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**HYDRO ONE ELECTRIC POWER SUPPLY TO
YORK REGION**

Regional Council at its meeting on June 24, 2004 amended this Clause to include receipt of the following communication:

2.(c) J. D. Leach, City Clerk, City of Vaughan, June 18, 2004, forwarding a resolution regarding the Hydro One Transmission Project, adopted by the Council of the City of Vaughan at its meeting on June 14, 2004.

(See Minute No. 149 of Regional Council Minutes for recorded vote regarding recommendation 4.1.)

The Planning and Economic Development Committee recommends the following:

- 1. The following presentations and deputations be received:**
 - (a) Gary Schneider, Manager, Transmissions Approvals & GTA Development, and Carmine Marcello, Director, System Development Division, Hydro One Networks Inc.;**
 - (b) Jim Baird, Commissioner of Development Services, Town of Markham; and**
 - (c) Sue Fusco, and Paul Kahnert, on behalf of STOP (Stop Transmission Lines Over People);**
- 2. The following communications be received:**
 - (a) Shelia Birrell, Town Clerk, Town of Markham, dated June 9, 2004, regarding Hydro One Transmission Line (Parkway TS to Armitage TS) – Class Environmental Assessment Process, requesting to make a presentation to the June 16, 2004 Planning and Economic Development Committee and that York Region endorse the recommendation adopted by the Town of Markham Council on June 8, 2004.**
 - (b) Copy of letter from Chris Somerville, Township Clerk, Township of King, to Yuri Huminilowycza, Director, Real Estate, Hydro One Networks Inc., dated May 7, 2004, regarding Hydro One Networks, Northern York Region Supply Study, Adequacy of Transmission Facilities and Transmission Supply Plan.**

- 3. The following report, June 2, 2004, from the Commissioner of Planning and Development Services, be received; and**
- 4. The following actions be undertaken by Hydro One prior to its determination of a preferred alternative:**
 - 1. Hydro One undertake, as part of the Class Environmental Assessment Process, a fully documented identification and assessment of all possible routes and options for expanded power transmission capacity to northern York Region, including the use of other transmission corridors supplying northern York Region, the use of existing and proposed Ministry of Transportation corridors such as Highway's 404, 400 and future 427, pursuing new corridors on rural lands, undergrounding of system, and other alternatives;**
 - 2. Hydro One, in evaluating all alternatives, give greater consideration to environmental, social and economic impacts on existing and future urban areas and established and future residential communities, including schools adjacent to and in close proximity to the proposed transmission lines, and a lesser consideration to the factor of cost;**
 - 3. Hydro One, in considering any alternatives within existing urban areas, undertake further detailed analysis relating to:**
 - (a) The criteria set out in Section 41 of the Oak Ridges Moraine Conservation Plan for the approval of an infrastructure project, such as a new or upgraded transmission line;**
 - (b) A full inventory and assessment of natural features and wildlife corridors and functions that would be potentially affected by construction activities and transmission corridor operations and relationship to adjacent urban development;**
 - (c) An assessment of the impact of the proposal on the intended use of the Hydro One transmission corridor for future trail system activity linkages within urban areas;**
 - (d) An assessment of the visual impact of the power transmission towers in an established urban environment, including an assessment of the potential economic impact on homeowners and the loss of enjoyment of residential yards that are in proximity to the hydro corridors;**
 - (e) Review, with Transport Canada, the compliance of tower transmission heights with respect to Transport Canada Airport**

zoning regulations;

- (f) Provide information on the effects of electromagnetic fields (EMFs) on human health; disclose the relative EMF strength emanating from the proposed 230 kV line; undertake a health risk assessment of the proposal in relation to adjacent urban land uses, in particular residential uses, schools and parks; and identify mitigating measures that would ensure that any proposed changes in transmission capacity will not increase the public's exposure to EMFs;**
- 5. The Regional Chair be requested to arrange meetings with the appropriate Ministers to discuss the issues arising out of the Hydro One proposal;**
- 6. The Regional Medical Officer of Health be requested to comment on the health issues related to EMFs;**
- 7. A meeting be arranged with the impacted municipalities and the Region to discuss a common response to the Hydro One proposal; and**
- 8. The Regional Clerk forward a copy of Council's resolution and all public submissions received by the Region to the Premier of Ontario, the Minister of the Environment, the Minister of Energy, the Minister of Health and Long-Term Care, the Minister of Municipal Affairs and Housing, York Region MPPs, the York Region District School Board, the York Region Catholic District School Board, the Independent Electricity Market Operator and to the local municipalities.**

1. RECOMMENDATIONS

It is recommended that:

- 1. This report be received for information purposes.
- 2. The Regional Clerk forward a copy of this report to the area municipalities and Hydro One.

2. PURPOSE

The purpose of this report is to:

- Describe the project by Hydro One to build a new transmission line to serve the growing need for electric power in York Region.
- Address the recommendation of Committee and Council to identify the impact of the project on Regional policies and communities.
- Identify the next steps by Hydro One to complete the project.

3. BACKGROUND

On April 7, 2004 Planning and Economic Development Committee received a communication from Hydro One outlining their intention to build a new transmission line to service the growing need for electric power in York Region. At its meeting of April 22, 2004 Regional Council adopted Planning and Economic Development Committee's recommendation to "receive and refer to staff for review and comment on the implications and impact of the project on the Region's policies and on communities the transmission line will pass through."

3.1 Project Description

Hydro One is proposing to build a new 230-kilovolt double circuit transmission line to increase transmission capacity and reliable electrical supply in York Region. The proposed transmission line is planned to be in service by late 2006 provided all required approvals and easements are obtained.

The project is subject to approval under the Class Environmental Act and as such Hydro One will be considering at least two alternatives (see *Attachment No. 1* for location of transmission line alternatives).

Alternative one involves upgrading and replacing the existing transmission line in eastern York Region which runs from Markham to Newmarket, and the second alternative involves upgrading and replacing the existing transmission line running from Vaughan to Newmarket.

Alternative one consists of a 24 km transmission line in the existing transmission corridor running from the recently approved Parkway Transformer station in Markham to the Armitage transformer station in Newmarket. The replacement transmission line will extend through the municipalities of Markham, Whitchurch-Stouffville, Richmond Hill, Aurora, and Newmarket. Alternative two consists of approximately 48 km of transmission line located within Vaughan, King Township and Newmarket.

3.1.1 Need

Current electrical load forecasts by the local electric utilities in York Region indicate that capacity of the existing transmission line supplying electricity to central and northern York Region will be exceeded by the winter of 2005/06. Hydro One has indicated that if a transmission outage occurs during the winter peak period, other transmission facilities may be unable to reliably supply customers in northern York Region.

The need for the facility was identified by Hydro One and the York Region electric utilities and was confirmed in the 10 year Outlook Report (2005 to 2014) by the Independent Electricity Market Operator. Upgrades to the transmission lines will strengthen the transmission system throughout York Region and allow York Region electric utilities to expand their distribution systems to keep pace with anticipated growth.

Local utilities in Markham, Richmond Hill, Vaughan, Aurora, and Newmarket have signed off on a joint planning study that recommends a new transmission line.

3.2 Approvals and Consultation

The proposed transmission line is subject to Environmental Assessment approval and Ontario Energy Board approval.

As part of the Environmental Assessment process, Hydro One has hosted a series of Public Information Centres (PIC) to obtain stakeholder input. PICs were held on the following dates:

April 28, 2004	Markham Civic Centre
April 29, 2004	Newmarket Community Centre
May 4, 2004	Vaughan, Woodbridge Community Centre
May 5, 2004	King, Pottageville Community Centre

Issues raised at the PICs included the impact of electric magnetic fields in association with electric power, impact on schools and other community facilities that abut the corridor, aesthetic appearance, property values and whether the proposed transmission line should be located in the Highway 404 corridor.

Hydro One staff have also met with Regional and municipal staff and local Councils to provide details of the project. *Attachment No. 2* to this report lists these meeting dates.

Hydro One staff have also met with the officials from the York Region Catholic School Board to begin to address issues regarding electric magnetic fields (EMF) and the proximity of schools along the route alternatives. Hydro One will continue to work with representatives of the catholic and public school boards, the schools themselves, and concerned parents on this and other project effects that are identified through the consultation process.

3.2.1 Meeting with Regional Transportation and Works Staff

Hydro One is required to obtain road occupancy permits from York Region should they require the use of a Regional road to access their hydro corridor(s).

Hydro One staff met with Regional Transportation Operations and Design and Construction staff on April 27, 2004 and provided an overview of their project. Regional staff will work co-operatively with Hydro One staff to ensure access by Hydro One to their hydro corridor(s) from Regional roads is carried out in a safe manner and if closures of Regional roads are required they will be done in a manner that has the least disruptive impact on traffic flow.

4. ANALYSIS

This project is subject to the Environmental Assessment process and Hydro One is responsible for adhering to the process requirements and ensuring all aspects of the

process are addressed to the satisfaction of the Minister of the Environment. The Regional Official Plan contains policies regarding transmission facilities. These policies are reviewed in section 4.2 and are likely to be addressed through the Environmental Assessment process.

4.1 Environmental Assessment Process

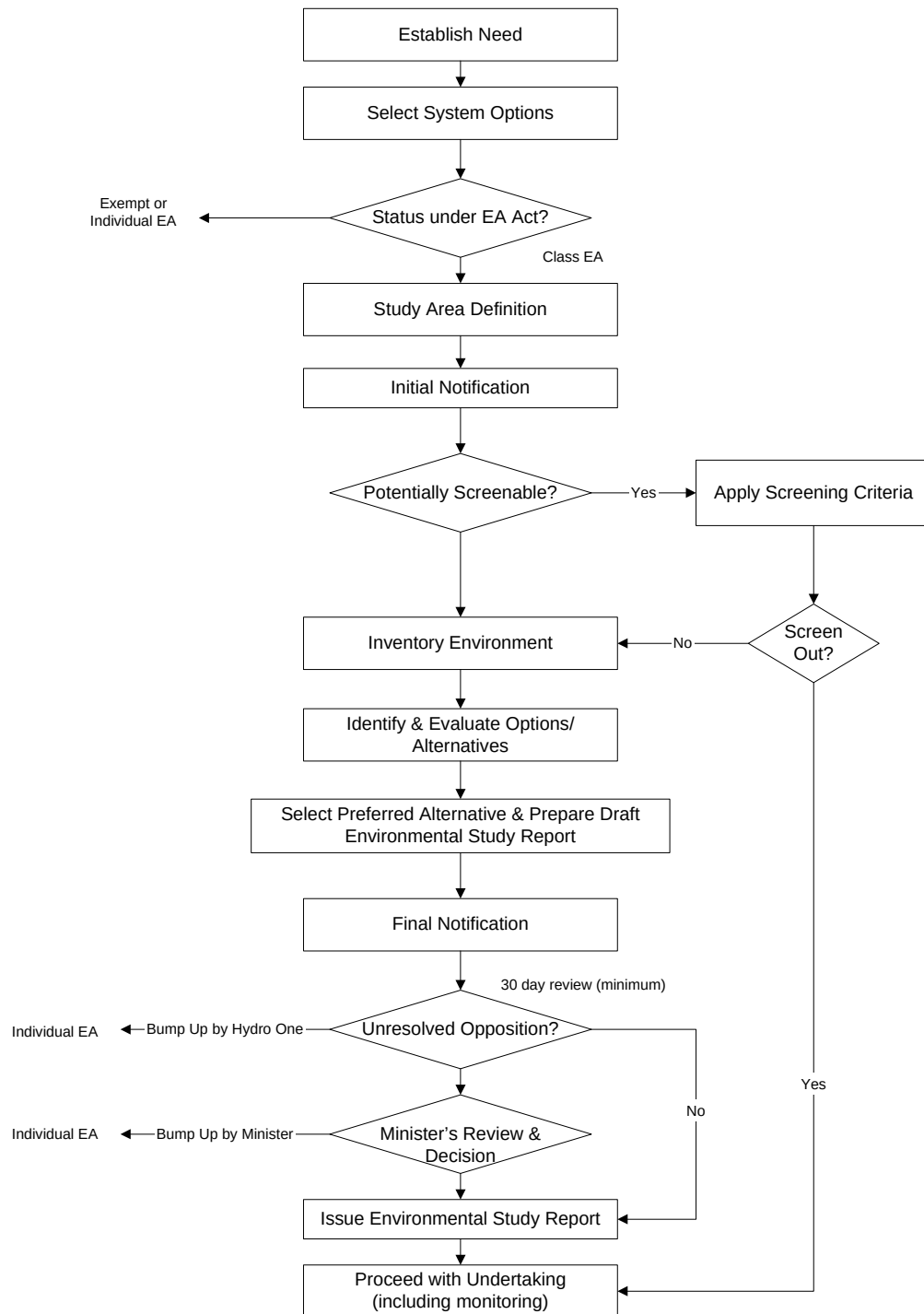
The project is subject to Class Environmental Assessment for Minor Transmission Facilities, which includes all transmission line projects involving more than 2 km of line and which:

- i. Are capable of operating at a nominal voltage level of 115 kV.
- ii. Are capable of operating at a nominal voltage level higher than 115kV and less than 500kV and which involve less than 50 km of line.

Figure 1 shown on page 5 sets out the general Class Environmental Assessment Process. Some of the key steps in the Environmental Assessment process include:

- a. Delineating the boundaries of the study area so that the area includes known potential environmental impacts and technical constraints. Environmental constraints include ecologically sensitive areas, and technical constraints may involve problems associated with construction and maintenance.
- b. Collecting and mapping environmental data including:
 - Agricultural resources
 - Appearance of the landscape
 - Biological resources
 - Forest resources
 - Heritage resources
 - Human settlement
 - Mineral resources recreational resources
- c. Identifying and evaluating alternative methods and assessing each method based on environmental, technical and cost impacts.
- d. Completion and filing of the Environmental Study Report with the Ministry of the Environment. Subsequent to the filing, Hydro One may have further communications with individuals whose property is affected by the undertaking.

Figure 1
Class Environmental Assessment Process



4.2 Regional Official Plan

Hydro electric power service will be required to serve the growth forecast set out in Section 5.1 of the Regional Official Plan.

4.2.1 Section 5.1 – Growth Forecasts

Hydro One's project is intended to serve primarily Aurora, Newmarket, East Gwillimbury, Georgina, and rural parts of King Township and Whitchurch-Stouffville. The project will also allow the local electric utilities in Markham, Vaughan and Richmond Hill to expand their electricity distribution systems to keep pace with continued economic growth. Improvements to Hydro One's transmission lines are required to service the 2006 population and employment and the subsequent growth.

Table 1 of the Regional Official Plan provides anticipated population and employment growth for these area municipalities. Total population and employment forecasts for the six above noted area municipalities is approximately 249,000 residents and 90,000 jobs for 2006. An increase of 33,000 persons and 15,000 jobs is forecast by 2011.

An extract of Table 1 is provided below.

TABLE 1

	1996	2006	2011	2016
Aurora				
Population	36,000	49,000	56,000	63,000
Employment	14,600	19,000	22,000	26,000
East Gwillimbury				
Population	20,400	27,000	32,000	41,000
Employment	4,600	7,000	9,000	12,000
Georgina				
Population	35,900	45,000	51,000	59,000
Employment	7,500	10,000	13,000	16,000
King				
Population	18,800	22,000	25,000	29,000
Employment	6,100	7,000	8,000	10,000
Newmarket				
Population	59,000	79,000	87,000	91,000
Employment	27,200	37,000	41,000	43,000
Whitchurch-Stouffville				
Population	20,500	27,000	31,000	35,000
Employment	7,500	10,000	12,000	14,000
Totals				
Population	190,600	249,000	282,000	318,000
Employment	67,500	90,000	105,000	121,000

4.2.2 Communication Corridors and Transmission Facilities

Section 6.5 of the Regional Official Plan contains policies that encourage the development and maintenance of modern transmission facilities in such a way as to minimize visual impact, the impact on the environment and disruption to existing communities. Key policies related to hydro-electric power lines are noted below followed by an explanation as to how Hydro One intends to address the policies.

6.5.2 That major hydro electric power lines crossing the Region of York above or below ground be constructed, maintained and operated so as to minimize their impact on people, the adjacent uses of land and the environment, and to support the urban structure of this Plan. This may include shared rights of way in order to reduce impact on adjacent lands and resources.

Both alternatives currently being considered by Hydro One are proposing a replacement transmission line within an existing hydro right-of-way that currently serves York Region. Although the EA process must confirm the environmental impact, it is anticipated that utilizing the existing rights-of-way will have the least amount of impact on the environment and existing communities.

6.5.4 That utilities be constructed according to the following criteria:

- a. That facilities be located so as to avoid the principal elements of the Regional and local Greenlands System and to minimize the use of agricultural lands;*
- b. That in the future, buried cables or improved appearance steel pole; structures be used where possible in urban areas or where the visual impact would be high, provided the facilities have satisfied the requirements of the Environmental Assessment Act;*
- c. that any odour, noise or emission from a facility be abated to the extent possible and to a level acceptable to the Region of York and /or affected area municipality;*
- d. that soil removal in trench construction be carried out so that topsoils strata are replaced in their former order;*
- e. that surplus soils derived from trench excavation and construction debris be disposed of so as not to negatively impact the natural environment and in a manner acceptable to the landowner and the area municipality;*
- f. that construction be timed to minimize crop losses;*
- g. that the crossing of roads or usage of road right-of-way be subject to the approval of the Region and/or respective area municipalities;*
- h. that the crossing of any lake or stream be subject to the approval of appropriate conservation authorities and the Ministry of Natural Resources;*
- i. that plans to achieve multiple use of a right of way containing a utility be prepared and implemented subject to the approval of the Region of York and/or affected area municipality; and,*

- j. *that the damage to the natural soil or surface drainage, farm field tile beds and fencing be restored to the satisfaction of the property owner.*

Policies 6.5.4 a, b, c, f, and h will be addressed during the Environmental Assessment process. Hydro One is currently evaluating if and where they may be constructing steel poles as replacements to lattice towers.

Policies 6.5.4 d, e, and j can be met by Hydro One following the guidelines for Construction and Maintenance referenced in the Class Environmental Assessment for Minor Transmission Facilities.

4.2.2.1 Construction and Maintenance

Construction and maintenance and right-of way management activities will be carried out in accordance with the Environmental Guidelines for the Construction and Maintenance of Transmission Facilities. As part of the guidelines, specific instructions may be issued where environmentally sensitive situations are identified through the planning or construction phases.

The typical mitigation measures are shown on *Attachment No. 3* to this report, which identifies what the environmental concern is, what the mitigation measure is, and when it is to be applied. For example, an environmental concern would be wind and water erosion to soil, the mitigating measure would be a combination of avoiding certain areas, timing activities to the most stable ground conditions, slope stabilization, mechanical erosion control, vegetation erosion control and recompaction of trenches. The mitigating measures may be applied if access roads are needed and soil erosion presents a problem situation.

4.3 Impact on Communities

Detailed assessment of the impact on urban and rural communities is also a criterion of the Environmental Assessment process. This section provides a general overview of the types of communities the proposed transmission line will pass through if the existing rights-of-way are utilized.

Alternative one traversing the eastern portion of York Region will pass through:

- the urban built-up portion of Markham from approximately Highway 407 to Major Mackenzie Drive, consisting of both employment areas and residential areas
- new residential development under construction north of Major Mackenzie Drive,
- the eastern edge of the hamlet of Victoria Square
- the community of Gormley
- parts of the Oak Ridges Moraine
- built up urban parts of Newmarket and Aurora located between Mulock Drive and Vandorf sideroad, consisting of residential and employment areas

Alternative two located in the western portion of York Region will pass through:

- the urban built up area in Vaughan from Highway 407 to Major Mackenzie Drive comprised of primarily residential neighbourhoods
- the eastern edge of the community of Kleinburg
- rural area from Kleinburg to Newmarket
- hamlets of Pottageville and Kettleby
- parts of the Oak Ridges Moraine
- residential neighbourhoods in west Newmarket

4.3.1 Oak Ridges Moraine

The existing electric transmission line corridor in eastern York Region traverses portions of the Oak Ridges Moraine that are designated “Natural Core Area”, “Natural Linkage Area”, “Countryside” and “Settlement Area”. Prior to the approval of an infrastructure project, such as a new or upgraded transmission line, criteria set out in Section 41 of the Oak Ridges Moraine Conservation Plan must be addressed. In accordance with Section 41, an applicant must demonstrate that the following criteria have been met:

- The need for the project has been demonstrated and there is no reasonable alternative.
- Area of construction will be kept to a minimum.
- Right of way widths will be kept to a minimum.
- The project will allow for wildlife movement.
- The planning, design, and construction practises adopted will keep any adverse effects on the ecological integrity of the Plan Area to a minimum.
- The project is located as close to the edge of the Natural Core Area as possible.

Hydro One is responsible for providing the necessary documentation to address the above noted criteria and any other applicable criteria in the Oak Ridges Moraine Conservation Plan during the Environmental Assessment process.

4.3.2 Electric and Magnetic Fields

The affect of EMF’s (Electric and Magnetic Fields) is often raised by the general public during hydro projects.

In 1995 and 1998 the Regional Medical Officer of Health and the Commissioner of Planning and Development Services prepared various reports on the topic of EMFs. The reports identified potential risks associated with EMF’s and concluded that the risk of health effects from exposure to EMF is relatively low when compared to other risks in every day life. Conclusions indicated that York Region should consider “prudent avoidance” regarding EMF’s, which means exercising sound judgement in practical matters, being cautious, and taking steps to control risks but at a modest cost. Reasonable actions should be taken given the absence of clearly defined scientific risk.

4.3.2.1 Information from Hydro One

At its public information centres Hydro One provides a brochure on electric and magnetic fields prepared by the National Institute of Environmental Health Sciences. The brochure provides a variety of questions and answers regarding potential health effects, results of EMF related research, standards and guidelines established by national and international safety organizations and other references for EMF topics.

4.4 Next Steps

Hydro One is currently in the preliminary stages of working with local communities and residents regarding the project. As part of the next steps, Hydro One will be carrying out the following:

- | | |
|--|-------------|
| i. Second Public Information Centre - Progress Report | June 2004 |
| Continue to work with Stakeholders to resolve issues associated with route options | |
| ii. Anticipated Class EA and Ontario Energy Board Approvals | Spring 2005 |
| iii. Planned start of construction | Spring 2005 |
| iv. Planned project in-service to meet identified need | Fall 2006 |

4.5 Relationship to Vision 2026

Goal three of Vision 2026 states that *“In 2026, York Region will be renowned for its advanced technology, innovative businesses, supportive business infrastructure and highly skilled workforce.”* The provision of hydro-electric power to York Region is a vital component of the infrastructure required to support businesses and residents and is needed to ensure a vibrant economy throughout York Region.

5. FINANCIAL IMPLICATIONS

All costs associated with the project, including construction and mitigation measures, consultation meetings, and approvals will be borne by Hydro One.

Hydro One has forecast that the capacity of the existing transmission line supplying electricity to northern York Region will be exceeded by the winter of 2005/2006 and if a transmission outage occurs during the winter peak period the other area transmission facilities may be unable to reliably supply customers in northern York Region, which could result in power interruptions. Power interruptions, such as the one experienced in August of 2003, significantly impact economic growth.

Hydro electric power is part of the infrastructure for a healthy economy.

6. LOCAL MUNICIPAL IMPACT

Hydro One staff have met with staff and Council from Markham, Vaughan, Richmond Hill, Aurora, Newmarket, Whitchurch-Stouffville and King Township. Details of the project have been provided to the extent possible at this stage. Hydro One staff have verbally indicated that further consultation meetings are anticipated with Markham residents.

On May 11, 2004 Markham Council passed a resolution requesting, among other things, their staff report on the potential health impact of the Hydro One Project.

On May 3, 2004 King Township recommended, among other things, that Alternative 1 (eastern alignment) be the preferred transmission line.

7. CONCLUSION

Hydro One has identified a need to upgrade the hydro transmission lines that provide service to central and northern York Region by 2006. Current alternatives proposed by Hydro One involve utilizing the existing hydro rights-of-way that traverse southern and central York Region.

The project is subject to the Class Environmental Assessment process for Minor Transmission Facilities and as such Hydro One will be responsible for ensuring all requirements of the EA process are adhered to, including providing adequate consultation, evaluation of alternatives, and notice. During the EA process Hydro One will also be required to demonstrate that the project complies with the policies of the Regional Official Plan and the Oak Ridges Moraine Act and Conservation Plan.

The Senior Management Group has reviewed this report.

(A copy of the attachments referred to in the foregoing is included with this report and is also on file in the Regional Clerk's Office.)