number of regulatory requirements that must be met prior to a new power generating facility being approved. These approvals include the requirements of the *Environmental Assessment Act*, a Certificate of Approval under the *Environmental Protection Act* as well as other related approvals.

(a) *Environmental Assessment Act*

Power generating facilities must meet the requirements of the *Environmental Assessment Act*, under Ontario Regulation 116/01. Projects are required to follow an Environmental Screening Process and/or an Environmental Review Process. Appendix 5 is a summary of the Environmental Assessment requirements for Electricity Projects.

Electricity projects are classified based on type of fuel used, size of facility and efficiency of facility. Cogeneration and Combined-cycle plants are classified as Category B, defined as "having potential environmental effects that can be mitigated".

Elevation requests can be submitted at various stages. A project at the Screening Stage can be elevated to either an Environmental Review or to an individual Environmental Assessment (EA). Projects that have undergone an Environmental Review can be elevated to an individual EA. The proponent can voluntarily elevate the project or, if the proponent declines, the Director of the Environmental Assessment and Approvals Branch of the Ministry of Environment (MOE) will make a decision whether to elevate.

(b) Certificate of Approval

Under Section 9 of the *Environmental Protection Act*, MOE approval is required for emissions to air, including noise. The facility must demonstrate compliance with Provincial standards.

The MOE D-6 series guidelines, regarding compatibility between industrial facilities and sensitive land uses, recommend minimum separation distances between various classes of facilities and sensitive receptors such as residential with respect to noise, air emissions, odour and vibration. Natural gas-fired electrical generation facilities are likely considered a Class II facility, depending on type and size.

Class II facilities require a minimum separation distance of 70 metres (230 feet) and have a potential area of influence of 300 metres (984 feet). However, the actual separation distance and any required mitigation measures are determined through studies specific to the development.

For noise assessment, the applicable guidelines are the Ontario Ministry of the Environment NPC-205 "Stationary Source Guidelines for Class 1 and 2 (Urban) Areas", and related MOE land use approval guidelines LU-131 "Noise Assessment Criteria in Land Use Planning".

With respect to air quality, the A-5 "Atmospheric Emissions from Stationary Combustion Turbines" and "Point of Impingement Standards and Guidelines and Ambient Air Quality Criteria" must be met.

(c) Other Provincial Approvals

Connections or modifications to connections to transmission lines require approval under the Independent Electricity Market Operator's Connection Assessment and Approval process and possibly the Ontario Energy Board Leave-to-Construct approval process. Construction of gas pipelines must demonstrate compliance with the Ontario Energy Board "Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario".

It is through the regulatory review of power generating facility proposals that the specific setback and technical requirements are established. General setback and technical criteria are, therefore, difficult to establish as each power generating facility varies in type, size, etc. and the specifics are established through the regulatory review, as noted above. Any general criteria would be subjective and perhaps not defendable. Regulating power generating facilities is best done through the Official Plan and Zoning By-laws in conjunction with the Regulatory Processes. As such, the

specifics of each facility will be dealt with on a site-by-site basis.

4. Other Municipalities

Research of other municipalities found that most municipalities within Ontario only address public power plants within their Official Plan and Zoning By-law. Public power plants are usually designated "Public Utilities" within the Official Plan. The municipalities contacted indicated that proposals for private power plants would be dealt with on a site specific basis. Attached as Appendix 6, is a summary of research gathered from the Cities of Vaughan, Toronto, Hamilton, Brampton, Waterloo, London, Vancouver, Ottawa, and the Town of Markham.

The Portlands Energy Centre (PEC) in Toronto is proposed to address the forecasted need for electricity supply in Toronto's downtown core. The IESO in its latest 10-year outlook (April 2004) stated that additional generation is required in the Toronto area to replace Lakeview generating capacity and to meet the growth in the Greater Toronto Area.

Ontario Power Generation indicated that the PEC is an example of successful public consultation with the community as part of the Environmental Assessment process. In preparing this report, staff reviewed the conditions that were put in place in response to the concerns of the local community as part of the review process. Specific conditions are described in Appendix 7.

In addition to the above municipalities, a successful example outside of Canada of resolving local concerns occurred in San Jose, California where a large combined-cycle power generating facility was proposed in the prestigious Silicon Valley and received opposition from both the City of San Jose and its residents. Calpine Corporation, a large American company, which operates 92 power generating facilities with a total capacity of more than 26 000 MW brought forward an application in 2000 for a 600 MW power generating facility (Metcalf Energy Centre), adjacent to a large residential

neighbourhood. At the time, the City of San Jose opposed the proposal based on the potential impacts the project would have at this location with respect to the quality of life for the San Jose residents. On June 13, 2001 an agreement with a number of conditions was reached between the two parties. Specific Conditions of the agreement are described in Appendix 8.

5. Summary of Proposals in Mississauga

(a) Sithe

The first application for a new power generating facility in Mississauga was submitted on March 1, 2000, for an 800 MW combined - cycle natural gas-fired electrical power plant (increased to 945 MW through the Certificate of Approval process in 2005) owned and operated by Sithe Energies Canadian Development Ltd. on Winston Churchill Boulevard in the Southdown Employment District.

The following factors were considered by Sithe in their site selection process:

- unconstrained physical access to a large electrical load in the Greater Toronto Area during peak demand periods;
- proximity to and excess capacity in the electrical transmission infrastructure;
- accessibility to adequate fuel (natural gas) supply;
- compatibility with nearby and adjacent uses (i.e. lands designated “Industrial”); and
- the availability of a large tract of industrial property for purchase which would provide for the optimization of the layout of the site and ensure that the station fully complies with air and noise emissions standards while providing adequate buffers and landscaping to integrate into surroundings.

Although all of the local planning issues have been resolved, the Provincial government, to date, has not selected Sithe Energies Canadian Development Ltd.

(b) Greater Toronto Airports Authority

On April 13, 2005, the Ministry of Energy announced the approval of four new power generating projects in Ontario with the capacity to power over 650 000 homes. One of these projects is a 90 MW cogeneration facility by the Greater Toronto Airports Authority. This project will not only provide the airport with its own electrical supply and steam for heating and cooling needs, but also produce a substantial amount of energy to sell back into Ontario's power grid.

(c) Greenfield North and Greenfield South

In response to the Provincial Ministry of Energy's first proposal call sent out in 2004 for private power generating facilities to serve the Ontario market, six sites in Mississauga were part of the first round of sites considered for power generating facilities, not including the GTAA cogeneration facility. Appendix 9 is a "Summary of Proposals for Power Generation in Response to the Provincial RFP March 2005".

On May 30, 2005, the Province of Ontario announced the selection of two 280 MW combined cycle natural gas-fired power plants within the City of Mississauga. The two sites selected within Mississauga are affiliates of the same company, known as Eastern Power.

The Greenfield North Power Project is located on the west side of Hurontario Street, north of Derry Road West. The lands are designated "Business Employment" and "Greenbelt" in the Gateway District Policies of Mississauga Plan and zoned "A" (Agricultural). The proposed power plant is not permitted under the "Business Employment" or "Greenbelt" designation, nor is it permitted under the "A"

(Agricultural) zone. An Official Plan Amendment, rezoning, site plan approval and building permit is required.

The Greenfield South Power Project is located on the future extension of Loreland Avenue, south of Dundas Street East and east of Dixie Road, abutting the St. Lawrence and Hudson Railway (Canadian Pacific Railway). The lands are designated "Business Employment" in the Dixie District Policies of Mississauga Plan and zoned "H-M1-2638" (Industrial) by an Ontario Municipal Board order dated April 20, 2004, which permits a power generating facility. Development of the subject lands for a power plant requires removal of the "H" Holding symbol, site plan approval and a building permit. On August 4, 2005, applications for the removal of the "H" Holding Symbol and site plan were submitted to the City of Mississauga. As a result of these applications being filed, they must be processed under the zoning in place on August 4, 2005.

Although these power plants were the successful projects selected to fulfill the Ministry of Energy's RFP, they are still subject to local planning authority approvals and the requirements of the *Environmental Assessment Act*, *the Environmental Protection Act* and associated guidelines.

On September 19, 2005, City Council considered a report dated September 12, 2005 titled "Environmental Screening and Review Report (August 17, 2005), Greenfield South Power Project, Eastern Power Limited (Ward 1)" from the Commissioner of Transportation and Works and adopted the following (Resolution 0210-2005):

"That the Commissioner of Transportation and Works be authorized to write the Director, Environmental Assessment and Approvals Branch, Ministry of Environment, prior to the end of the 30-day review period of the Notice of Completion of Environmental Screening and Review Report for the proposed Greenfield South Power Project, which expires on September19, 2005, requesting that the project be elevated to

an individual Environmental Assessment; and that a copy of the aforementioned request be forwarded to Eastern Power Limited".

6. Policy Framework

A review of the new Provincial Policy Statement (PPS), Mississauga Plan, existing Zoning By-law(s) and the Draft Comprehensive Zoning By-law were undertaken to determine appropriate locations for power generating facilities.

(a) Provincial Policy Statement

The new Provincial Policy Statement which came into effect on March 1, 2005 added a new section on Energy and Air Quality as follows:

"1.8.1 Planning authorities shall support energy efficiency and improved air quality through land use and development patterns which:

a) promote compact form and a structure of nodes and corridors;
b) promote the use of public transit and other alternative transportation modes in and between residential, employment (including commercial, industrial and institutional uses) and other areas where these exist or are to be developed;
c) focus major employment, commercial and other travel-intensive land uses on sites which are well served by public transit where this exists or is to be developed, or designing these to facilitate the establishment of public transit in the future;
d) improve the mix of employment and housing uses to shorten commute journeys and decrease transportation congestion; and
e) promote design and orientation which maximize the use of alternative or renewable energy, such as solar and wind energy, and the mitigating effects of vegetation.

1.8.2 Increased energy supply should be promoted by providing opportunities for energy generation facilities to accommodate current and projected needs and the use of renewable energy systems and alternative energy systems, where feasible.

The intent of this section of the PPS is to improve air quality through appropriate land use and development patterns and to provide opportunities for alternative energy systems.

Section 1.8 of the PPS will be considered as part of Official Plan Amendment 25.

(b) Mississauga Plan

(i) Industrial

The "Industrial" designation is defined in Section 3.4 of Mississauga Plan as generally: "permitting industrial operations that may have extensive outdoor processing and storage areas, and providing for a mix of employment activities that may require outdoor processing or storage areas including industrial, office, limited accessory retail uses, trucking operations, waste processing or transfer stations and existing resource extraction uses". Subsection 3.4 (n) recognizes that Industrially designated lands are the most appropriate locations for power generating facilities by listing "power generating stations" as a permitted use. Appendix 3 shows the lands currently designated Industrial. These consist of lands adjacent to the Airport in the Northeast District; lands in the Southdown Employment District; and small concentrations of lands in the Meadowvale Business Park District.

With respect to the Southdown Employment District, the Ministry of Environment (MOE) is currently conducting the Clarkson Air Shed Study. The study is a large-scale project initiated by the MOE in 2000 to address poor air quality

conditions in the border area between the Town of Oakville and the City of Mississauga.

The study consists of four stages:

1. facility inspections;
2. ambient air monitoring and data collection;
3. detailed emission inventories and dispersion modelling by major pollution sources; and
4. implementation of abatement and self-monitoring programs.

The ambient air monitoring program was completed on March 31, 2005 and is now being reviewed for quality control and interpreted. The MOE has indicated that the summary monitoring report (stage 2) will be available in the Fall of 2005. The detailed emission inventories and dispersion modelling (stage 3) is projected to be complete in Spring 2006 and the final stage is planned for completion in Spring 2007.

The existing Industrial lands are proposed to be augmented through Amendment 25 to Mississauga Plan, including sizeable concentrations in the Northeast Employment District, with lesser amounts in Dixie and Gateway Employment Districts. In some cases, these lands are vacant and meet the criteria for power generating facilities by being close to the power grids and oil and gas transmission lines and are of a sufficient size to accommodate a power generating facility. In addition, these lands are not close to residential areas to avoid land use conflicts between employment and residential uses.

Proposed power generating facilities on Industrially designated lands are subject to the requirements of the *Environmental Assessment Act*, the *Environmental Protection Act* and all associated guidelines, as well as the policies of Mississauga Plan, particularly design policies.

(ii) Lakeview Generating Facility

The Lakeview Generating Facility is currently designated "Utility" in Mississauga Plan with a Special Site in the Lakeview District Policies to permit an "electric power generating station". Although this coal-fired power generating facility has been closed, it is appropriate to permit cleaner types of power generating facilities at this location due to its proximity to the hydro transmission corridor.

(iii) Institutional

Institutional uses, addressed in Section 3.7 of Mississauga Plan, are defined as "generally occupying large sites on major roadways and transit routes, generating significant employment, and are of City-wide and/or Region-wide significance". This designation allows uses that "include but are not limited to hospitals, post-secondary educational facilities, such as universities and community colleges and major cultural or government facilities" (Section 3.7.1.1).

Currently within Mississauga there are four sites that are designated "Institutional". They are the two hospitals, the University of Toronto – Mississauga (UTM) and the Britannia Farm (owned by the Peel District School Board). It is appropriate for some institutional uses to have their own sources of power as they are generally compatible with the uses permitted under the "Institutional" designation defined above. As a result, a cogeneration facility should be permitted as an accessory use within the "Institutional" designation.

An exception to this is the 'Britannia Farm' lands. The Peel District School Board is in the process of developing a Master Plan for the Britannia Farm lands. It would be appropriate for the Peel District School Board to assess the suitability of the lands for power generating facilities as part of the Master Plan study.

The location of cogeneration facilities would be subject to requirements under the *Environmental Assessment Act* and *Environmental Protection Act* and associated guidelines, as well as, other related approvals and policies of Mississauga Plan, particularly Design Policies.

Mississauga Plan should, therefore, be amended to add a cogeneration facility as a permitted use within the "Institutional" designation except for the Britannia Farm.

(c) Zoning By-law(s)

Consistent with the principle, and direction from City Council, that the purpose of a Zoning By-law is to implement the Official Plan, both the existing Zoning By-laws (By-law 5500, Streetsville and Port Credit) and the Draft Comprehensive Zoning By-law should be amended.

In addition to the appropriate Official Plan designation and zoning for a site, detailed requirements and regulations for power generating facilities for both the proposed and existing Zoning By-law will be determined on an individual site basis through the application of the Environmental Assessment Act, the Environmental Protection Act and associated guidelines, which include a public consultation process.

(i) Existing Zoning By-law(s)

The interpretation of the existing Zoning By-laws (5500, Streetsville, Port Credit) is that a "Power Generating Facility" is considered a manufacturer of power and, therefore, is permitted in all "M1" and "M2" zones. Although most of lands zoned "M1" and "M2" are currently designated either "Business Employment" or "Industrial", there are several sites throughout Mississauga where lands are zoned "M1" and "M2" and designated for something other than an employment use.

Specifically of concern are established areas in Mississauga, where lands that historically were used for industrial undertakings and have remnant parcels of land that are still zoned "M1" or "M2" and designated "Residential" in Mississauga Plan. The most appropriate means to rectify this problem is through a Comprehensive Zoning By-law Review, as there is no "quick fix" solution to the existing Zoning By-laws.

Appendix 10 illustrates all lands within Mississauga that currently permit power generating facilities as-of-right under the existing Zoning By-laws(s).

A comparison of Appendix 3, which illustrates all lands that are designated "Industrial" in Mississauga Plan, and Appendix 10, demonstrates there are numerous properties within Mississauga that would permit power generating facilities under the existing zoning that are not currently designated "Industrial".

Therefore, it is appropriate to exclude "power generating facility" under manufacturing as a permitted use within the "M1" and "M2" zones and rezone all the lands that are currently designated "Industrial" and the Lakeview Generating Facility which is a special site in Mississauga Plan as a "M2 – Special Section".

With respect to the "I" zone in Zoning By-law 5500 it would be appropriate to amend "I-1770" and "I-1301" (the two hospitals) to permit a "cogeneration facility" as an accessory use. However, as the UTM property is currently zoned "R1" and "RS" in Zoning By-law 5500 it would not be appropriate for the City to initiate a Zoning By-law amendment for the University at this time but address permitting cogeneration facilities through the Comprehensive Zoning By-law Review.

(ii) Draft Comprehensive Zoning By-law

The Planning and Building Department is currently undertaking a Comprehensive Zoning By-law Review, where every parcel of land within the City is being reviewed under the rationale that the purpose of a Zoning By-law is to implement the Official Plan. It is being proposed that an "E3" Employment zone in the Draft Comprehensive Zoning By-law will match all lands that are designated "Industrial" in Mississauga Plan.

The proposed "E3" zone addresses such matters as outdoor storage and display areas, minimum setbacks, heights and landscaped buffers, as well as permitted uses. Appendix 11 contains the zoning regulations for the proposed "E3" zone.

Therefore, "power generation facility" should be added as a permitted use to section 8.2.1 of the Draft Comprehensive Zoning By-law for the proposed "E3" zone.

Further, to be consistent with Special Site 9 of the Lakeview District Policies in Mississauga Plan, it is appropriate for the Comprehensive Zoning By-law to have a "U" exception to permit a power generating facility on the former Lakeview Generating Station site.

Similarly, to be consistent with the Mississauga Plan "Institutional" designation, the Institutional zoning category "I", should be amended to permit a "cogeneration facility" as an accessory use on all lands zoned "I".

(d) Definition – Power Generating Facilities

Currently there is no definition of "power generating facility", "cogeneration", "cogeneration facility", "combined cycle" and "renewable energy" in Mississauga Plan or the existing Zoning By-law(s). The term "power generating facility" should be used rather than "power generating

stations" since it is more generic, and, therefore, more appropriate, as it addresses a wider range of facilities.

The following definitions should be added to both the existing and proposed Zoning By-laws:

Power Generating Facility – means a building or structure or parts thereof used for the production of electrical power, where the method of production is limited to combined cycle, cogeneration and renewable energy."

Cogeneration - means the simultaneous production of heat energy and electrical or mechanical power from one fuel source in the same facility.

Cogeneration Facility - means a building or structure or parts thereof used for the production of electrical power, where the method of production is by means of cogeneration.

Combined Cycle means a generation technology in which electricity is produced from otherwise lost heat exiting from one or more gas turbines.

Renewable Energy means the production of electrical power from an energy source that is renewed by natural processes including, but not limited to, wind, water, a biomass resource or product, or solar and geothermal energy.

(e) Expanded Development Conditions and Requirements

Staff from the Planning and Building Department, Transportation and Works Department and Legal Services held a session to analyze and identify appropriate conditions to be considered when evaluating applications. Exhibit 12 – Expanded Development Conditions and Requirements, is divided into conditions that can be implemented by the City and those that are being recommended to the Region and the Province for implementation.

(f) Further Studies

The need for providing additional opportunities for power supply within Mississauga is recognized and, therefore, it is appropriate to study cogeneration facilities as an accessory use within the Business Employment designation and the City Centre Planning District. The study will consider varying scales of cogenerating facilities, as well as appropriate screening, buffering and design guidelines.

The City should consider retaining the appropriate expert(s) in the power generation field to provide an impartial look at the overall potential for power generating facilities in Mississauga and recommend any restrictions and/or conditions that would be appropriate to incorporate into land use planning documents. Ideally, a key requirement of a Certificate of Approval by the Province would be the application of "best available technology" for power generating facilities.

Finally, as Mississauga is a built-up, mature community, it is important that careful attention in terms of architectural, urban design, and articulation be given to all details in the design and review of all power generating facilities to ensure compatibility with the existing community and that all applications for power generating facilities be subject to site plan approval.

FINANCIAL IMPACT: None

CONCLUSION: This report is in response to the Provincial government's move to reduce the Provinces' reliance on coal-fired electricity and specifically, the Provincial Ministry of Energy's first proposal call sent out in 2004 for power generating facilities to serve the Ontario market.

Mississauga, as a result of its location within the Greater Toronto Area, has been identified as a preferred location for additional power generating facilities. As a result, it is appropriate for Mississauga to undertake a review of its existing policy framework to determine where these facilities could be appropriately located that both protect the residents of Mississauga and facilitate energy solutions to meet the needs of the community, realizing that, as our population and economy continues to grow, so will the demand for energy.

Numerous properties within Mississauga have existing zoning that permits power generating facilities, but are not designated "Industrial" in Mississauga Plan. As such, it is appropriate to update the Zoning By-law(s) to be consistent with Mississauga Plan.

It would be appropriate to prohibit power generating facilities as of right in the "M1" and "M2" zones in the existing Zoning By-laws (5500, Port Credit and Streetsville) as they are not consistent with the "Industrial" designation in Mississauga Plan, and permitting power generating facilities on the existing "M2" lands that are designated "Industrial" in Mississauga Plan by a Special Section Zoning.

In addition, Institutional lands, with the exception of the Britannia Farm, are appropriate locations for cogeneration facilities and Mississauga Plan, the Draft Comprehensive Zoning By-law and, where appropriate, Zoning By-law 5500 should be amended to permit them. Definitions for "power generating facility", "cogeneration", "cogeneration facility", "combined cycle" and "renewable energy" should be added to the existing and proposed by-laws.

Further, this report should be sent to the Ontario Power Authority for comments. The OPA is an agency established by the Province to ensure sufficient supply of energy in the Province. The OPA will call for RFPs for all power generation, both standard supply and renewable.

Finally, as Mississauga is a built-up, mature community, it is important that careful attention in terms of architectural, urban

design, and articulation be given to all details in the design and review of all power generating facilities to ensure compatibility with the existing community and that all applications for power generating facilities be subject to site plan approval.

ATTACHMENTS:

APPENDIX 1 -	City Council Resolution 0169-2005 (July 6, 2005)
APPENDIX 2 -	Comparative Power Generating Capabilities
APPENDIX 3 -	Mississauga's Hydro Transmission Lines and Oil and Gas Pipelines
APPENDIX 4 -	Types of Renewable Energy
APPENDIX 5 -	Regulatory Processes
APPENDIX 6 -	Summary of Research: Municipal Official Plan and Zoning By-law Designations for Power Plants
APPENDIX 7 -	Specific Conditions of Agreement: Portlands Energy Centre (Toronto)
APPENDIX 8 -	Specific Conditions of Agreement: Calpine Corporation's Metcalf Power Plant (San Jose, California)
APPENDIX 9 -	Summary of Proposals for Power Generation in Response to the Provincial RFP, March 2005
APPENDIX 10 -	Existing "M1" and "M2" Zoning where Power Generating Facilities are Currently Permitted
APPENDIX 11 -	Draft Comprehensive Zoning By-law - Employment Zones
APPENDIX 12 -	Expanded Development Conditions and Requirements

Original Signed By:

Edward R. Sajecki, Commissioner
Planning and Building Department

K:\PLAN\POLICY\GROUP\2005 Special Projects\Power Generating Facilities\dc5powerreportOct26.doc

APPENDIX 1

RESOLUTION 0169-2005
adopted by the Council of
The Corporation of the City of Mississauga
at its meeting on July 6, 2005

Moved by: C. Corbasson Seconded by: E. Adams

WHEREAS the City of Mississauga, along with other major urban centres throughout the Province have experienced "brown outs" and/or "black outs" in terms of the supply of electric power;
AND WHEREAS the need for electric power throughout the Province and, especially centres within the Greater Golden Horseshoe, will continue to increase;
AND WHEREAS the Provincial government intends on phasing out all coal-fired power plants across the Province;
AND WHEREAS the Provincial government closed Lakeview Generating Power Station on May 1, 2005;
AND WHEREAS the Provincial government proposes to bring on-line 2,500 megawatts of new generation capacity phased over a period of time to replace the power previously produced by the closing of coal-fired plants;
AND WHEREAS the Provincial government announced its "Clean Energy Supply Request for Proposals" (RFP) on September 13, 2004 to identify interested proponents for the generation of the replacement power;
AND WHEREAS these new gas-fired power plants are subject to local planning authority approvals and the *Environmental Assessment Act,* and other applicable legislation;
AND WHEREAS on April 13, 2005, the Provincial government announced the selection of our gas-fired power generating sites in Ontario, one of which is a cogeneration facility by the Greater Toronto Airports Authority;
AND WHEREAS on May 30, 2005, the Provincial government announced the selection of two additional sites in Mississauga – the Greenfield North Power Project and the Greenfield South Power Project;
AND WHEREAS additional sites are likely to be identified in Mississauga;

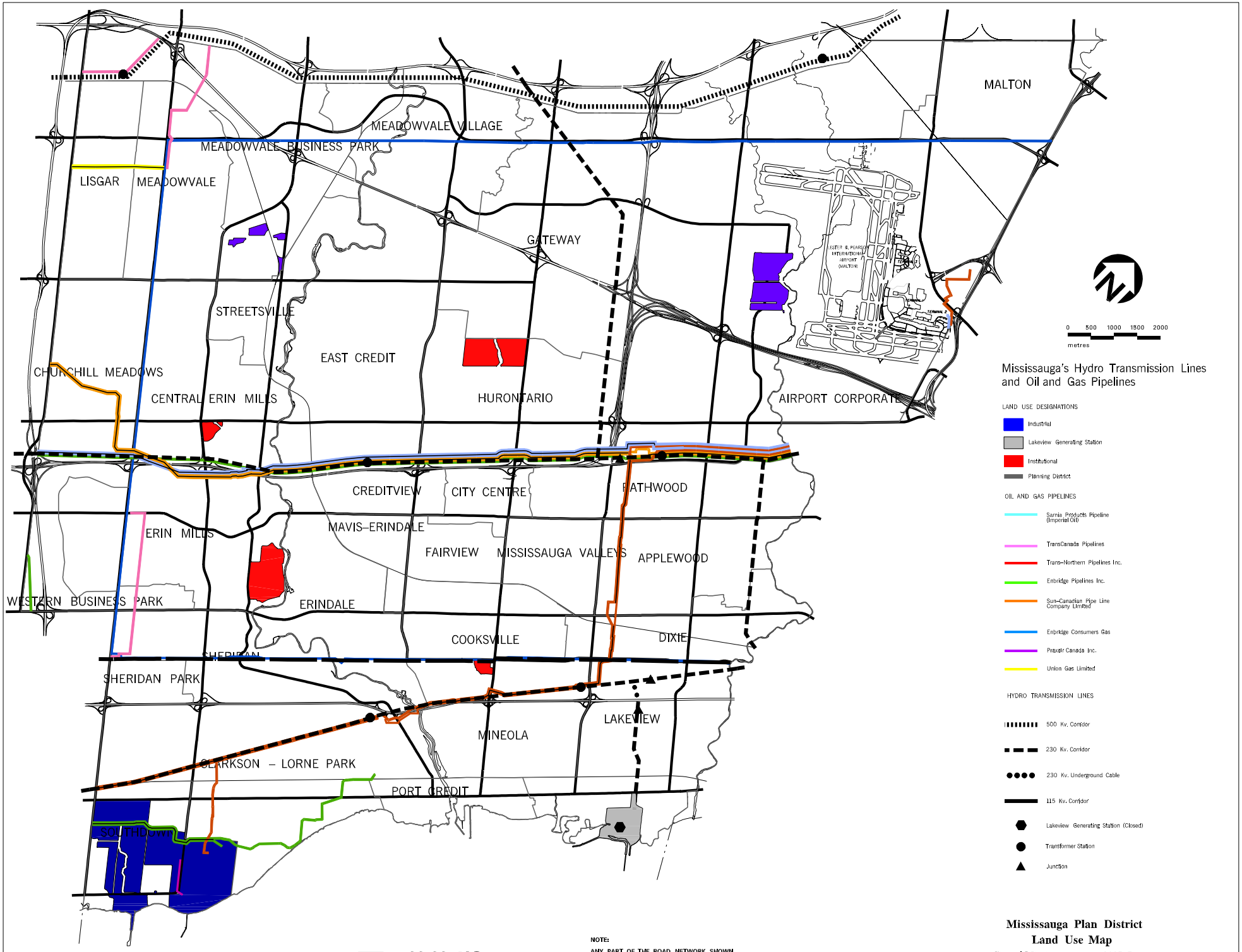
AND WHEREAS Mississauga Plan permits power generating facilities as a permitted use under the "Industrial" land use designation;
AND WHEREAS Section 3.11 Physical Services and Utilities, specifically states in Section 3.11.6.3 that power generating facilities are only permitted in lands designated "Industrial";
AND WHEREAS notwithstanding any long term reviews, the purpose of a zoning by-law is to implement the Official Plan and it is important to ensure that municipal regulatory instruments are mutually consistent and that the zoning is current to provide clarity and certainty regarding the existing municipal framework for the location of power generating facilities;
THEREFORE BE IT RESOLVED that City Council direct staff to undertake a review to identify where the Zoning By-law(s) may need to be amended in order to;

a) implement Mississauga Plan;
b) establish appropriate regulations and criteria for the location of power generating facilities; and
c) effect changes to the draft Comprehensive Zoning By-law to provide that this document also implements Mississauga Plan, consistent with appropriate regulations and criteria for the location of power generating facilities.

APPENDIX 2

COMPARATIVE POWER GENERATING CAPABILITIES

1 MW of capacity	= approx. 400 homes
Lakeview (1 140 MW)	= 456 000 homes (78% Enersource demand)
Enersource/Mississauga Load	= 1 450 MW
Toronto Hydro Load	= 4 250 MW



MISSISSAUGA
Leading today for tomorrow

NOTE:
ANY PART OF THE ROAD NETWORK SHOWN OUTSIDE THE CITY BOUNDARIES IS SHOWN FOR INFORMATION PURPOSES ONLY.

Mississauga Plan District Land Use Map

City of Mississauga 2005 January

Design File

APPENDIX 4

TYPES OF RENEWABLE ENERGY

Wind

According to the Ministry of Municipal Affairs and Housing *wind turbines produce electricity when wind propels the blades of wind turbines. A shaft rotates a dense coil of insulated wire between the poles of a powerful magnet in the generator, which creates an electrical current*. The economic viability of wind power is closely related to the availability of an adequate wind resource and hence wind power development is generally limited to locations with adequate wind regimes. While typically not an issue, potential visual, noise, economic and bird issues associated with wind turbines call for careful planning.

With only 15MW of installed wind power capacity, compared to over 270MW in Alberta, wind power is a relatively new power source in Ontario.[1] By 2008, the Ministry of Energy anticipates a 75-fold increase in the Province's wind power generation capacity. Globally, growth in wind power outpaces growth in any other energy source.[2]

Solar

Solar systems can produce electricity and heat by capturing sunlight.[3] Photovoltaic cells, which are typically silicon semi-conductors, convert sunlight into electricity.[4] On the other hand, active solar systems which use solar collectors can convert the sun's energy into heat. This heat can then be transferred using air, antifreeze or water that is circulated through the system. Common applications for heat generated by active solar systems include swimming pool, water and space heating. Over 1,200MW of photovoltaic systems can be installed in the Province, estimates the David Suzuki Foundation.

Waterpower

The flow of water through a turbine(s) creates waterpower. Waterpower can either be derived from run-of-the-river plants where no dam is required and a portion of natural water flow drives a turbine(s), or by damming waterflow that is then released to generate power.[5] The Ontario Waterpower Association notes that

---

[1] Canadian Wind Energy Association. *Canada's Wind Farms*. http://canwea.com/en/CanadianWindFarms.html
[2] Canadian Wind Energy Association.
[3] NC Green Power. http://www.ncgreenpower.org
[4] Solar Energy Society of Canada Inc. http://www.solarenergysociety.ca/2003/index.asp
[5] NC Green Power. http://www.ncgreenpower.org

there are over 8,000MW of installed waterpower capacity in Ontario. Waterpower is currently the largest source of renewable energy in Ontario. Environment Canada estimates that only 40% of Canada's hydroelectric potential has been tapped. In Ontario, the addition of approximately 12,000MW of waterpower is possible.[6]

Biomass

Biomass power generation is derived from plant material, vegetation or agricultural waste.[7] One example of generating power from biomass involves the burning of wood waste from lumber processing plants such as sawmills. By one estimate, in Ontario, there is potential to generate over 2,000MW of power from biomass.[8]

Landfill Gas

This method of power generation involves the collection of gas created in landfills as organic material decomposes. Burning of this gas can produce steam and thereafter drive a turbine(s) to make power.

Geothermal

Geothermal energy can be derived using Geothermal Heat Pumps (GHP).[9] GHP are used for space heating and cooling and the technology may be used throughout Ontario.[10] GHP take advantage of the earth's heating and cooling abilities and operate by transferring heat between a building and the earth through a network of underground pipes connected a GHP.[11] To cool a space, a GHP transfers heat from a space into the earth. This process functions similar to a household refrigerator which extracts heat from food and expels in into the kitchen.[12] Warming a space requires the GHP to collect heat from below the surface and transfer it into the space being heated.

[6] David Suzuki Foundation. (2004). *Smart Generation: Powering Ontario with Renewable Energy*.
[7] NC Green Power. http://www.ncgreenpower.org; Canadian Bioenergy Association http://www.canbio.ca
[8] David Suzuki Foundation. (2004). *Smart Generation: Powering Ontario with Renewable Energy*.
[9] David Suzuki Foundation. (2004). *Smart Generation: Powering Ontario with Renewable Energy*
GHP are defined as a "ground-coupled heat exchangers that extract the stored energy readily available from the soil to meet all the needs for space heating, cooling and water heating (potable, service or pre-heat) of residential, institutional, commercial, and industrial buildings in the province.
[10] David Suzuki Foundation. (2004). *Smart Generation: Powering Ontario with Renewable Energy*.
[11] Canadian Geoexchange Coalition. http://www.geo-exchange.ca/en/whatisgeoechange.html
[12] David Suzuki Foundation. (2004). *Smart Generation: Powering Ontario with Renewable Energy*.

APPENDIX 5

REGULATORY PROCESSES

1. Environmental Assessment Requirements for Electricity Projects

Ontario Regulation 116/01 under the Environmental Assessment Act requires the following:

Electricity project are classified based on type of fuel used, size of facility and efficiency of facility. There are 3 categories:

Category A: projects expected to have minimal environmental effects, such as small scale wind, solar, natural gas, cogeneration, etc. These do not require approval under the Environmental Assessment Act.

Category B: have potential environmental effects that can be mitigated, such as larger scale wind turbines, natural gas, biogas, cogeneration, etc. These require completion of the Environmental Screening Process.

Category C: major projects with known environmental impacts, such as coal and large scale hydroelectric facilities, oil, etc. These projects require an individual Environmental Assessment.

Environmental Screening Process (ESP)

All Category B projects are subject to the ESP. All projects subject to the ESP are required to go through the screening stage to identify the potential environmental effects of the project. The proponent is required to consider effects to surface and groundwater, land uses (within 500 m of the site), air and noise, natural environment, resources and socio-economic factors.

If no significant environmental or public issues are raised, the proponent will prepare a Notice of Completion of Environmental Screening Report and post it for a 30 day comment period. If no significant environmental or public issues are raised, and no `elevation requests' are received during the 30 day review period, the proponent submits a Statement of Completion to the Director of Environmental Assessment and Approvals Branch (EAAB) of the Ministry of Environment, and may proceed to construction, pending any other required approvals.

Environmental Review Stage (ERS)

A project may proceed to the ERS if:

1. there are potentially significant negative environmental effects or public issues raised;

2. substantive public or agency concerns are received during the 30-day review of the Screening Report; or

3. the Director of the EAAB receives substantive elevation requests from the public or government agencies during the 30-day period.

Additional required studies are to be determined in consultation with the public and agencies. The ERS report is then prepared which includes the results of the review and consultation as well as any impact management commitments, and must be made available for public review for 30 days.

Elevation Requests

Elevation requests must be submitted during the 30-day review period after the Notice of Completion has been issued. A Screening can be elevated to an Environmental Review or to an Individual EA, while an Environmental review can only be elevated to an Individual EA. If the proponent declines to voluntarily elevate the project during the 30-day period, the party may write to the Director of the Environmental Assessment and Approvals Branch to request that the project be elevated. The Director then has 30 days to make a decision on the request and has several different options to consider ranging from denying the request to referring the matter for mediation to recommending that the project be elevated.

2. Certificate of Approval

Under Section 9 of the Environmental Protection Act, approval is required for emissions to air, including noise. The facility must demonstrate that it is in compliance with Point of Impingement (POI) Standards.

APPENDIX 6

Summary of Research: Municipal Official Plan and Zoning By-law Designations for Power Plants

Municipality	Official Plan Designation	Zoning By-Law Designation
City of Vaughan	• Private power plants would most likely be permitted in "Prestige Areas" and the "Employment Area-General" of the Official Plan.	• Private power plants would most likely be permitted in "Prestige Employment Area Zone (EM1)" or "General Employment Area Zone (EM2)" (unless use defined as obnoxious). Private power plants not specifically addressed in the Zoning By-law.
City of Toronto	• Private power plants would most likely be permitted in "Utility Corridors" or the "Employment Areas" section of the Official Plan.	South Area: • Power plants are permitted in "Heavy Industrial Zone (I4)" and must be located on city land (Zoning By-law does not differentiate between public and private power plants). Power plant must use gas or oil as fuel, not coal. North Area: • Power plants are permitted in the "Transportation and Utilities Zone (T)". Zoning By-law does not differentiate between public and private power plants. West Area: • Public power plants are permitted in the "Public Utility Zone". • Private power plants would most likely be permitted in the "Manufacturing Zone (IC4)" though they are not specifically addressed in the Zoning By-law.
City of Hamilton	• Public power plants are permitted in the "Utilities" designation of the Official Plan ("Utilities" are permitted in all zones subject to specific criteria). • Private power plants are dealt with on a site specific basis.	• Public power plants are permitted in the "Public Uses" section of the Zoning By-law ("Public Uses" are permitted in all zones subject to specific criteria). • Private power plants are dealt with on a site specific basis.

Municipality	Official Plan Designation	Zoning By-Law Designation
City of Brampton	• Power plants are permitted in the "Hydro-electric power, telephone and other services" section of the Official Plan (Official Plan does not differentiate between public and private power plants).	• Public and private power plants are dealt with on a site specific basis.
City of Waterloo	• Private power plants are not in the Official Plan	• Public power plants are permitted in the "Public Services and Utilities" section of the Zoning By-law ("Public Services and Utilities" are exempt from zoning provisions). • Private power plants would be mostly likely permitted in the "Industrial Zone II" though they are not specifically addressed in the Zoning By-law.
City of London	• Public and private power plants are permitted in the "Industrial - Public and Private Utilities Designation" (Official Plan does not differentiate between private and public power plants).	• Private power plants would most likely be permitted in the "Heavy Industrial Zone (H1)" or the "Light Industrial Zone (L1)" though they are not specifically addressed in the Zoning By-law.
Town of Markham	• Private power plants are not addressed in the Official Plan.	• Public power plants are permitted in the "Public Use" section of the Zoning By-law. • Private power plants are not addressed in the Zoning By-law.

Municipality	Official Plan Designation	Zoning By-Law Designation
City of Ottawa	• Public utilities of OPG and Hydro One Networks may be permitted in all land use designations. Other public utilities are permitted in many land use designations except "Natural Environment Areas", "Significant Wetlands South and East of the Canadian Shield", "Sand and Gravel and Limestone Resource Areas", and "Flood Plains and Unstable Slopes", subject to specific requirements. • The Official Plan is silent on private power plants. The interpretation is that private power plants that provide services to the general public would be subject to the same policies that apply to "public" utilities. Proposals for private power plants may require an Official Plan Amendment.	• Zoning By-law refers to power plants as "Utility Installations". Utility installations, either private or public, are a permitted use in all land use designations, except in environmental areas, and are subject to senior government regulations/requirements.
City of Vancouver	• Power plants (i.e. power generation facilities) are not specifically addressed in the Official Plan (CityPlan). A proponent may potentially apply to develop a power plant in any area of the City. An application would be reviewed on a site by site basis and would be subject to a full public review process.	• Power plants (i.e. power generation facilities) are not specifically addressed in the Zoning By-law. A proponent may potentially apply to develop a power plant in any area of the City. An application would be reviewed on a site by site basis and would be subject to a full public review process.

8. What commitments has PEC made to the local community?

PEC has committed to the following conditions:

- One time payment of $400,000 for local air quality improvement initiatives;
- Site must be completely cleared of vegetation before migratory bird nesting season;
- In the event of future residential development within a certain area, noise reduction measures must be used to ensure noise under normal operating conditions does not exceed 45dBA at night at specific locations;
- Install Continuous Emissions Monitoring systems and report results annually to the Toronto Medical Officer of Health and MOE, and reporting of any failures or upsets immediately;
- Postpone testing of the diesel generator to avoid testing on Air Quality Advisory days;
- Develop chlorination/dechlorination procedures in a manner acceptable to the City of Toronto Commissioner of Works and Emergency Services and the Toronto Medical Officer of Health, to ensure reduction of e-coli in effluent to levels sufficient to prevent closures at Cherry Beach;
- Suspend duct firing and shut down gas turbines if cooling water discharge temperature fails to be within the permitted limits;
- Continue public consultation and create a volunteer Community Liason Committee; and
- Prepare an annual compliance report describing compliance with the above conditions.

Source: http://portlandsenergycentre.com/other.html

Specific Conditions of Agreement: Calpine Corporation's Metcalf Power Plant (San Jose, California)[1]

1. Neighbourhood Protection

- New air quality protection technologies to be installed as they become available;
- A ten-member community advisory committee to be formed. The committee is to consist of neighbouring residents, and city, county, school business and property interest representatives;
- Two air-quality monitoring stations to be added. These will be positioned at locations chosen by the City, and are to be monitored by an independent third party;
- Emissions will be reduced by requiring that the plant limit the number of startups; and
- Monthly air quality reports to be posted on community websites.

2. Community Benefits

- Local businesses will benefit from competitive, long-term electricity contracts;
- The power plant will provide electricity for about 600,000 households;
- Proponent to provide $5 million for parks and open space acquisition;
- Proponent to provide $1 million for the City's energy conservation programs and residential energy assistance for low-income families; and
- Proponent to contribute $500,000 to the City's "Healthy Neighbourhoods Venture Fund", a fund that assists in the delivery of various community-based programs.

3. Cooperation

- The proponent will collaborate with the City to support legislative changes that will increase benefits (e.g. greater share of property taxes) for communities that host power plants. As much as $4 million in annual local property taxes is generated by the current power plant;
- All city services required for the development of the power plant provided by the city; and
- The City and the proponent also collaborated on building a recycled water pipeline extension and the processing of an annexation application.

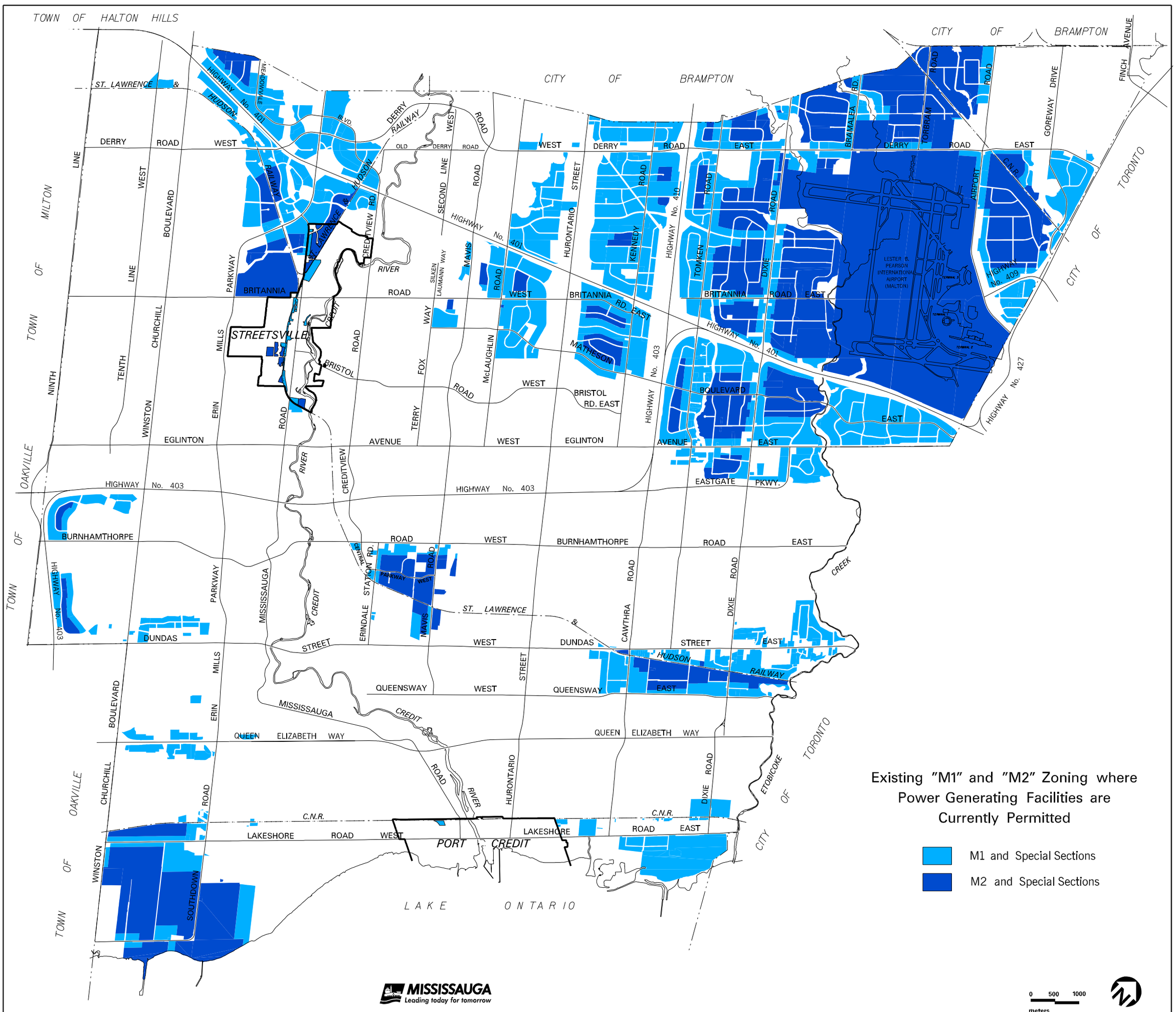
[1] City of San Jose, http://www.sjmayor.org//press_room/530calpine.html

Summary of Proposals for Power Generation in Response to the Provincial RFP, March 2005

Ward	Location	Applicant	Description	Current OP Designation	Current Zoning	New Draft Zoning By-Law	Other
1	880 Middlegate Road. Southeast corner of Middlegate Road and Haines Road.	Epcor Utilities Inc.	300 MW gas fired, electrical generating plant. No additional details were provided by Epcor.	Business Employment which does not permit power generating stations. The existing zoning which permits the use overrides the Official Plan policies.	M2 (Industrial) permits the proposed use.	"E2" (Employment-Business Employment) which does not permit an electric power generating station.	The site is not subject to site plan approval.
1	2380 Loreland Avenue. East side of future Loreland Avenue extension, south of Mattawa Avenue.	Eastern Power (Greenfield 427 Power Corp.)	250-300 MW gas fired, electrical generating plant. The proposed built form consists of a powerhouse approximately 50 m (164 ft.) by 30 m (98 ft.), with a maximum height of 20 m (66 ft.) which will enclose a natural gas turbine, a steam turbine and associated electrical generators, control room, motor control centres, water treatment station, and auxiliary facilities. A heat recovery steam generator (HRSG) will be attached to the bottom of the smokestack(s). The HRSH will have a maximum height of 27 m (89 ft.) and the smokestacks will have a height anywhere from 20 m (66 ft.) to 60 m (197 ft.) depending on the results of dispersion modelling. Three diesel fuel tanks, each 20m (66ft.) in height are also proposed, in addition to an unspecified number of cooling towers.	Business Employment/ Greenbelt. The proposal would not conform with the Business Employment designation. The existing zoning which permits the use overrides the Official Plan policies.	M1 (Industrial) and G (Greenbelt) which permits a power generation plant. No zoning amendment is required to permit the proposed power generating plant. However, an application for the Removal of the Holding provision and site plan approval are required to accommodate the proposed development.	"E2" (Employment-Business Employment) which does not permit an electric power generating station.	The lands are the subject of a recent OMB decision which approved a rezoning (NSP Investments Ltd./ OZ 062/95 W1) to change the zoning from M1 and G to H-M1-Special Section to permit additional industrial uses, including accessory outdoor storage to a maximum of 45% of the lot area in addition to the existing M1 zoning. The lifting of the "H" Holding provision required the execution of Development and Servicing Agreements.

Ward	Location	Applicant	Description	Current OP Designation	Current Zoning	New Draft Zoning By-Law	Other
2	759-797 Winston Churchill Blvd. East side of Winston Churchill Blvd., south of Royal Windsor Drive and north of Clearview Creek.	Sithe Southdown Ltd.	To increase its capacity from 906 MW to 945 MW as previously approved. We understand that they had obtained Certificates of Approval for Noise and Air emissions for the original submission.	Industrial which specifies power generating stations as a permitted use. Proposed use conforms to the Official Plan.	M2-2572 which specifically permits a natural gas-fired electrical power plant.	"E3-2" (Employment-Industrial Special Site) which permits an electric power generating station.	Lands were rezoned in 2002 to permit the proposed use (OZ 00/013 W2). Applicant went through an extensive public process and an environmental screening. The site plan application (SP 00/132 W2) remains active and is being processed by the Planning and Building Department.
5	West side of Hurontario Street abutting the municipal border with Brampton at the north end of the City. Adjacent to a 500 KV and a 230 KV Hydro corridor.	Greenfield 407 Power Corp. (Eastern Power, Toronto).	250-300 MW electrical generating plant consisting of a powerhouse, heat recovery steam generator with an associated stack, electrical substation, cooling towers and diesel fuel storage tanks.	"Business Employment" which does not permit a power generating plant. An Official Plan Amendment would be required.	"A" (Agriculture) which does not permit a power generating plant. A rezoning would be required.	"D" (Development) which would require a rezoning application to permit any use on the lands.	
5	7447 Bramalea Road. East side of Bramalea Road, south of the municipal border with Brampton. The lands are currently occupied by a Norampac Inc. manufacturing plant, a company jointly owned by Cascades Inc. and Domtar Inc.	Boralex Inc. (an affiliate of Cascades Inc. of Montreal, PQ).	226 MW electrical generating plant to be located on a portion of their lands which is currently unused.	The lands are designated "Business Employment" which does not permit a power generating plant. The existing zoning which permits the use overrides the Official Plan policies.	"M1" and "M2" (Industrial) which permits the manufacturing or production of electricity.	"E3" (Employment-Industrial) which does not permit an electric power generating station.	

Ward	Location	Applicant	Description	Current OP Designation	Current Zoning	New Draft Zoning By-Law	Other
9	West side of Tenth Line West, north of Argentia Road (adjacent to the hydro corridor and the Hydro One Meadowvale Transformer Station).	TransCanada	550 MW natural gas fuelled, combined cycle power plant.	Business Employment which does not permit a power generation plant. An Official Plan Amendment would be required.	PB2 (Parkway Belt) which does not permit the proposed use. A rezoning would be required.	"D" (Development) which would require a rezoning application to permit any use on the lands.	Development of the site would be subject to the Northwest subwatershed study. An application for severance to create the parcel was approved by the Committee of Adjustment in 2005



Existing "M1" and "M2" Zoning where Power Generating Facilities are Currently Permitted

- M1 and Special Sections
- M2 and Special Sections

MISSISSAUGA
Leading today for tomorrow

0 500 1000
meters

2005 AUGUST 23

Design File

TABLE OF CONTENTS
Part 8: Employment Zones

PURPOSE

The purpose of this Part is to provide a number of Employment Zones, that allow for a variety of business operations, including various industrial operations, in appropriate locations throughout the City.[1]

8.1 GENERAL PROVISIONS FOR EMPLOYMENT ZONES

In addition to the zone provisions contained in Parts 1 to 3 of this By-law, the following General Provisions for Employment Zones shall also apply:

8.1.1 Business Operations to be Located within a Building

Unless otherwise permitted, all **uses** in E1 to E3 zones must be conducted wholly within a **building, structure** or part thereof.

8.1.2 Accessory Uses in E1 to E3 Zones

8.1.2.1 In E1 to E3 Zones, a maximum of 20% of the total **gross floor area - non-residential** may be used for **accessory uses**.

8.1.2.2 The area within any **building**, **structure** or part thereof used for accessory retail sales or accessory retail display of products shall be separated from the remainder of such establishment by a permanent, solid, floor-to-ceiling and wall-to-wall partition and closed doors.

8.1.3 Accessory Uses in E1 Zones

In an E1 Zone, **accessory uses** permitted shall include laboratories and associated facilities for medical diagnostic and dental purposes, medical supply and equipment store, **restaurant**, **take-out restaurant**, **pharmacy**, **motor vehicle rental facility - restricted, recreational establishment**, **retail store** less than 600 m^2 and a **personal service** provided that any such **use** is contained wholly within a **building** or **structure** used for the permitted E1 **use**.

8.1.4 Accessory Uses in E2 and E3 Zones

In E2 and E3 zones, a maximum of 20% of the total **gross floor area - non-residential** of any employment or **manufacturing** establishment may be used for accessory retail sales and accessory retail display of products, other than **motor vehicles**, manufactured, repaired or distributed at wholesale from the premises, provided that such accessory retail sales and accessory retail display of products shall not be permitted upon any **lot**, unless such **uses** are contained wholly within enclosed **buildings** or **structures** and are accessory to the principal **manufacturing** or employment undertaking.

8.1.5 Accessory Dwelling Unit in E2 and E3 Zones

8.1.5.1 One (1) **dwelling unit** not exceeding a maximum of 70 m^2 **gross floor area - residential**, shall be permitted for caretaking and/or security staff within enclosed **buildings** or **structures** accessory to the **uses** identified in Lines 4.1 to 4.15 of Table 8.2.1 - Employment Permitted **Uses** and Regulations.

8.1.5.2 No **motor vehicle** shall be parked closer to a **street line** than the distance of 7.5 m, except that this provision shall not apply to casual **use** for such purposes, of a properly constructed and hard surfaced **driveway**.

[1] The purpose statement is for clarification purposes and does not form part of this By-law.

8.1.6 Outdoor Storage in E2 Zones

8.1.6.1 **Outdoor storage** within an E2 zone is permitted accessory to an Employment **use** listed in Lines 4.1 to 4.15 of Table 8.2.1 - Employment Permitted **Uses** and Regulations, subject to the following:

8.1.6.1.1 The **outdoor storage** area shall not exceed 5% of the **lot area**, or 10% of the **gross floor area - non-residential** of the **building**, whichever is the lesser;

8.1.6.1.2 **Outdoor storage** shall not be situated closer to any **street line** than any portion of the main **building** or **structure**; and

8.1.6.1.3 A fence, having a minimum **height** of 2.4 metres is required around the perimeter of the area to be used for **outdoor storage**. The area to be used for **outdoor storage** shall not be located within the **front yard** or **exterior side yard**.

8.1.7 Outdoor Display in E2 Zones

8.1.7.1 The provisions of Subsection 8.1.6 shall not prevent the outdoor display of new products produced by an Employment **use** listed in Lines 4.1 to 4.15 of Table 8.2.1 - Employment Permitted **Uses**, subject to the following:

8.1.7.2 The total area used for such purposes does not exceed 5% of the **lot area**; and

8.1.7.3 Such area shall not be closer to any **street line** than the minimum distance required for **buildings** and **structures**.

8.1.8 Outdoor Storage and Outdoor Display Areas in E3 Zones

8.1.8.1 The **outdoor storage** and/or outdoor display of goods shall not be situated closer to any **street line** than any portion of the main **building** or **structure**.

8.1.8.2 A fence, having a minimum **height** of 2.4 metres is required around the perimeter of the area to be used for **outdoor storage**. The area to be used for **outdoor storage** shall not be located within the **front yard** or **exterior side yard**.

8.1.8.3 Where a **lot** is used for a permitted purpose and there are no **buildings** or **structures** on the **lot**, the minimum side and **front yard** requirements of the E3 zone regulations shall be complied with as if there were a **building** or **structure** on the **lot**.

8.1.9 Outdoor Patio

8.1.9.1 An **outdoor patio** is a permitted **use** accessory to a **restaurant** or **convenience restaurant** and shall comply with the regulations of Article 2.1.2.1 of this By-law, subject to the following:

8.1.9.1.1 No **outdoor patio** shall exceed 25% of the **gross floor area - restaurant** of a **restaurant** or a **convenience restaurant** to which the **outdoor patio** is accessory;

8.1.9.1.2 An **outdoor patio** shall not be located above the **first storey** of a **building**, **structure** or part thereof; and

8.1.9.1.3 Parking is not required for an **outdoor patio**.

8.2 E1 to E3 ZONES (EMPLOYMENT)

8.2.1 E1 to E3 Permitted Uses and Zone Regulations

All **buildings** and **structures** shall comply with the **uses** specified within the applicable zone column contained in Table 8.2.1 - E1 to E3 Permitted **Uses** and Zone Regulations.

Table 8.2.1 - E1 to E3 Permitted Uses and Zone Regulations

Column	A	B	C	D
Line 1.0	**ZONES**	**E1** Business Employment in Nodes and Corridors	**E2** Business Employment	**E3** Industrial
2.0	PERMITTED **USES**			
3.0	**OFFICE**			
3.1	**Medical Office**	✓	✓	✓
3.2	**Office**	✓	✓	✓
4.0	BUSINESS ACTIVITIES			
4.1	**Broadcasting/Communication Establishment**		✓	✓
4.2	**Commercial School**	✓	✓	✓
4.3	**Manufacturing**	✓	✓	✓
4.4	Research and Development	✓	✓	✓
4.5	**Transportation Facility**		✓	✓
4.6	**Truck Terminal**		✓	✓
4.7	**Veterinary Clinic**		✓	
4.8	**Financial Institution**	✓	✓	✓
4.9	**Warehouse/Distribution**	✓	✓	✓
4.10	**Wholesaling**		✓	✓
4.11	**Waste Processing Station**		✓(1)	✓(1)
4.12	**Waste Transfer Station**		✓(1)	✓(1)
4.13	**Composting Facility**		✓(1)	✓(1)
4.14	**Outdoor Storage**			✓
4.15	Self Storage Facility		✓	✓
4.16	Other Employment Undertaking		✓	✓
4.17	Propane Storage		✓(1)(2)	✓(1)(2)
5.0	COMMERCIAL			
5.1	**Restaurant**		✓(1)	✓(1)
5.2	**Convenience Restaurant**		✓(1)	✓(1)
5.3	**Take-out Restaurant**		✓(1)	✓(1)
5.4	**Motor Vehicle Body Repair Facility**			✓
5.5	**Motor Vehicle Repair Facility**		✓	✓
5.6	**Motor Vehicle Repair Facility - Restricted**		✓	✓
5.7	**Motor Vehicle Rental Facility**		✓	✓

Table 8.2.1 continued on next page

Column	A	B	C	D
Line 1.0	**ZONES**	**E1** Business Employment in Nodes and Corridors	**E2** Business Employment	**E3** Industrial
Table 8.2.1 continued from previous page				
5.8	**Motor Vehicle Rental Facility - Restricted**		✓	✓
5.9	**Motor Vehicle Wash Facility**		✓	✓
5.10	**Motor Vehicle Wash Facility - Restricted**		✓	✓
5.11	**Gas Bar**		✓	✓
5.12	**Motor Vehicle Service Station**		✓	✓
6.0	HOSPITALITY			
6.1	**Banquet Hall/Conference Centre/Convention Centre**	✓	✓	✓
6.2	**Night Club**		✓(1)(3)	✓(1)(3)
6.3	**Overnight Accommodation**	✓	✓	✓
7.0	OTHER			
7.1	**Auditorium**	✓	✓	✓
7.2	**Adult Video Store**		✓(1)(4)	✓(1)(4)
7.3	**Body-Rub Establishment**		✓(1)	✓(1)
7.4	**Brew-On-Premises Establishment**		✓	
7.5	**Card Lock Fuel Dispensing Facility**		✓	✓
7.6	**Entertainment Establishment**	✓	✓	✓
7.7	**Recreational Establishment**	✓	✓	✓
7.8	**Funeral Establishment**		✓(5)	✓(5)
7.9	**Private Club**		✓	✓
8.0	MINIMUM **LOT FRONTAGE**	30.0 m	30.0 m	30.0 m
9.0	MAXIMUM **FLOOR SPACE INDEX**	n/a	1.0	n/a
10.0	MINIMUM **FRONT YARD**	4.5 m (6)	7.5 m (6)(8)(9)	7.5 m (6)(8)(9)
11.0	MAXIMUM **FRONT YARD**	7.5 m (7)	n/a	n/a
12.0	MINIMUM **EXTERIOR SIDE YARD**	4.5 m (6)	7.5 m (6)	7.5 m (6)
13.0	MAXIMUM **EXTERIOR SIDE YARD**	7.5 m (6)(7)	n/a	n/a
14.0	MINIMUM **INTERIOR SIDE YARD**			
14.1	**Lot** abutting a residential zone	4.5 m (6)	15.0 m (8)(9)	15.0 m (8)(9)
14.2	**Lot** with a **lot width** less than or equal to 75.0 m abutting any other zone	4.5 m (6)	The greater of 10% of the width of **lot**, or 4.5 m (6)	The greater of 10% of the width of **lot**, or 4.5 m (6)
14.3	**Lot** with a **lot width** greater than 75.0 m abutting any other zone	4.5 m (6)	7.5 m (6)	7.5 m (6)
17.0	MINIMUM **REAR YARD**			
17.1	**Lot** abutting a residential zone	4.5 m (6)	15 m (8)(9)	15 m (8)(9)
17.2	**Lot** abutting any other zone	4.5 m (6)	7.5 m (6)(10)	7.5 m (10)

Table 8.2.1 continued on next page

Column	A	B	C	D
Line 1.0	ZONES	E1 Business Employment in Nodes and Corridors	E2 Business Employment	E3 Industrial
Table 8.2.1 continued from previous page				
18.0	MINIMUM **HEIGHT**	3 **storeys** or a minimum of 12.5 m	n/a	n/a
19.0	MINIMUM **LANDSCAPED BUFFER**	4.5 m	4.5 m	7.5 m

NOTES:
(1) See also Subsection 2.1.2 of this By-law.
(2) See also Sentence 2.1.2.2.4 of this By-law.
(3) See also Sentence 2.1.2.2.1 of this By-law.
(4) See also Sentence 2.1.2.2.3 of this By-law.
(5) See also Sentence 2.1.2.2.2 of this By-law.
(6) See also Subsection 2.1.17 of this By-law.
(7) This regulation shall only apply to the first three (3) **storeys** of a **building**.
(8) Where the opposite side of the **street** on which the **lot** fronts is in a Residential zone, the minimum the **front yard** shall be 30 m.
(9) This regulation does not apply to any developed Employment lands where abutting undeveloped Employment lands are rezoned to Residential.
(10) A **rear yard** setback is not required where a **rear lot line** adjoins a railway right-of-way that includes a spur line.

Expanded Development Conditions and Requirements

Conditions reflecting the following will be developed with the City, Region and Province specific to each development.

Part A – refers to those matters which the City would implement via its jurisdiction for Official Plan Amendments, Zoning By-law Amendments, Site Plan Applications and Committee of Adjustment applications, as applicable.

The City of Mississauga will require the following:

1. That a qualified consultant review technical reports including, but not limited to: air and noise emissions; water resources; environmental impact; and best available technology. The City shall select the peer review consultant, however, the consultant costs will be borne by the applicant;
2. That all mitigation commitments be implemented as set forth in the reports, as approved by the City and Region, including air and noise emissions; water resources and environmental impacts;
3. That alternate fuels not be utilized at the facility, except in emergency situations or as subsequently approved by the City;
4. That the facility shall not result in any plume-related fogging or icing of public roads and other sensitive land uses;
5. That the facility be designed and constructed to implement applicable Emergency Response Plan requirements;
6. That careful attention in terms of architectural, urban design and articulation be given to all details in the design and review of all power generating facilities to ensure compatibility with the existing community;
7. That all applications for power generating facilities be subject to Site Plan Approval.

Part B – recommended for implementation by the Region or Province, as applicable, to be imposed as conditions in the Request for Proposal and approval for the construction and operation of a power generating facility.

1. That a Contingency Plan shall be prepared and implemented, which will identify appropriate warnings and required actions by the proponent related to any plume-related fogging or icing of public roads and other sensitive land uses;
2. That no emission credits shall be claimed, traded for or sold, directly or indirectly by the proponent for the facility, unless related to improvements to the facility demonstrated by before and after measurements.

3. That a Community Advisory Committee shall be formed, to provide advice on the construction and operation of the facility. The scope and membership structure of the Committee will be determined in consultation with the proponent, the community and the City. The proponent will fund the operational expenses of the Committee in accordance with a budget to be established annually by the Committee;
4. That the proponent agrees that any provincial, federal or other agency approvals issued for a facility shall contain all the appropriate mitigation commitments;
5. That the proponent agrees that, as new air quality technologies become available, they will be evaluated and implemented;
6. That the proponent agrees to contribute to local air quality and community improvement initiatives in consultation with the City;
7. That the proponent agrees to postpone testing of back-up diesel generator during smog days, where feasible, and only during weekday and daytime hours;
8. That the Province provide incentives to companies to pursue 'cogeneration' opportunities as they become available;
9. That the Region of Peel require a Health Risk Assessment Report. The Region may require that a peer review consultant review the Health Risk Assessment report and the cost shall be borne by the applicant;
10. That the applicant perform an acoustic audit, a source testing program, stack testing and water monitoring, as approved by the City;
11. That an Ambient Air Quality Monitoring Program be established, as approved by the City and Region;
12. That the facility be constructed utilizing Best Available Technology;
13. That the applicant develop and implement an Emergency Response Plan in consultation with the City and the Region. This plan shall be updated on an annual basis.

APPENDIX 2

Revised Expanded Development Conditions and Requirements

Conditions reflecting the following will be developed with the City, Region and Province specific to each development.

Part A – refers to those matters which the City would implement via its jurisdiction for Official Plan Amendments, Zoning By-law Amendments, Site Plan Applications and Committee of Adjustment applications, as applicable.

The City of Mississauga will require the following:

1. That a qualified consultant review *the applicant's* technical reports including, but not limited to: air and noise emissions; water resources; environmental impact; and best available technology. The City shall select the peer review consultant, however, the consultant costs will be borne by the applicant. *Terms of reference for the peer review consultant's work shall be defined in consultation with the applicant and shall be directed to accuracy, completeness and conformity to currently applicable standards. The purpose of the Consultant's work shall be to provide a review of the applicant's project and not address alternative projects or methods of power generation.*
2. That all mitigation commitments be implemented as set forth in the reports, ~~as~~ *including those* approved by the City and Region, ~~including~~ *surrounding* air and noise emissions; water resources and environmental impacts.
3. That alternate fuels not be utilized at the facility, except in emergency situations or as subsequently approved by the City. *"Alternative Fuels" are defined as secondary or back-up fuel(s) for use by the facility during "emergency conditions" when the natural gas system is not available or when use is directed by the Ontario Power Authority (OPA). The terms surrounding use including a definition for shall be requested to be incorporated into the Ministry of Environment Certificates of Approval and the OPA contract. Any application to use different fuel in the future would require involvement in the Environmental Assessment process.*
4. That the facility shall not result in any plume-related fogging or icing of public roads and other sensitive land uses. *The applicant commits to conduct a plume study as part of the environmental report (if applicable) to the satisfaction of the City of Mississauga.*
5. That the facility be designed and constructed to implement applicable Emergency Response Plan requirements;
6. That careful attention in terms of architectural *and* urban design ~~and articulation~~ *characteristics* be given to all details in the design and review of *the applicant's* ~~all~~ power generating ~~facilities~~ *facility* to ensure compatibility with the existing community;

7. That all applications for power generating facilities be subject to Site Plan Approval.

Part B – recommended for implementation by the Region or Province, as applicable, to be imposed as conditions in the Request for Proposal and approval for the construction and operation of a power generating facility.

1. That a Contingency Plan shall be prepared and implemented, which will identify appropriate warnings and required actions by the ~~proponent~~ *applicant* related to any plume-related fogging or icing of public roads and other sensitive land uses *related to the project. This will be a part of the plume study performed as part of the Ministry of Environment Environmental Assessment process.*
2. ~~That no emission credits shall be claimed, traded for or sold, directly or indirectly by the proponent for the facility, unless related to improvements to the facility demonstrated by before and after measurements~~.
3. That a Community Advisory Committee shall be formed, to provide ~~advice~~ *input* on the *concerns of the local community as it impacts the* construction and operation of the facility. The scope and membership structure of the Committee will be determined in consultation with the ~~proponent~~ *applicant*, the community and the City. The ~~proponent~~ *applicant* will fund the *reasonable* operational expenses of the Committee in accordance with a budget to be established annually by the Committee.
4. That the ~~proponent~~ *applicant* agrees that any provincial, federal or other agency approvals issued for a facility shall contain all the appropriate mitigation commitments.
5. That the ~~proponent~~ *applicant* agrees that, as new *proven* air quality technologies become available, they will be evaluated and implemented *within the normal course of facility upgrades and maintenance.*
6. That the ~~proponent~~ *applicant* agrees to contribute to local air quality and community improvement initiatives in consultation with the City;
7. That the ~~proponent~~ *applicant* agrees to postpone testing of back-up diesel generator during smog days, where feasible, and only during weekday and daytime hours;
8. That the Province provide incentives to companies to pursue 'cogeneration' opportunities as they become available;
9. That the Region of Peel require a Health Risk Assessment Report. The Region may require that a peer review consultant review the Health Risk Assessment report and the cost shall be borne by the applicant;
10. *That the Ministry of Environment in consultation with the City, require* the applicant *to* perform an acoustic audit, a source testing program, stack testing and water monitoring~~, as approved by the City;~~
11. That an Ambient Air Quality Monitoring Program be established, as approved by the City and Region;

12. That the facility be constructed utilizing ~~Best Available Technology~~ *proven new and clean emission control technology in accordance with the requirements of the Ministry of Environment Environmental Assessment.*

13. That the applicant develop and implement an Emergency Response Plan in consultation with the City and the Region. This plan shall be updated on an annual basis.

Separation Distance Requirements For Power Generation Facilities

Community	Official Plan	Zoning	Requirements
Town of Oakville, ON	N	N	-
City of Hamilton, ON	N	N	-
City of Kitchener, ON	N	N	-
City of London, ON	N	N	-
City of Oshawa, ON	N	N	-
City of Kingston, ON	N	N	-
City of Sarnia, ON	N	N	-
City of Vancouver, BC	N	N	-
City of Surrey, BC	N	N	-
City of Kelowna, BC	N	N	-
City of Edmonton, AB	N	N	-
City of Calgary, AB	N	N	-
Municipal District of Rocky View, AB	N	Y	*Requirements for a 500MW+ gas fired combined cycle power plant located outside of a designated industrial area:* • site in proximity to agricultural uses • setbacks largely dependent on the direction of prevailing winds and available mitigation measures • setbacks range from 30 to 76 meters from agricultural uses and are based on the existing use, not on future development potential • Several studies required, including a traffic impact study, hydrological study, Emergency Response Plan, Construction Management Plan, Landscape Plan and a Stowm Water Management Plan. • Approval required from relevant agencies such as Alberta Environment and the Alberta Energy and Utilities Board. • Within a designated industrial area, no separation distances are prescribed between a gas-fired power plant and residential uses. However, there is a general provision prohibiting residential uses from locating in "close proximity" to such a facility. Nonetheless, if appropriate and sufficient mitigation measures are used, residential uses may be permitted to locate near a power generation facility.
City of Winnipeg, MB	N	N	-

APPENDIX 3

EASTERN POWER
2275 LAKE SHORE BLVD. WEST, SUITE 401
Toronto, Ontario M8V 3Y3
Tel: (416) 234-1301
Fax: (416) 234-8336

December 9, 2005

Ms. Crystal Greer
City Clerk
City of Mississauga
300 City Centre Drive
Mississauga, Ontario
L5B 3C1

Tel (905) 615-3200 x 5419
Fax (905) 615-4181
Email: crystal.greer@mississauga.ca

Dear Ms. Greer:

SUBJECT: **Power Generating Facilities Report - October 24, 2005**
From: Edward R. Sajecki, Commissioner of Planning and Building
To: Mayor and Members of Council

Dear Ms. Greer:

We have reviewed the referenced report and provide the following comments for your consideration.

It is our understanding that the report was developed without broad consultation with electricity generating project developers, and without extensive input from qualified experts in the electricity generation field. The need for expert consultation was identified on page 26 of the report, and this essential input should be considered before implementing any changes to the existing bylaws or Mississauga Plan. Only after due consideration of expert input can Mississauga improve the framework for the reasonable siting of electrical power generation facilities.

The report's recommended restrictions on where power generating facilities would be permitted in Mississauga do not reflect the provincial policy statement and do not constitute good land use planning. The recommended restrictions contain unclear and/or ambiguous language, which could result in unfair and/or discriminatory application of the proposed restrictions. The recommended restrictions intrude unreasonably into areas that are not within the jurisdiction of the City of Mississauga under the Planning Act.

Importantly, the proposed restrictions do not sufficiently recognize that modern, combined cycle power generating facilities are suited to, and can be successfully placed in mature urban settings without undue disturbance to nearby residents and business owners. The primary impacts of such modern power generation facilities are noise and air emissions, and both of these impacts can be successfully mitigated to reasonable levels. This reality is bet evidenced by the many modern power generating installations already located in mature urban areas in the USA and Europe, including the San Jose facility that was specifically referenced in the report.

.../2

The report indicates that the proposed restrictions are meant to apply certain existing provisions of Mississauga Plan to lands with existing M1 and M2 zoning. Although the reference in Section 3.4.1.1 (n) of Mississauga Plan to "power generating stations" indicates that these would be appropriate in lands designated "industrial", Mississauga Plan also indicates in Section 3.3 that many industrial and manufacturing activities may be permitted in lands designated for "business employment" to the extent that most of the activity occurs "within enclosed buildings". This suggests that item 3.4.1.1 (n) of Mississauga Plan would only appear to be reasonably applicable to coal fired generating stations which have substantial outdoor coal unloading and storage areas (eg. such as those at the Lakeview Generating Station).

Since modern, combined cycle power generating facilities fueled by natural gas do not require outdoor storage or processing, it would not be good planning to apply the restrictions proposed in the report to power generating facilities that do not burn coal, or which do not require "extensive outdoor processing and storage areas". It is widely accepted that modern natural gas fueled generating facilities do not have anywhere near the impact on adjacent land uses that arise from a coal-fired station. Given the report's stated rationale (i.e. in response to the phase-out of coal-fired electricity generation), any changes to Mississauga Plan or the zoning bylaws should reflect the positive distinguishing features of modern, clean generating facilities.

The report's proposed new restrictions apply to any size of power generating facility from very small (eg. 500 kW or about 0.002 % of Ontario's installed generating capacity) to large (e.g. 3000 MW or about 10% of Ontario's installed generating capacity), and therefore do not recognize that the impact of a power generating facility is generally dependant on its size. Good planning would recognize that smaller power generating facilities have lower impact and therefore require less separation from sensitive land uses than larger ones. Certain small solar powered electricity generating equipment may even be acceptable in areas designated for low density residential.

The report also suggests that "ideally", new power generating facilities should use "best available technology", but does not address the difficulty in fairly defining what may qualify as "best available technology" for each particular project. The report also fails to point out that principles of sustainable development acknowledge that it may not always be advisable to require "best available technology" in one industry or sector of the economy, while ignoring more pressing environmental impacts in another. A proper, wide-ranging study of the tradeoff of environment vs. economy is therefore necessary to make good planning decisions about the application of "best available technology" to all land uses, and should address such disparate questions as the following: Should Mississauga Transit replace its diesel buses with cleaner natural gas ones? Should all new housing in Mississauga meet R-2000 standards? Should all manufacturing facilities with thermal loads utilize cogeneration? Should all commercial and institutional buildings in Mississauga have LEED certification? Only after completing such a comprehensive study can the burden of environmental protection be reasonably allocated amongst residents, industries, businesses and institutions in a fair and non-discriminatory manner.

.../3

The items proposed in Appendix 12 of the report would have the effect of Mississauga duplicating areas of provincial jurisdiction which are already effectively regulated. This includes air emissions permitting, noise emissions permitting, and environmental impact assessment. Such duplication will significantly increase costs and would serve as a very serious disincentive for electricity generation facilities to be located in Mississauga, given that the proposed restrictions are much more onerous than any currently in place or proposed in any other Ontario municipality. Most of the items proposed in Appendix 12 would also impose a standard of performance for electricity projects that is not required of other industrial, institutional, residential or commercial projects with similar impacts.

In general, it appears that the recommendations in the report have been developed without sufficient expert input and are not supported by reasonable consideration and application of good land use planning principles. We would be pleased to meet with City of Mississauga staff to discuss our concerns more fully, and to assist in the development of appropriate planning measures consistent with the stated goals of the report, and thereby foster the reasonable integration of electrical power generating facilities into the urban fabric of Mississauga.

Sincerely,
EASTERN POWER LIMITED

Hubert S. Vogt P.Eng.
Vice President