EXHIBIT LIST

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ONTARIO ENERGY BOARD

In the matter of the *Ontario Energy Board Act, 1998*;

And in the matter of an Application by Hydro One Networks Inc., for an Order or Orders granting leave to construct new transmission line facilities ("Woodstock East Transmission Line Upgrade Project") in the County of Oxford including the City of Woodstock and Norwich Township.

APPLICATION

1. The Applicant is Hydro One Networks Inc. ("Hydro One"), a subsidiary of Hydro One Inc. The Applicant is an Ontario corporation with its head office in the City of Toronto. Hydro One carries on the business, among other things, of owning and operating transmission facilities within Ontario.

2. Hydro One hereby applies to the Ontario Energy Board ("the Board") pursuant to Section 92 of the *Ontario Energy Board Act, 1998* ("*OEB Act"*), for an Order or Orders granting leave to construct transmission line facilities in the County of Oxford including the City of Woodstock and Norwich Township (collectively the "Woodstock Area").

3. The proposed transmission line facilities involve rebuilding approximately 4 km of the existing end-of-life B8W single-circuit 115 kV transmission line on an existing right-of-way ("ROW") with a double circuit 230 kV line, for an in-service date of December 2011. Hydro One is also constructing a new transformer station ("Commerce Way TS"), to which the rebuilt line will connect, at the request of the

local LDCs. Although the transformer station is not subject to section 92 approval information about it is included to provide context to the application.

4. The total cost of the line facilities for which Hydro One is seeking approval is estimated to be $14.9 million. There will be a 0.1% impact on customer bills from the proposed line facilities.

5. Hydro One is seeking approval of the proposed transmission facilities in accordance with the *Class Environmental Assessment for Minor Transmission Facilities* ("Class EA") approved by the Ministry of Environment ("MOE").

6. This Application is supported by written evidence which has been prepared in accordance with the requirements of the Board's relevant filing guidelines (*Filing Requirements for Transmission and Distribution Applications, EB-2006-0170,* or "Filing Guidelines"). This evidence includes details of the Applicant's proposal for the new transmission reinforcement. The written evidence is pre-filed as attached and may be amended from time to time, prior to the Board's final decision on this Application. Further, the Applicant may seek meetings with Board Staff and intervenors in an attempt to identify and reach agreements to settle issues arising out of this Application.

7. Hydro One requests a written hearing for this proceeding.

8. Hydro One requests that a copy of all documents filed with the Board be served on the Applicant and the Applicant's counsel, as follows:

a) The Applicant:

Mr. Glen MacDonald
Senior Advisor - Regulatory Research and Administration
Hydro One Networks Inc.

Mailing Address: 8th Floor, South Tower
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b) The Applicant's counsel:

Michael Engelberg
Assistant General Counsel,
Hydro One Networks Inc.

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SUMMARY OF PREFILED EVIDENCE

Hydro One has applied to the Board for an order granting leave to construct transmission line facilities in the Woodstock Area pursuant to Section 92 of the *OEB Act*.

The proposed line facilities to be constructed, owned, and operated by Hydro One are:

- Build approximately 4 km of 230 kV double-circuit line to replace the existing B8W single-circuit 115kV line on the existing right-of-way ("ROW") between Woodstock TS and the proposed Commerce Way TS. Connect this new line to the new double-circuit line K7/K12 (scheduled to be in-service in December 2011 and approved in EB-2007-0027) at Woodstock TS and the remaining portion of B8W at Commerce Way TS. The new line will initially operate at 115 kV subject to future transmission enhancements in the area.
- Build approximately 0.1 km double-circuit line tap from the above rebuilt line to the new Commerce Way TS.
- Remove approximately 4 km of the existing 115 kV circuit line B8W from Woodstock TS to Commerce Way TS. Toyota Woodstock TS will be supplied temporarily from the Brant TS end during rebuilding of the line facilities.

In conjunction with the proposed new transmission line facilities, Hydro One is also building a new transformer station, Commerce Way TS, at the request of the local LDCs. This station is to be constructed, owned, and operated by Hydro One. The new station is not subject to section 92 approval. The station facilities are:

- Build the new Commerce Way TS consisting of two 115-27.6 kV 50/83 MVA transformers with eight 27.6 kV feeder circuit breakers at a location approximately 4 km east of Woodstock TS south of Parkinson Road.

The Woodstock East line upgrade project and new Commerce Way TS will be the third of three projects to upgrade capacity and reliability in the Woodstock Area. Previously the Board has approved EB-2006-0352 for the Toyota connection, and the EB-2007-0027 Woodstock Area Transmission Reinforcement.

The planned in-service date for the proposed facilities is December 2011. A map showing the location of the proposed transmission facilities is provided in Exhibit B, Tab 2, Schedule 2.

The proposed line facilities are in the public interest as summarized below, as they:

- Will ensure the availability of electricity supply to consumers in the Woodstock Area;
- Will increase transmission capacity in the area to meet expected load growth in a reliable manner; and
- Will maintain required quality of supply (i.e. adequate post-contingency voltage levels).
- Will not have a material impact on the price of electricity.

The IESO carried out a SIA study of the proposed facilities in accordance with the Grid Connection Requirements of the Market Rules and the associated IESO Connection Assessment and Approval Process. The IESO's SIA, filed as Exhibit B, Tab 6, Schedule 3, indicates Hydro One's proposed transmission solution is desirable and will not adversely impact the IESO Controlled Grid. This project is also identified in the IESO's Ontario Reliability Outlook filed as Exhibit B, Tab 6, Schedule 7.

The need for the proposed line facilities was confirmed in a Hydro One load and capacity analysis conducted with input from the LDCs in the Woodstock Area. This analysis was updated in February 2009.

Hydro One has completed a Customer Impact Assessment ("CIA") in accordance with its customer connection procedures, and the results confirm there are no adverse impacts on transmission customers as a result of this project. The CIA document will be filed as Exhibit B, Tab 6, Schedule 4 by mid May 2009. The document is currently being reviewed by customers in the area affected.

The total cost of the line facilities for which Hydro One is seeking approval is estimated to be $14.9 million. The line facilities will have an estimated 0.1% impact on customer bills. The cost of the new station including related modifications is $29.9 million. A capital contribution currently estimated at $12.6 million, will be provided towards the cost of the station by the affected LDCs, consistent with the requirements of the Transmission System Code. Net of the capital contribution, there will be no impact on customer bills as a result of the new station. Details of the project costs and project economics are filed in Exhibit B, Tab 4, Schedules 2 and 3, respectively.

The design of the proposed facilities is in accordance with good utility practice and meets the requirements of the Transmission System Code for licensed transmitters in Ontario.

Hydro One has consulted with stakeholders in the Woodstock Area to identify potential concerns associated with the construction and operation of the proposed transmission facilities. The feedback received from stakeholders was considered and incorporated into the preparation of this Application. Details regarding the consultation process are filed as Exhibit B, Tab 6, Schedule 5. Hydro One will continue to consult with the local community, interested stakeholders and First Nations to ensure that potential concerns

identified as part of the Environmental Approvals process, and during the construction phase, are addressed.

A letter of support for the proposed facilities has been received from Woodstock Hydro, as filed in Exhibit B, Tab 6, Schedule 2. Hydro One Distribution also supports the project. These are the two Local Distribution Companies affected. Agreements in relation to the collection of capital contributions will be obtained from these customers prior to the commencement of construction.

A detailed construction schedule is filed as Exhibit B, Tab 5, Schedule 2. This schedule assumes the Ontario Energy Board ("the Board") leave to construct under Section 92 of the *OEB Act*, by November 2009, and approvals under the Class EA provisions of the *Environmental Assessment Act* by May 2009. This should enable Hydro One to meet the required December 2011 in-service date.

Hydro One requests a written hearing for this proceeding and submits that the evidence supports granting the requested Order based on the following grounds:

- The need for new line connection facilities has been established;
- The LDCs have confirmed that the need cannot be met through new generation resources or conservation and demand management initiatives in the Woodstock Area, given the overloading situation of the existing facilities;
- The need for the project is supported by the LDCs in the Woodstock Area;
- The facilities will increase the capacity of the transmission system and the availability of supply to the Woodstock Area;
- The proposed facilities are consistent with the Woodstock Area LDCs' longer term plans, in that they provide additional capability for future load growth;
- There are no adverse system or customer impacts from the project;

- The project will be fully compliant with the relevant codes, rules and licences; and
- There will be a minor (0.1%) customer bill impact as a result of the new line facilities.

For the reasons provided in support of this Application, Hydro One respectfully submits that the proposed transmission line facilities are in the public interest and should be approved under Section 92 of the *OEB Act.* Accordingly, Hydro One requests an Order from the Board pursuant to Section 92 of the *OEB Act* granting leave to construct the proposed transmission line facilities by November 2009.

PROCEDURAL ORDERS / AFFIDAVITS / CORRESPONDENCE

NOTICES OF MOTION

To be filed behind this tab as and when Notices are filed.

PROJECT LOCATION AND EXISTING TRANSMISSION SYSTEM

1.0 PROJECT LOCATION

The study area addressed by this project is the County of Oxford including the City of Woodstock and Norwich Township, collectively referred to as the Woodstock Area.

A map of the existing facilities is provided in Exhibit B, Tab 1, Schedule 2. The schematic electrical diagram of the facilities with the Woodstock Area Transmission Reinforcement ("WATR") Project in-service but prior to the Commerce Way TS connection is provided in Exhibit B, Tab 1, Schedule 3. The Ontario Energy Board approved the WATR project which addressed transmission needs on the west side of Woodstock on October 11, 2007 (EB-2007-0027). The expected in-service date of these facilities is December 2011.

2.0 EXISTING TRANSMISSION FACILITIES

The existing load in the Woodstock Area is approximately 105 MW. About 100 MW of this load is currently supplied from Woodstock TS, and the balance from Toyota Woodstock TS. Woodstock TS and Toyota-Woodstock TS are supplied by 115 kV lines.

The transmission line facilities in the Woodstock Area with the WATR project in-service and prior to connecting the proposed Commerce Way TS include a double-circuit 230 kV line between the new Karn TS (to be built as part of WATR) and Woodstock TS, and a single-circuit 115 kV line (B8W) from Woodstock TS to Brant TS. The B8W line is operated normally open west of Brant TS.

Transformer Stations in the Woodstock Area with the WATR project in service will include:

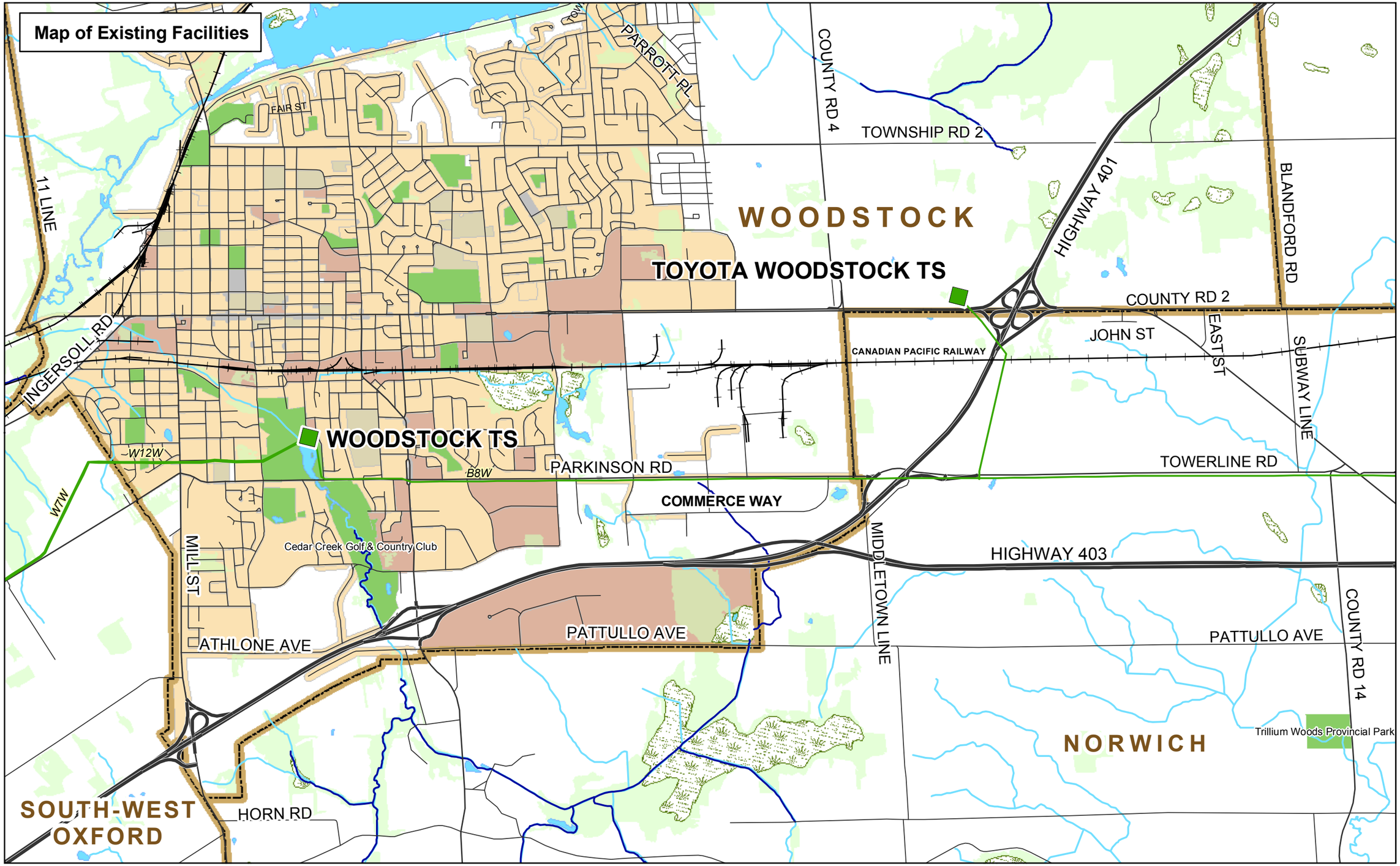
1. **Woodstock TS** (Hydro One-owned) is radially supplied via the 115 kV double-circuit line W7W / W12W and to be supplied by the new radial circuits K7/K12.

2. **Toyota Woodstock TS** (Hydro One-owned) –is currently radially supplied via a tap from 115 kV circuit B8W.

3. **Karn TS** (Hydro One-owned) to be built as part of the WATR project (EB-2007-0027)

MAP OF EXISTING FACILITIES

Map of Existing Facilities



hydro one

Kilometers

0 0.5 1 2

1:30,000

Transmission Stations

115 kV

Existing/Approved Transmission Lines

115 kV

Land Use

- Government and Institutional
- Parks and Recreational
- Residential
- Commercial
- Resource and Industrial
- ANSI
- ESA
- Wetlands
- Pit or Quarry
- Wooded Area
- Waterbodies
- Municipalities
- Railway
- Streams
- Cold Water Stream

Produced by: GIS Services - Inergi LP
Date: February 2008 Revised: February 2009
Map08-18_WoodstockEast_OEB_Existing_v2

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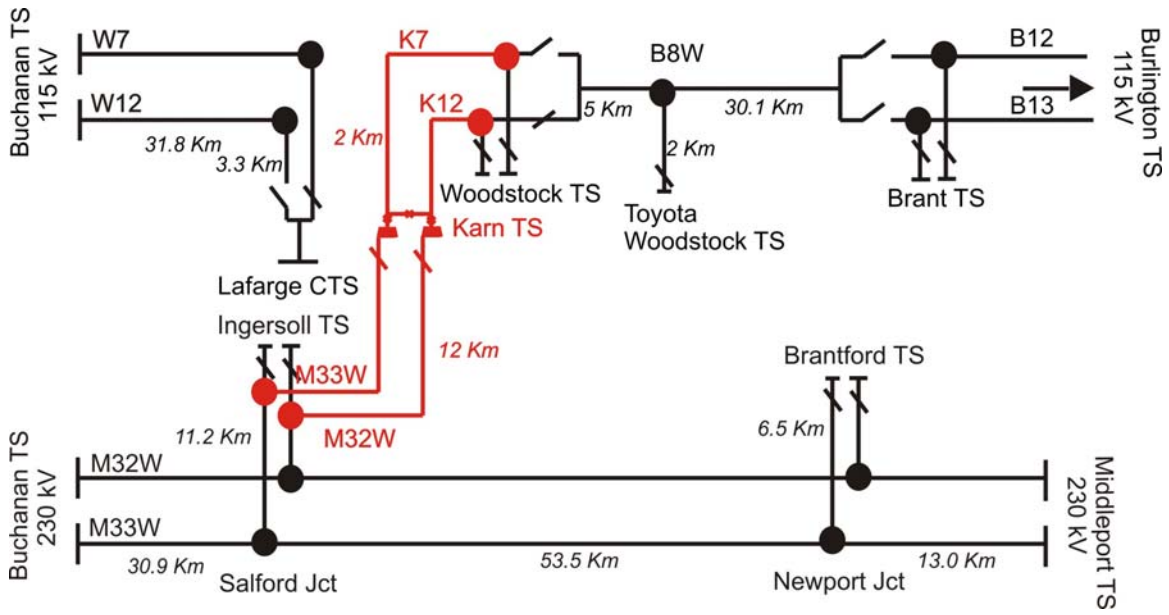
SCHEMATIC DIAGRAM OF EXISTING FACILITIES



NEED FOR THE PROPOSED FACILITIES

1.0 BACKGROUND

This Schedule describes the need to upgrade the transmission line serving the eastern part of Woodstock. As the length of the upgraded line is greater than 2 km, section 92 approval is required. The existing facilities are described in Exhibit B, Tab 1, Schedule 1.

The existing Woodstock TS load is over-loaded and has exceeded its summer capacity of 82.9 MW for the past few years. Woodstock Hydro and Hydro One Distribution are on a combined basis forecasting load growth of 40 MW by 2012 and 60 MW by 2016 over the summer capacity rating at Woodstock TS. This new demand is expected to the east and north of the City of Woodstock.

Temporary measures are being implemented to transfer about 7 MW of load to nearby Ingersoll TS to relieve Woodstock TS. Also, before the new Commerce Way TS is in-service, it may be necessary to reject load at Woodstock TS, in the event of the loss of one of the two transformers, in order to respect the capacity limit on the remaining transformer.

Woodstock Hydro and Hydro One Distribution have requested Hydro One Networks to build a new transformer station to meet their forecast demand. The new station ("Commerce Way TS") will be located near the anticipated load center and within close proximity of the existing 115 kV line (B8W) corridor. In order to supply this station, an upgrade to the transmission line capacity is required.

B8W is a single-circuit 115 kV line between Woodstock TS in the west and Brant TS in the east and running east-west along Parkinson Road in the City of Woodstock and Towerline Road in Norwich Township. It is operated with an open point at the Brant TS end. The thermal capability of B8W (105 MW) is not adequate to supply the forecast load.

2.0 LOAD GROWTH FORECAST

When the Woodstock Area Transmission Reinforcement Project (EB-2007-0027) is in-service (a requirement for connecting the new Commerce Way TS), the two existing transformer stations, Woodstock TS and Toyota Woodstock TS, will also be supplied from the new Karn TS.

Table 1, shown below, shows the peak load for Woodstock TS, Toyota Woodstock TS and the new Commerce Way TS. On February 20, 2009, Woodstock Hydro and Hydro One Distribution updated their load forecasts. Table 1 reflects the revised forecast.

Table 1: Woodstock Area 115 kV Coincident Summer Peak Load Forecast (MW)

Station	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Woodstock TS	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9
Toyota Woodstock TS	25	25	25	25	25	25	25	25	25	25	25
Commerce Way TS	26.3	34.4	40.2	44.7	49.2	53.0	55.9	58.8	61.7	64.6	67.5

It is not anticipated that the forecast load growth can be met through generation in the Woodstock Area, or through conservation and demand management initiatives.

2.1 RELEVANT TRANSMISSION PLANNING GUIDELINES

The transmission planning guideline relevant to assess the need for the transmission line reinforcement proposed in this application is as follows:

2.1.1 Transmission line thermal overload guideline

"With all transmission elements in service, any single element contingency (outage) shall not result in loading of any circuit post-contingency such that it exceeds its MW rating."

The existing single-circuit B8W line is close to its end of life and the line towers are not suitable for replacing the existing conductor with similar or higher-rated conductors or accommodating a second circuit due to the lack of structural strength in the existing towers. The demand on this line will be 145 MW when Commerce Way TS and Toyota Woodstock TS are loaded to their full capacity. The rated capacity of the line is 105 MW. Therefore the line will be loaded in excess of its capacity and under the above noted guidelines it is necessary to rebuild this line from Woodstock TS to Commerce Way TS to add the needed capacity.

The preferred solution when rebuilding the line is to provide a double-circuit supply to Commerce Way TS. This would meet both capacity and reliability needs for the Woodstock area. The need to add a second circuit is based on the IESO's Load Restoration Criteria (contained in IESO's Ontario Resource Transmission Assessment Criteria [ORTAC]), which specify that loads greater than 150 MW should be restorable within an approximate 4-hour time limit following a contingency. Typically, this means the line should be restorable by switching to a second circuit, given normal distances from a service centre and associated travel, crew set-up and repair time. For the Woodstock East line upgrade, as the 145 MW load that is forecast to be served off the

line B8W is close to the 150 MW threshold of the Load Restoration Criteria, in Hydro One's view it is appropriate to install a second circuit at this time given that the Woodstock area is becoming an area of increasing manufacturing importance (e.g., the new Toyota plant and associated spin-offs) with time-sensitive loads requiring high reliability. Adding a second circuit is also consistent with anticipated system enhancements to the area and would take advantage of cost synergies by doing the work now when the line is being rebuilt. For these reasons, adding a second circuit at this time is proposed.

2.2 PROJECT CATEGORIZATION

2.2.1 Project Classification (Development, Connection, Sustainment)

Per the Board's Filing Guidelines, the first stage of project categorization is the classification of a project as development, connection, or sustainment.

- *Development projects are for load growth or other changes to the system such as minimizing congestion on the transmission system.*

- *Connection projects are those for the sole purpose of providing connection of a customer to the transmission system, and include both line and transformation facilities.*

- *Sustainment projects are intended to maintain the performance of the transmission network at its current standard.*

Based on the above criteria this project is classified as a Development, Connection and Sustainment project, as it incorporates elements of all three project types:

- The connection part of the project is to build the new Commerce Way TS and the line tap to the new station, both being undertaken at customer request.

- The development and sustainment parts of the project are to replace the existing single-circuit 115 kV line, which is at end of life, and upgrade it to a double-circuit 230 kV line to meet system reliability and future load growth needs. While a single-circuit 115 kV line with upsized conductor could supply the customers' expected future load, the line is proposed to be upgraded at this time to a double-circuit 230 kV configuration in order to meet reliability guidelines and address anticipated future system enhancements in the area. Compared to the costs of rebuilding the line, there is only a minor additional cost of upgrading to 230 kV standards and it makes economic sense to do the work while the line is being rebuilt.

2.2.2 Need Classification

The second stage of project categorization is to distinguish whether the project need is determined beyond the control of the Applicant ("Non-discretionary") or determined at the discretion of the Applicant ("Discretionary"). Non-discretionary projects may be triggered or determined by such things as:

a) Mandatory requirement to satisfy obligations specified by Regulatory Organizations including NPCC/NERC (NAERO in the near future) or by the Independent Electricity Market Operator (IESO);

b) Need to accommodate new load (of a distributor or large user) or new generation (connection);

c) To relieve system elements (transmission lines, circuit breakers, etc.) where the loading exceeded their capacities or where short circuit levels on these system elements exceeded their withstand capabilities;

d) Projects identified in an approved IPSP;

e) To comply with direction from the Ontario Energy Board in the event it is determined that the transmission system's reliability is at risk.

The Woodstock East Transmission Line Upgrade project is considered primarily non-discretionary based on the connection and sustainment needs. The new connection facilities (new Commerce Way TS and additional line capacity) are required immediately to relieve the current overloading situation at Woodstock TS and to meet the load forecast (item b above). Adding this capacity requires re-building the existing single-circuit 115 kV line, which is at end of life and cannot accommodate the forecast load (item c). With respect to both of these drivers, the need is therefore non-discretionary. For the development need (the upgrade to a double-circuit 230 kV line), the need is discretionary as this work could be done at a later date. As noted in the previous section however, it is proposed to do the work now in order to take advantage of construction synergies and given that a future conversion of the line to 230 kV is anticipated as part of a future area upgrade.

The following table captures these two dimensions of the project categorization.

		PROJECT NEED	
		Non-discretionary	Discretionary
PROJECT	Development		**X**
	Connection	**X**	
CLASS	Sustainment	**X**	

Based on the above considerations the project is classified as primarily non-discretionary. The Connection aspect is to meet the needs of Woodstock and Hydro One distribution. The Sustainment and Development aspects are required to ensure the reliability and quality of electrical supply to consumers in the area.

PROPOSED FACILITIES

In order to meet the need described previously in Exhibit B, Tab 1, Schedule 4, Hydro One proposes to rebuild the existing 4 km section of 115 kV single-circuit B8W to a double-circuit 230 kV line from Woodstock TS to Commerce Way TS for an in-service date of 2011. The line will be built to 230 kV standards for possible future operation at 230 kV but would be operated initially at 115 kV subject to future transmission capacity enhancements in the area. The proposed line facilities are subject to section 92 approval.

In conjunction with the upgraded line, Hydro One is also building a new transformer station (Commerce Way TS) at the request of the area LDCs. The new station will provide additional transformation capacity to meet the forecast load. The station will consist of two 115-27.6 kV, 50/83 MVA transformers and associated facilities. To connect the station, the proposed line facilities described above will also include a double circuit tap from the rebuilt line to the new station. The new station is not subject to section 92 approval.

The proposed facilities will be owned and operated by Hydro One. Following is the specific work and facilities required as part of the proposed project:

Line Work

- Remove approximately 4 km of the existing 115 kV circuit line B8W (towers and conductor) from Woodstock TS to Commerce Way TS. Toyota Woodstock TS will be supplied temporarily from the Brant TS end.

- Build approximately 4 km of double-circuit line (towers and conductors) on the existing ROW between Woodstock TS and Commerce Way TS. Connect this new line to the double-circuit line K7 / K12 at Woodstock TS and the remaining portion of B8W at Commerce Way TS.

- Build approximately 0.1 km of new double-circuit line tap from the rebuilt double circuit line to the new Commerce Way TS.

Station Work

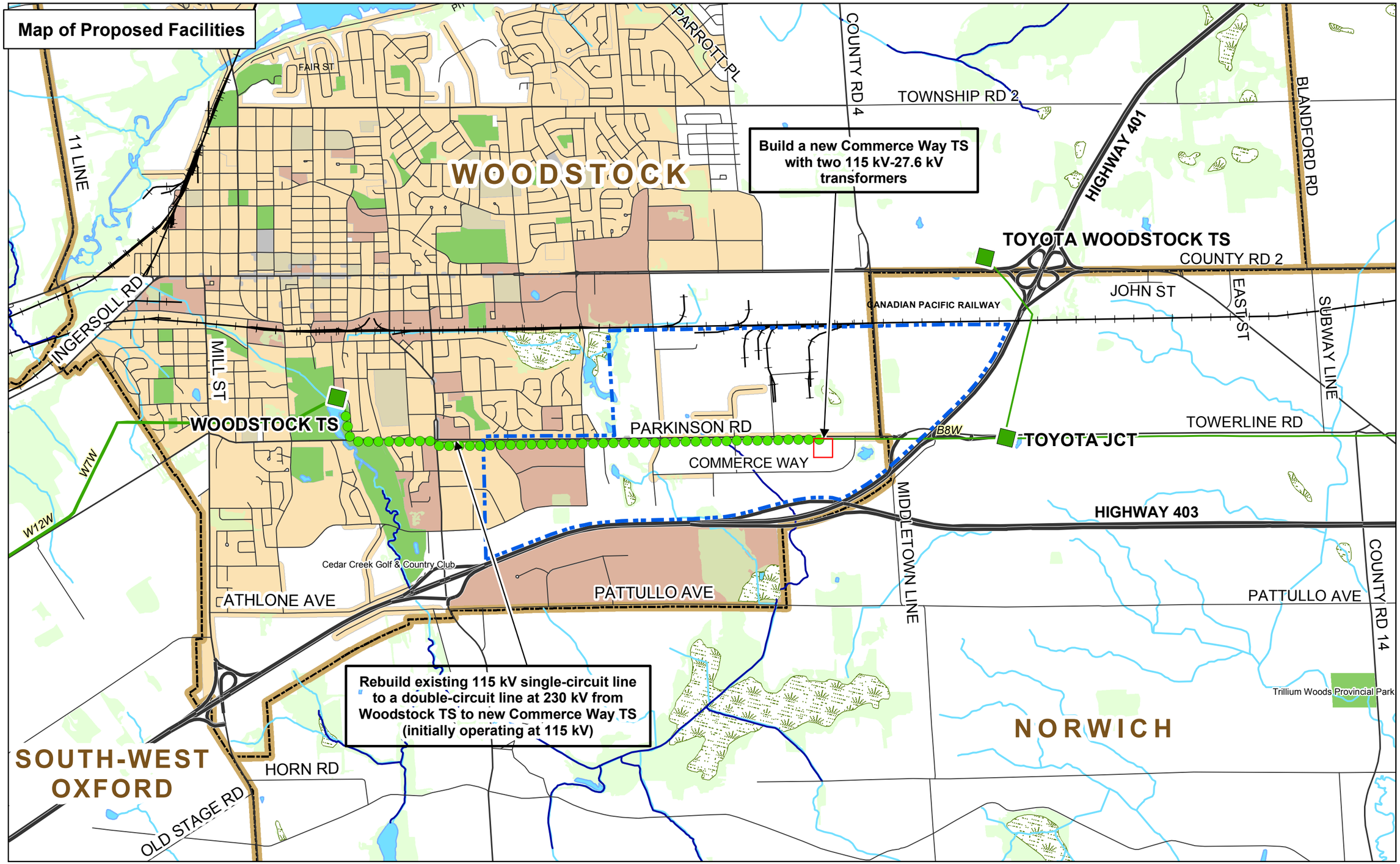
Build a new Commerce Way TS consisting of two 115-27.6 kV, 50/83 MVA transformers with eight 27.6 kV feeder circuit breakers at a location approximately 4 km East of Woodstock TS.

The planned in-service date for the proposed facilities is December 2011.

A map showing the proposed transmission facilities is provided at Exhibit B, Tab 2, Schedule 2. A schematic electrical diagram of the proposed facilities is provided in Exhibit B, Tab 2, Schedule 3. Cross-sections of both the existing and proposed transmission structures on the ROW are provided in Exhibit B, Tab 2, Schedule 4.

MAP OF PROPOSED FACILITIES

Map of Proposed Facilities



hydro one

Kilometers
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- Existing 115 kV line to be upgraded
- Study Area for TS
- Transmission Stations 115 kV
- Existing Transmission Lines 115 kV

Land Use
- Government and Institutional
- Parks and Recreational
- Residential
- Commercial
- Resource and Industrial
- ANSI
- ESA
- Wetlands
- Pit or Quarry
- Wooded Area
- Waterbodies
- Municipalities
- Railway
- Streams
- Cold Water Stream

Produced by: GIS Services - Inergi LP
Date: February 2008 Revised: February 2009
Map08-18_WoodstockEast_OEB_Proposed_v3

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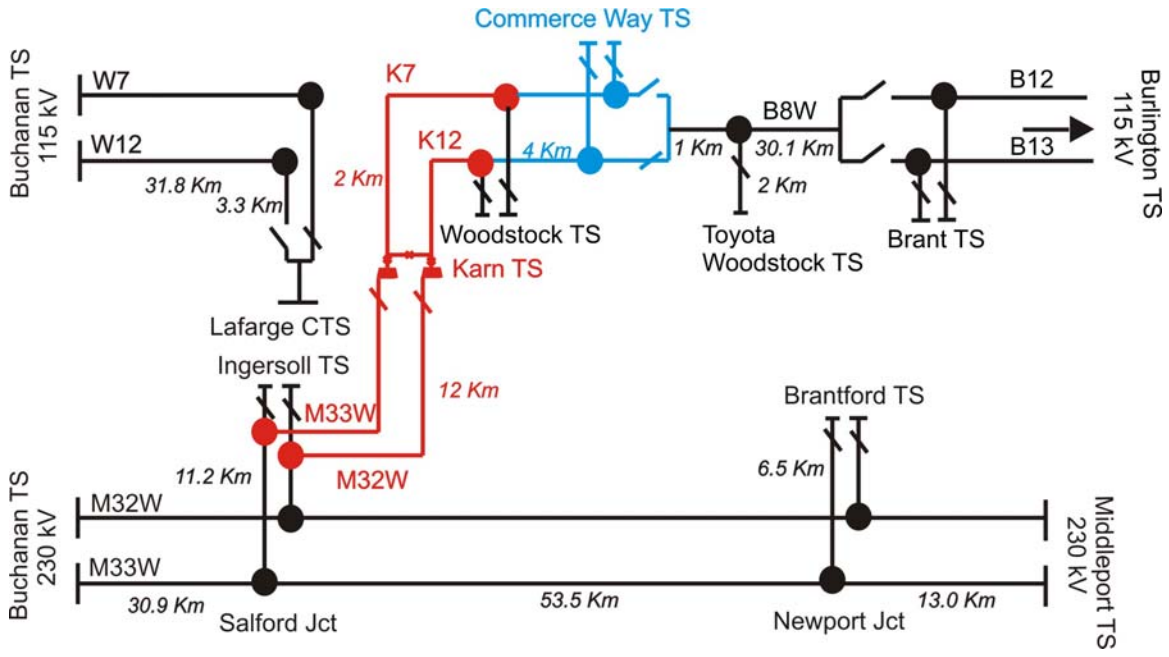
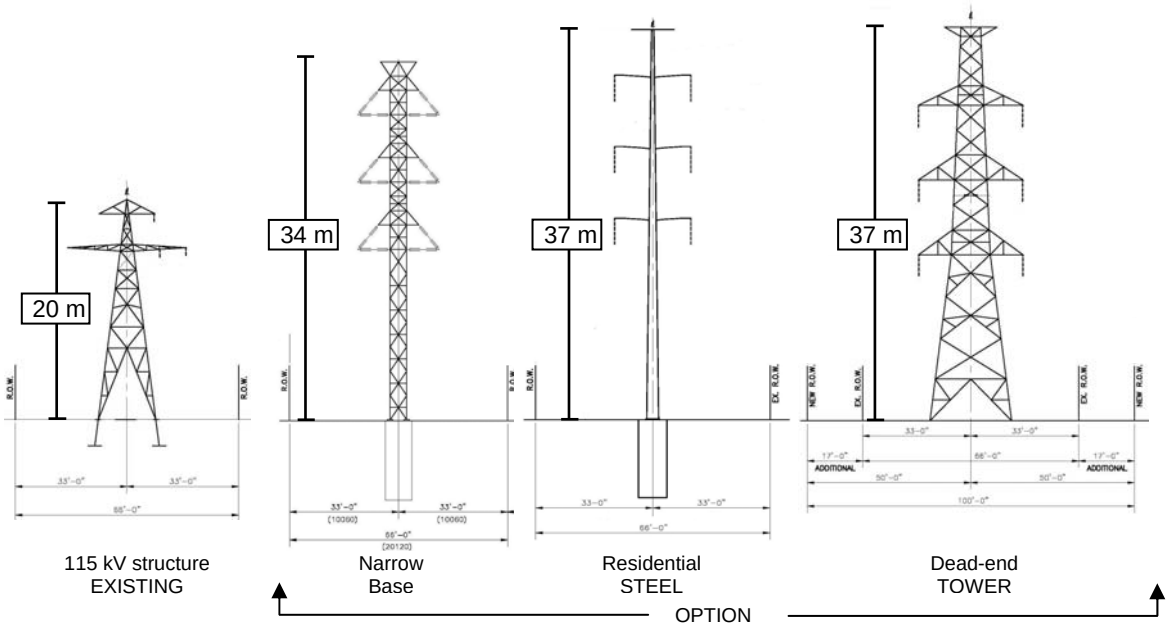
SCHEMATIC DIAGRAM OF PROPOSED FACILITIES



Cross Section of Tower Types Existing and Proposed

Cross-section of Tower Types



*All heights are approximate

ALTERNATIVES CONSIDERED

The "Do Nothing" Alternative was discarded as the loads at the existing facilities have exceeded their capacity and due to the Transmitter's obligation under the Transmission System Code to provide new capacity when requested to do so by customers.

The alternative of supplying new loads from the Brant TS/Burlington TS side, to the east of the Woodstock load center, was also discarded because of the insufficient capacity of the line from Burlington TS to Brant TS. Also, the cost of upgrading this section of line, approximately 31 km compared to 4 km for the proposed alternative, would be many times higher.

Accordingly, the preferred alternative is to upgrade the existing 4km section of line B8W and install additional transformation capacity close to the load center anticipated by Woodstock Hydro and Hydro One Distribution. Building the new Commerce Way TS close to the load center would require relatively short 27.6 kV distribution feeders compared to building the station at another location. Being close to the load center would minimize the cost of the distribution feeders and reduce distribution line losses. Also, locating the station close to an existing transmission corridor would reduce the length of the required connecting tap to the transmission line and reduce transmission line losses.

PROJECT COSTS, ECONOMICS, AND OTHER PUBLIC INTEREST CONSIDERATIONS

This set of exhibits describes the costs of the proposed facilities and the economics of the project including the economic feasibility, rate impacts, and benefits to Ontario electricity consumers. Other public interest considerations are also discussed.

Under the *OEB Act, 1998*, "public interest" is defined to mean the interest of consumers with respect to prices and the adequacy, reliability and quality of electricity service. Consumers are defined as those who use electricity that was not self-generated for their own consumption.

PROJECT COSTS

The estimated capital cost to rebuild the existing single-circuit line to a 230 kV two-circuit transmission line (to be initially operated at 115 kV) from Woodstock TS to Commerce Way TS, is shown below in Table 1. This cost is subject to section 92 approval. The estimated cost for the installation of a new 115-27.6 kV Commerce Way transformer station, and installing the associated telecommunications (P&C) facilities, is also provided in Table 1. This cost is not subject to section 92 approval. Table 1 costs include overheads and an Allowance for Funds Used During Construction ("AFUDC").

Table 1

Total Project Costs (Lines & Stations)

	Estimated Cost ($000's)	
Transmission Line Facilities (Table 2)	$ 14,891	s. 92 approval
Station (Table 3)	$ 23,484	
Telecommunications Facilities (Table 4)	$ 6,363	
Total	**$ 44,738**	

The total project costs allow for the schedule of approval, design and construction activities provided in Exhibit B, Tab 5, Schedule 2.

Table 2

Cost of Line Work

	Estimated Cost ($000's)	
Project Management (see note below)	1,209	
Engineering	384	
Procurement	5,997	
Construction	3,963	
Contingencies	1,453	
Costs before Overhead and AFUDC	**13,006**	
Overhead *	1,343	
AFUDC **	542	
Total Line Work	**$ 14,891**	**s. 92 approval**

Note: Project Management includes costs for lines easements, working permits, temporary rights along the ROW.

* All overhead costs allocated to the project are for asset management and corporate services costs. These costs are charged to capital projects through a standard overhead capitalization rate. As such they are considered "Indirect Overheads". Hydro One does not allocate any project activity to "Direct Overheads" but rather charges all other costs directly to the project.

** The AFUDC amount is derived by applying Hydro One's forecast average cost of long-term debt to the project's forecast monthly cash flows and the carry-forward closing balance from the preceding month. The forecast AFUDC rates are:

2008 5.8%

2009 7.0%

2010 7.6%

2011 8.0 %

Table 3

Cost of Station Work

	Estimated Cost
	($000's)
Project Management	280
Property Cost	810
Engineering	1,367
Procurement	11,061
Construction	3,703
Commissioning	699
Contingencies	2,526
Costs before Overhead and AFUDC	**20,446**
Overhead	2,117
AFUDC	921
Total Station Work	**$ 23,484**

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Table 4

Telecommunications Cost

	Estimated Cost ($000's)
Project Management	80
Engineering	725
Procurement	2,962
Construction	750
Commissioning	385
Contingencies	536
Costs before Overhead and AFUDC	**5,438**
Overhead	563
AFUDC	362
Total Telecommunications Work	**$ 6,363**

RISKS AND CONTINGENCIES

As with most projects, there is some risk associated with estimating costs. Hydro One's cost estimate includes an allowance for contingencies in recognition of these risks.

Based on past experience, the estimates for the work include contingencies to cover the following potential risks:

- Cancellation or delays to required power and telecommunications system outages, for line and station construction and commissioning activities;
- Construction equipment failures.

- Uncertainties about subsoil condition, bearing capacity of soil, drainage requirements and possible soil contamination
- The right of way shares occupancy with an existing gas pipeline, which could cause construction delays

PROJECT ECONOMICS

1.0 ECONOMIC FEASIBILITY

The proposed transmission reinforcement facilities in Woodstock comprise both line and transformation assets. Section 92 approval is being sought for the line assets. The line assets, which include a new 230 kV (to be initially operated at 115 kV) double-circuit transmission line from Woodstock TS to Commerce Way TS, will be included in the Line Connection Pool for rate-making purposes. The line assets will not be 100% customer funded as the design of the new line is over-and-above the customer requested facilities to meet system reliability and future load growth needs and as the project also involves rebuilding an existing end-of-life circuit. See the Cost Responsibility section in this schedule for further information.

The transformation assets, which are not subject to section 92 approval, consist of a new 115-27.6 kV 50/83 MVA DESN transformer station (Commerce Way TS). These assets will be included in the Transformation Connection pool.

A Discounted Cash Flow (DCF) calculation has been completed for each pool consistent with the economic evaluation requirements of the Transmission System Code to determine whether a capital contribution is required. For the Line Connection Pool, no capital contribution is required and for the Transformation Connection Pool capital contributions, totaling $12.6 million, excluding GST, are required.

Capital Contribution Required *in $ millions, excluding GST*	Line Pool	Transformation Pool	Total
Hydro One	0	8.5	8.5
Woodstock Hydro	0	4.1	4.1
Total	**0**	**12.6**	**12.6**

1.1 COST RESPONSIBILITY

Line Connection Pool and Network Pool

In determining the capital contribution regarding the line connection assets, the costs assigned to customers for cost responsibility purposes are $0.7 million. This amount covers the cost of constructing a line tap to the new station. The remaining $14.2 million of line connection costs covers the cost of rebuilding the existing end-of-life line to 230 kV standards and installing a second 230 kV circuit from Woodstock TS to the tap to Commerce Way TS. This additional work (rebuilding and upgrading the line) has been identified and planned for and is being done to replace an existing line and to provide a second circuit for the reliability of the transmission system and to meet future load growth needs. Additionally, of the $6.4 million in telecommunications work required for the project, which is primarily network pool-related, $5.8 million has been identified to upgrade telecommunication for the transmission system reliability need (i.e, the 230 kV upgrade).

The costs related to the replacement of the existing line and upgrade to 230 kV standards have been assigned to the pool for cost responsibility purposes and excluded from the project economic analysis, in accordance with the exceptions provided in Sections 6.3.6 and 6.7.2 of the *Transmission System Code*. Please see the discussion in Need for the Proposed Facilities (Exhibit B, Tab 1, Schedule 4) and Transmission Alternatives Considered (Exhibit B, Tab 3, Schedule 1) for details regarding the area supply needs and transmission plans, including the installation of a two circuit line.

Transformation Connection Pool

The costs assigned to customers for cost responsibility purposes in relation to the Transformation Connection (TC) pool are $23.8 million for a new 115-27.6 kV 50/83 MVA DESN transformer station at Commerce Way TS (Exhibit B, Tab 4, Schedule 2,

Table 3). This amount includes $0.6 million of telecommunications costs assigned to customers for installation of protection and control (P&C) systems at Commerce Way TS and for P&C modifications at nearby stations. The remaining $0.3M of TC costs is assigned to the pool as this is to accommodate future design for 230 kV. These are all of the costs for the work to be done.

The table below indicates the cost responsibility for the elements of work to be done on the project.

Cost Responsibility

in $ million, excluding GST

	Connection Pool	Cost of Work (per B-4-2)	Cost Responsibility		Capital Contribution
			Customers	Pool	
Transmission Line Facilities – *section 92 approval*	Line	14.9	0.7	14.2	--
Station Facilities - *see note below*	Transformation	24.1 (23.5 + .06)	23.8	0.3	12.6
Telecommunications Facilities – *see note below*	Network	5.8 (6.4 – 0.6)		5.8	--
Total		**44.8**	**24.5**	**20.3**	**12.6**
% Share		**100%**	**55%**	**45%**	

*Note: Of the total telecommunications cost of $6.4 million per Exhibit B, Tab 4, Schedule 2, $0.6 million is related to the capacity addition and assigned to customers for cost responsibility purposes, and included in the transformation pool. The remaining $5.8 million of costs, related to the 230 kV upgrade, are network pool costs.

1.2 DISCOUNTED CASH FLOW

Line Connection Pool

A 25-year discounted cash flow analysis for the Line Connection facilities is provided in Table 1a and 1b below. The results indicate that the forecast incremental revenues are expected to be sufficient to pay for the incremental capital and operating costs and therefore as noted above, no capital contribution will be required.

Transformation Connection Pool

A 25-year discounted cash flow analysis for the Transformation Connection facilities is provided in Table 2a and 2b below. The results indicate that the forecast incremental revenues are expected to be insufficient to pay for the incremental capital and operating costs and therefore as noted above a capital contribution will be required. The capital contribution, based on agreed capacity share, will be split between two proponents, Hydro One ($8.5 million) and Woodstock Hydro ($4.1 million).

2.0 RATE MPACT ASSESSMENT

The analysis of the Line Connection Pool and Transformation Connection Pool rate impacts has been carried out on the basis of Hydro One's transmission revenue requirement for the year 2008, and the most recently approved Ontario Transmission Rate Schedules. The network pool revenue requirement would be unaffected by the new reinforcement facilities, based on the criteria used to allocate transmission costs to the three pools as approved by the Board in its EB-2006-0501 decision.

Line Connection Pool

Based on the Line Connection Pool incremental cash flows associated with the $14.9M cost of the line facilities, there will be a minor change in the Line Connection pool revenue requirement once the project's impacts are reflected in the transmission rate base at the projected in-service date in December of 2011. The maximum revenue deficiency related to the proposed Line Connection facilities will be $1.5 million in the year 2013, which will result in a rate impact of 1.43% on the provincial Line Connection pool rates after rounding. The detailed analysis illustrating the calculation of the incremental Line Connection revenue deficiency and rate impact is provided in Table 3 below.

Transformation Connection Pool

Based on the Transformation Connection pool incremental cash flows associated with the project there will be a minor change in the Transformation Connection pool revenue requirement once the project's impacts are reflected in the transmission rate base, net of capital contribution, at the projected in-service date in December of 2011. The maximum revenue deficiency related to the proposed Transformation Connection facilities will be $0.5 million in the year 2013, which will result in no impact on the provincial Transformation Connection pool rates after rounding. The detailed analysis illustrating the calculation of the incremental Transformation Connection revenue deficiency and rate impact is provided in Table 4 below.

Adding the costs of the new facilities to the respective pools will cause a slight increase in the Line Connection rate. The table below shows this result for a typical residential customer.

Impact on Typical Residential Customer

A. Typical monthly bill (12¢ per kWh x 1,000 kWh per month)	$120 per month
B. Transmission component of monthly bill (A x 8%)	$9.60 per month
C. Line Connection Pool and Transformation Connection Pool share of Transmission component (B x 42%)	$4.03 per month
D. Impact of project on Line Connection (LC) Pool and Transformation Connection (TC) Pool Provincial Uniform Rates (as shown below in Table 3 and Table 4)	LC - 1.43% TC – 0%
E. Increase in Transmission costs for typical monthly bill (C x D)	$ 0.06 per month or $ 0.69 per year*
F. Net increase on typical residential customer bill (E / A)	0.01 %*

* *after rounding*

Table 1a – DCF Analysis, Hydro One, Line Connection Pool, page 1

Date:	24-Mar-09
Project #	12971

SUMMARY OF CONTRIBUTION CALCULATIONS
Planner's estimate

hydro one

Facility Name: Commerce Way TS

Scope: Hydro One Networks - Line Pool

		Month / Year	In-Service Date Dec-31 2011	Dec-31 2012	Dec-31 2013	Dec-31 2014	Dec-31 2015	Dec-31 2016	Dec-31 2017	Dec-31 2018	Dec-31 2019	Dec-31 2020	Dec-31 2021	Dec-31 2022	Dec-31 2023
			←	Project year ended - annualized from In-Service Date					→						
				1	2	3	4	5	6	7	8	9	10	11	12
Revenue & Expense Forecast															
Load Forecast (MW)				8.5	9.9	11.3	12.5	13.6	14.7	15.8	16.9	18.0	19.4	20.4	21.4
Tariff Applied ($/kW/Month)				0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Gross Revenue - $M				0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
OM&A Costs (Removals & On-going Incremental) - $M			0.0	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
Ontario Capital Tax and Municipal Tax - $M			0.0	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
Net Revenue/(Costs) before taxes - $M			0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Income Taxes (incl. LCT)			0.0	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.1)
Operating Cash Flow (after taxes) - $M			0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		Cumulative PV @ 5.60%													
PV Operating Cash Flow (after taxes) - $M	**(A)**	1.5	**0.0**	**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**
Capital Expenditures - $M															
Upfront - capital cost before overheads & AFUDC			(0.3)												
- Overheads			(0.0)												
- AFUDC			(0.0)												
Total upfront capital expenditures			**(0.4)**												
On-going capital expenditures				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PV On-going capital expenditures			0.0												
Total capital expenditures - $M			**(0.4)**												
PV Proceeds on disposal of assets - $M			**0.0**												
PV CCA Residual Tax Shield - $M			**0.0**												
PV Working Capital - $M			**(0.0)**												
PV Capital (after taxes) - $M	**(B)**	(0.3)	**(0.3)**												
Cumulative PV Cash Flow (after taxes) - $M	**(A) + (B)**	1.1	**(0.3)**	**(0.3)**	**(0.2)**	**(0.2)**	**(0.1)**	**(0.1)**	**(0.0)**	**0.1**	**0.1**	**0.2**	**0.2**	**0.3**	**0.4**

Discounted Cash Flow Summary
(Based on Economic Study Horizon - Years): 25

Discount Tariff - % 5.60%

		Before Contribution $M		After Contribution $M	Impact of Contribution $M
PV Incremental Revenue		2.2		2.2	
PV Incremental OM&A Costs		(0.1)		(0.1)	
PV Ontario Capital Tax and Municipal Tax		(0.0)		(0.0)	
PV Income Taxes and LCT		(0.7)		(0.7)	
PV CCA Tax Shield		0.1		0.1	
PV Capital - Upfront	(0.4)		(0.4)		
Add: PV **Capital Contribution**	**0.0**	(0.4)	**0.0**	(0.4)	
PV Capital - On-going		0.0		0.0	
PV Proceeds on disposal of assets		0.0		0.0	
PV Working Capital		(0.0)		(0.0)	
PV Surplus / (Shortfall)		1.1		1.1	N/A
Profitability Index*		4.2		4.2	

*PV of total cash flow, excluding net capital expenditure & on-going capital & proceeds on disposal / PV of net capital expenditure & on-going capital & proceeds on disposal

Contribution Required (before GST) - $M	**0.0**
GST @ 5% - $M	**0.0**
Contribution Required (incl. GST)* - $M	**0.0**

* Payment from customer must include GST.

Start Date:	1-Jan-10
In-Service Date:	31-Dec-11
Payback Year:	2018
No. of years required for payback:	7

Table 1a – DCF Analysis, Hydro One, Line Connection Pool, page 2

Date:	24-Mar-09
Project #	12971

SUMMARY OF CONTRIBUTION CALCULATIONS
Planner's estimate

hydro one

Facility Name: Commerce Way TS

Scope: Hydro One Networks - Line Pool

		Month / Year	Dec-31 2024	Dec-31 2025	Dec-31 2026	Dec-31 2027	Dec-31 2028	Dec-31 2029	Dec-31 2030	Dec-31 2031	Dec-31 2032	Dec-31 2033	Dec-31 2034	Dec-31 2035	Dec-31 2036
			13	14	15	16	17	18	19	20	21	22	23	24	25
Revenue & Expense Forecast															
Load Forecast (MW)			22.5	23.6	24.6	25.7	26.8	27.9	29.0	30.2	32.6	33.1	33.6	34.1	34.6
Tariff Applied ($/kW/Month)			0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Gross Revenue - $M			0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3
OM&A Costs (Removals & On-going Incremental) - $M			(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
Ontario Capital Tax and Municipal Tax - $M			(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
Net Revenue/(Costs) before taxes - $M			0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
Income Taxes (incl. LCT)			(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Operating Cash Flow (after taxes) - $M			0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
PV Operating Cash Flow (after taxes) - $M	**(A)**		**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**
Capital Expenditures - $M															
Upfront - capital cost before overheads & AFUDC															
- Overheads															
- AFUDC															
Total upfront capital expenditures															
On-going capital expenditures			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PV On-going capital expenditures															
Total capital expenditures - $M															
PV Proceeds on disposal of assets - $M															
PV CCA Residual Tax Shield - $M															
PV Working Capital - $M															
PV Capital (after taxes) - $M	**(B)**														
Cumulative PV Cash Flow (after taxes) - $M	**(A) + (B)**		**0.4**	**0.5**	**0.6**	**0.6**	**0.7**	**0.7**	**0.8**	**0.9**	**0.9**	**1.0**	**1.0**	**1.1**	**1.1**

Table 1b – DCF Analysis, Woodstock Hydro, Line Connection Pool, page 1

Date:	24-Mar-09
Project #	12971

SUMMARY OF CONTRIBUTION CALCULATIONS
Planner's estimate

hydro one

Facility Name: Commerce Way TS

Scope: Woodstock Hydro - Line Pool

		Month / Year	In-Service Date Dec-31 2011	Project year ended - annualized from In-Service Date ← Dec-31 2012 (1)	Dec-31 2013 (2)	Dec-31 2014 (3)	Dec-31 2015 (4)	Dec-31 2016 (5)	Dec-31 2017 (6) →	Dec-31 2018 (7)	Dec-31 2019 (8)	Dec-31 2020 (9)	Dec-31 2021 (10)	Dec-31 2022 (11)	Dec-31 2023 (12)
Revenue & Expense Forecast															
Load Forecast (MW)				25.8	28.2	30.6	32.7	34.1	35.5	36.9	38.2	39.6	41.0	42.2	43.5
Tariff Applied ($/kW/Month)				0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Gross Revenue - $M				0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4
OM&A Costs (Removals & On-going Incremental) - $M			0.0	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
Ontario Capital Tax and Municipal Tax - $M			0.0	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
Net Revenue/(Costs) before taxes - $M			0.0	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4
Income Taxes (incl. LCT)			0.0	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Operating Cash Flow (after taxes) - $M			0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
		Cumulative PV @ 5.60%													
PV Operating Cash Flow (after taxes) - $M	**(A)**	3.2	**0.0**	**0.1**	**0.1**	**0.2**	**0.2**	**0.2**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**
Capital Expenditures - $M															
Upfront - capital cost before overheads & AFUDC			(0.3)												
- Overheads			(0.0)												
- AFUDC			(0.0)												
Total upfront capital expenditures			**(0.4)**												
On-going capital expenditures				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PV On-going capital expenditures			0.0												
Total capital expenditures - $M			**(0.4)**												
PV Proceeds on disposal of assets - $M			**0.0**												
PV CCA Residual Tax Shield - $M			**0.0**												
PV Working Capital - $M			**(0.0)**												
PV Capital (after taxes) - $M	**(B)**	(0.3)	**(0.3)**												
Cumulative PV Cash Flow (after taxes) - $M	**(A) + (B)**	2.8	**(0.3)**	**(0.2)**	**(0.1)**	**0.1**	**0.2**	**0.4**	**0.5**	**0.7**	**0.8**	**1.0**	**1.1**	**1.2**	**1.4**

Discounted Cash Flow Summary

(Based on Economic Study Horizon - Years): **25**

Discount Tariff - % **5.60%**

		Before Contribution $M		After Contribution $M	Impact of Contribution $M
PV Incremental Revenue		4.8		4.8	
PV Incremental OM&A Costs		(0.1)		(0.1)	
PV Ontario Capital Tax and Municipal Tax		(0.0)		(0.0)	
PV Income Taxes and LCT		(1.5)		(1.5)	
PV CCA Tax Shield		0.1		0.1	
PV Capital - Upfront	(0.4)		(0.4)		
Add: PV **Capital Contribution**	**0.0**	(0.4)	**0.0**	(0.4)	
PV Capital - On-going		0.0		0.0	
PV Proceeds on disposal of assets		0.0		0.0	
PV Working Capital		(0.0)		(0.0)	
PV Surplus / (Shortfall)		**2.8**		**2.8**	**N/A**
Profitability Index*		**9.0**		**9.0**	

*PV of total cash flow, excluding net capital expenditure & on-going capital & proceeds on disposal / PV of net capital expenditure & on-going capital & proceeds on disposal

Start Date:	1-Jan-10
In-Service Date:	31-Dec-11
Payback Year:	2014
No. of years required for payback:	3

Contribution Required (before GST) - $M	**0.0**
GST @5% - $M	**0.0**
Contribution Required (incl. GST)* - $M	**0.0**

* Payment from customer must include GST.

Table 1b – DCF Analysis, Woodstock Hydro, Line Connection Pool, page 2

Date:	24-Mar-09
Project #	12971

SUMMARY OF CONTRIBUTION CALCULATIONS
Planner's estimate

hydro one

Facility Name: Commerce Way TS

Scope: Woodstock Hydro - Line Pool

		Month / Year	Dec-31 2024	Dec-31 2025	Dec-31 2026	Dec-31 2027	Dec-31 2028	Dec-31 2029	Dec-31 2030	Dec-31 2031	Dec-31 2032	Dec-31 2033	Dec-31 2034	Dec-31 2035	Dec-31 2036
			13	14	15	16	17	18	19	20	21	22	23	24	25
Revenue & Expense Forecast															
Load Forecast (MW)			44.7	45.9	47.1	48.3	49.6	50.8	52.0	53.2	64.4	64.6	64.8	65.0	65.2
Tariff Applied ($/kW/Month)			0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Gross Revenue - $M			0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5
OM&A Costs (Removals & On-going Incremental) - $M			(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
Ontario Capital Tax and Municipal Tax - $M			(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
Net Revenue/(Costs) before taxes - $M			0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5
Income Taxes (incl. LCT)			(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)
Operating Cash Flow (after taxes) - $M			0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4
PV Operating Cash Flow (after taxes) - $M	(A)		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Capital Expenditures - $M															
Upfront - capital cost before overheads & AFUDC															
- Overheads															
- AFUDC															
Total upfront capital expenditures															
On-going capital expenditures			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PV On-going capital expenditures															
Total capital expenditures - $M															
PV Proceeds on disposal of assets - $M															
PV CCA Residual Tax Shield - $M															
PV Working Capital - $M															
PV Capital (after taxes) - $M	(B)														
Cumulative PV Cash Flow (after taxes) - $M	(A) + (B)		1.5	1.6	1.7	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8

Table 2a – DCF Analysis, Hydro One, Transformation Connection Pool, page

Date:	24-Mar-09
Project #	12971

SUMMARY OF CONTRIBUTION CALCULATIONS
Planner's estimate

hydro one

Facility Name: Commerce Way TS

Scope: Hydro One Networks - Transformation Pool

		Month Year	In-Service Date Dec-31 2011	← Dec-31 2012 1	Dec-31 2013 2	Dec-31 2014 3	Dec-31 2015 4	Dec-31 2016 5	Dec-31 2017 6 →	Dec-31 2018 7	Dec-31 2019 8	Dec-31 2020 9	Dec-31 2021 10	Dec-31 2022 11	Dec-31 2023 12
			Project year ended - annualized from In-Service Date												
Revenue & Expense Forecast															
Load Forecast (MW)				8.5	9.9	11.3	12.5	13.6	14.7	15.8	16.9	18.0	19.4	20.4	21.4
Tariff Applied ($/kW/Month)				1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62
Gross Revenue - $M				0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4
OM&A Costs (Removals & On-going Incremental) - $M			0.0	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
Ontario Capital Tax and Municipal Tax - $M			0.0	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Net Revenue/(Costs) before taxes - $M			0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3
Income Taxes (incl. LCT)			0.0	0.1	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0
Operating Cash Flow (after taxes) - $M			0.0	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
		Cumulative PV @ 5.60%													
PV Operating Cash Flow (after taxes) - $M	**(A)**	**4.3**	**0.0**	**0.2**	**0.3**	**0.3**	**0.3**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**
Capital Expenditures - $M															
Upfront - capital cost before overheads & AFUDC			(10.4)												
- Overheads			(1.1)												
- AFUDC			(0.5)												
Total upfront capital expenditures			**(11.9)**												
On-going capital expenditures				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PV On-going capital expenditures			0.0												
Total capital expenditures - $M			**(11.9)**												
PV Proceeds on disposal of assets - $M			**0.0**												
PV CCA Residual Tax Shield - $M			**0.1**												
PV Working Capital - $M			**(0.0)**												
PV Capital (after taxes) - $M	**(B)**	**(11.8)**	**(11.8)**												
Cumulative PV Cash Flow (after taxes) - $M	**(A) + (B)**	**(7.5)**	**(11.8)**	**(11.7)**	**(11.4)**	**(11.1)**	**(10.8)**	**(10.6)**	**(10.4)**	**(10.1)**	**(9.9)**	**(9.7)**	**(9.6)**	**(9.4)**	**(9.2)**

Discounted Cash Flow Summary
(Based on Economic Study Horizon - Years): **25**

Discount Tariff - % **5.60%**

		Before Contribution $M		After Contribution $M	Impact of Contribution $M
PV Incremental Revenue		5.1		5.1	
PV Incremental OM&A Costs		(0.7)		(0.7)	
PV Ontario Capital Tax and Municipal Tax		(1.2)		(0.3)	0.9
PV Income Taxes and LCT		(1.1)		(1.4)	(0.3)
PV CCA Tax Shield		2.2		0.6	(1.6)
PV Capital - Upfront	(11.9)		(11.9)		
Add: PV Capital Contribution	**0.0**	(11.9)	**8.5**	(3.4)	8.5
PV Capital - On-going		0.0		0.0	
PV Proceeds on disposal of assets		0.0		0.0	
PV Working Capital		(0.0)		(0.0)	
PV Surplus / (Shortfall)		**(7.5)**		**0.0**	**7.5**
Profitability Index*		**0.4**		**1.0**	

*PV of total cash flow, excluding net capital expenditure & on-going capital & proceeds on disposal / PV of net capital expenditure & on-going capital & proceeds on disposal

Start Date:	1-May-09
In-Service Date:	31-Dec-11
Payback Year:	2036
No. of years required for payback:	25

Contribution Required (before GST) - $M	**8.5**
GST @ 5% - $M	**0.4**
Contribution Required (incl. GST)* - $M	**8.9**

* Payment from customer must include GST.

Table 2a – DCF Analysis, Hydro One, Transformation Connection Pool, page 2

Date:	24-Mar-09
Project #	12971

SUMMARY OF CONTRIBUTION CALCULATIONS
Planner's estimate

hydro one

Facility Name: Commerce Way TS

Scope: Hydro One Networks - Transformation Pool

		Month / Year	Dec-31 **2024** 13	Dec-31 **2025** 14	Dec-31 **2026** 15	Dec-31 **2027** 16	Dec-31 **2028** 17	Dec-31 **2029** 18	Dec-31 **2030** 19	Dec-31 **2031** 20	Dec-31 **2032** 21	Dec-31 **2033** 22	Dec-31 **2034** 23	Dec-31 **2035** 24	Dec-31 **2036** 25
Revenue & Expense Forecast															
Load Forecast (MW)			22.5	23.6	24.6	25.7	26.8	27.9	29.0	30.2	32.6	33.1	33.6	34.1	34.6
Tariff Applied ($/kW/Month)			1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62
Gross Revenue - $M			0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7
OM&A Costs (Removals & On-going Incremental) - $M			(0.0)	(0.0)	(0.0)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Ontario Capital Tax and Municipal Tax - $M			(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Net Revenue/(Costs) before taxes - $M			0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5
Income Taxes (incl. LCT)			0.0	(0.0)	(0.0)	(0.0)	(0.0)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Operating Cash Flow (after taxes) - $M			0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4
PV Operating Cash Flow (after taxes) - $M	(A)		0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Capital Expenditures - $M															
Upfront - capital cost before overheads & AFUDC															
- Overheads															
- AFUDC															
Total upfront capital expenditures															
On-going capital expenditures			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PV On-going capital expenditures															
Total capital expenditures - $M															
PV Proceeds on disposal of assets - $M															
PV CCA Residual Tax Shield - $M															
PV Working Capital - $M															
PV Capital (after taxes) - $M	(B)														
Cumulative PV Cash Flow (after taxes) - $M	(A) + (B)		(9.0)	(8.9)	(8.7)	(8.6)	(8.5)	(8.3)	(8.2)	(8.1)	(7.9)	(7.8)	(7.7)	(7.6)	(7.5)

Table 2b – DCF Analysis, Woodstock Hydro, Transformation Connection Pool, page 1

Date:	24-Mar-09
Project #	12971

SUMMARY OF CONTRIBUTION CALCULATIONS
Planner's estimate

hydro one

Facility Name: Commerce Way TS

Scope: Woodstock Hydro - Transformation Pool

			In-Service Date	<—— Project year ended - annualized from In-Service Date ——>											
		Month	Dec-31	Dec-31	Dec-31	Dec-31	Dec-31	Dec-31	Dec-31	Dec-31	Dec-31	Dec-31	Dec-31	Dec-31	Dec-31
		Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
				1	2	3	4	5	6	7	8	9	10	11	12
Revenue & Expense Forecast															
Load Forecast (MW)				25.8	28.2	30.6	32.7	34.1	35.5	36.9	38.2	39.6	41.0	42.2	43.5
Tariff Applied ($/kW/Month)				1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62
Gross Revenue - $M				0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8
OM&A Costs (Removals & On-going Incremental) - $M			0.0	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
Ontario Capital Tax and Municipal Tax - $M			0.0	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Net Revenue/(Costs) before taxes - $M			0.0	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7
Income Taxes (incl. LCT)			0.0	0.0	0.2	0.1	0.1	0.1	0.0	(0.0)	(0.0)	(0.0)	(0.1)	(0.1)	(0.1)
Operating Cash Flow (after taxes) - $M			0.0	0.4	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
		Cumulative PV @ 5.60%													
PV Operating Cash Flow (after taxes) - $M	(A)	8.3	0.0	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3
Capital Expenditures - $M															
Upfront - capital cost before overheads & AFUDC			(10.4)												
- Overheads			(1.1)												
- AFUDC			(0.5)												
Total upfront capital expenditures			(11.9)												
On-going capital expenditures				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PV On-going capital expenditures			0.0												
Total capital expenditures - $M			(11.9)												
PV Proceeds on disposal of assets - $M			0.0												
PV CCA Residual Tax Shield - $M			0.1												
PV Working Capital - $M			(0.0)												
PV Capital (after taxes) - $M	(B)	(11.8)	(11.8)												
Cumulative PV Cash Flow (after taxes) - $M	(A) + (B)	(3.6)	(11.8)	(11.5)	(10.9)	(10.4)	(10.0)	(9.5)	(9.1)	(8.7)	(8.3)	(7.9)	(7.5)	(7.2)	(6.9)

Discounted Cash Flow Summary

(Based on Economic Study Horizon - Years): 25

Discount Tariff - % 5.60%

		Before Contribution $M		After Contribution $M	Impact of Contribution $M
PV Incremental Revenue		11.0		11.0	
PV Incremental OM&A Costs		(0.7)		(0.7)	
PV Ontario Capital Tax and Municipal Tax		(1.2)		(0.8)	0.4
PV Income Taxes and LCT		(3.0)		(3.1)	(0.1)
PV CCA Tax Shield		2.2		1.5	(0.8)
PV Capital - Upfront	(11.9)		(11.9)		
Add: PV Capital Contribution	**0.0**	(11.9)	**4.1**	(7.9)	4.1
PV Capital - On-going		0.0		0.0	
PV Proceeds on disposal of assets		0.0		0.0	
PV Working Capital		(0.0)		(0.0)	
PV Surplus / (Shortfall)		**(3.6)**		**0.0**	**3.6**
Profitability Index*		**0.7**		**1.0**	

*PV of total cash flow, excluding net capital expenditure & on-going capital & proceeds on disposal / PV of net capital expenditure & on-going capital & proceeds on disposal

Start Date:	1-May-09
In-Service Date:	31-Dec-11
Payback Year:	2036
No. of years required for payback:	25

Contribution Required (before GST) - $M	**4.1**
GST @5% - $M	**0.2**
Contribution Required (incl. GST)* - $M	**4.3**

* Payment from customer must include GST.

Table 2b – DCF Analysis, Woodstock Hydro, Transformation Connection Pool, page 2

Date:	24-Mar-09
Project #	12971

SUMMARY OF CONTRIBUTION CALCULATIONS
Planner's estimate

hydro one

Facility Name: Commerce Way TS

Scope: Woodstock Hydro - Transformation Pool

		Month / Year	Dec-31 2024	Dec-31 2025	Dec-31 2026	Dec-31 2027	Dec-31 2028	Dec-31 2029	Dec-31 2030	Dec-31 2031	Dec-31 2032	Dec-31 2033	Dec-31 2034	Dec-31 2035	Dec-31 2036
			13	14	15	16	17	18	19	20	21	22	23	24	25
Revenue & Expense Forecast															
Load Forecast (MW)			44.7	45.9	47.1	48.3	49.6	50.8	52.0	53.2	64.4	64.6	64.8	65.0	65.2
Tariff Applied ($/kW/Month)			1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62
Gross Revenue - $M			0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.3	1.3	1.3	1.3	1.3
OM&A Costs (Removals & On-going Incremental) - $M			(0.0)	(0.0)	(0.0)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Ontario Capital Tax and Municipal Tax - $M			(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Net Revenue/(Costs) before taxes - $M			0.7	0.8	0.8	0.8	0.8	0.8	0.9	0.9	1.1	1.1	1.1	1.1	1.1
Income Taxes (incl. LCT)			(0.1)	(0.1)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)
Operating Cash Flow (after taxes) - $M			0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.8	0.8
PV Operating Cash Flow (after taxes) - $M	(A)		0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2
Capital Expenditures - $M															
Upfront - capital cost before overheads & AFUDC															
- Overheads															
- AFUDC															
Total upfront capital expenditures															
On-going capital expenditures			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PV On-going capital expenditures															
Total capital expenditures - $M															
PV Proceeds on disposal of assets - $M															
PV CCA Residual Tax Shield - $M															
PV Working Capital - $M															
PV Capital (after taxes) - $M	(B)														
Cumulative PV Cash Flow (after taxes) - $M	(A) + (B)		(6.6)	(6.3)	(6.0)	(5.7)	(5.5)	(5.2)	(5.0)	(4.7)	(4.5)	(4.2)	(4.0)	(3.8)	(3.6)

Table 3 – Revenue Requirement and Line Connection Pool Rate Impact, page 1

Commerce Way TS			Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec
Calculation of Incremental Revenue Requirement ($000)			2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
			1	2	3	4	5	6	7	8	9	10	11	12
In-service date	31-Dec-11													
Capital Cost	14,891													
Removal Cost	-													
Less: Capital Contribution Required	-													
Net Project Cost	14,891													
Average Rate Base			7,297	14,444	14,146	13,849	13,551	13,253	12,955	12,657	12,360	12,062	11,764	11,466
Incremental OM&A Costs			238	238	238	238	238	238	238	238	238	238	238	238
Ontario Capital Tax	0.225%		32	30	27	25	23	21	20	18	17	15	14	13
Grants in Lieu of Municipal tax	0.625%		93	93	93	93	93	93	93	93	93	93	93	93
Depreciation	2.0%		298	298	298	298	298	298	298	298	298	298	298	298
Interest and Return on Rate Base	6.71%		490	970	950	930	910	890	870	850	830	810	790	770
Income Tax Provision	33.00%		23	172	132	96	62	32	5	(19)	(42)	(62)	(80)	(96)
Large Corporations Tax	0.000%		-	-	-	-	-	-	-	-	-	-	-	-
REVENUE REQUIREMENT PRE-TAX			**1,174**	**1,801**	**1,738**	**1,680**	**1,625**	**1,573**	**1,524**	**1,478**	**1,434**	**1,392**	**1,353**	**1,316**
Incremental Revenue			289	321	353	381	401	422	443	464	485	508	527	546
SUFFICIENCY/(DEFICIENCY)			**(885)**	**(1,480)**	**(1,385)**	**(1,299)**	**(1,223)**	**(1,150)**	**(1,081)**	**(1,013)**	**(949)**	**(884)**	**(826)**	**(769)**
		Base Year												
Line Pool Revenue Requirement including sufficiency/(deficiency)		172,518	173,692	174,318	174,256	174,197	174,142	174,090	174,041	173,995	173,952	173,910	173,871	173,833
Line MW		245,954	246,365	246,411	246,457	246,496	246,526	246,555	246,585	246,615	246,645	246,678	246,705	246,732
Line Pool Rate ($/kw/month)		0.70	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.70	0.70
Increase/(Decrease) in Network Pool Rate ($/kw/month), relative to base year			0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-	-
RATE IMPACT relative to base year			**1.43%**	**1.43%**	**1.43%**	**1.43%**	**1.43%**	**1.43%**	**1.43%**	**1.43%**	**1.43%**	**1.43%**	**0.00%**	**0.00%**

Assumptions

Ontario Capital Tax	0.225%	2009 Ontario capital tax rate
Grants in Lieu of Municipal tax	0.625%	Transmission system average
Depreciation	2.0%	Reflects 50 year average service life for towers, conductors and station equipment, excluding land
Interest and Return on Rate Base	6.71%	Includes OEB-approved ROE of 8.35% and 4% on short-term debt, 5.85% forecast cost of long-term debt and 40/60 equity/debt split
Income Tax Provision	33.00%	2009 federal and provincial corporate income tax rate including surtax
Large Corporations Tax	0.000%	2009 large corporations tax rate
Capital Cost Allowance	8.0%	100% Class 47 assets
Incremental OM&A	1.6%	1.6% of Initial Capital per year

Table 3 – Revenue Requirement and Line Connection Pool Rate Impact, page 2

Commerce Way TS			Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec
			2024	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**
Calculation of Incremental Revenue Requirement ($000)			13	14	15	16	17	18	19	20	21	22	23	24	25
In-service date	31-Dec-11														
Capital Cost	14,891														
Removal Cost	-														
Less: Capital Contribution Required	-														
Net Project Cost	14,891														
Average Rate Base			11,168	10,870	10,573	10,275	9,977	9,679	9,381	9,084	8,786	8,488	8,190	7,892	7,594
Incremental OM&A Costs			238	238	238	238	238	238	238	238	238	238	238	238	238
Ontario Capital Tax	0.225%		12	11	10	9	8	8	7	7	6	6	5	5	4
Grants in Lieu of Municipal tax	0.625%		93	93	93	93	93	93	93	93	93	93	93	93	93
Depreciation	2.0%		298	298	298	298	298	298	298	298	298	298	298	298	298
Interest and Return on Rate Base	6.71%		750	730	710	690	670	650	630	610	590	570	550	530	510
Income Tax Provision	33.00%		(111)	(124)	(135)	(145)	(154)	(162)	(169)	(175)	(180)	(184)	(188)	(190)	(193)
Large Corporations Tax	0.000%		-	-	-	-	-	-	-	-	-	-	-	-	-
REVENUE REQUIREMENT PRE-TAX			**1,280**	**1,246**	**1,214**	**1,183**	**1,153**	**1,125**	**1,097**	**1,071**	**1,045**	**1,021**	**997**	**973**	**951**
Incremental Revenue			566	585	604	623	643	662	682	702	817	823	828	834	840
SUFFICIENCY/(DEFICIENCY)			**(715)**	**(662)**	**(610)**	**(559)**	**(510)**	**(462)**	**(415)**	**(369)**	**(228)**	**(198)**	**(168)**	**(139)**	**(111)**
		Base Year													
Line Pool Revenue Requirement including sufficiency/(deficiency)		172,518	173,798	173,764	173,732	173,701	173,671	173,642	173,615	173,588	173,563	173,538	173,514	173,491	173,469
Line MW		245,954	246,760	246,787	246,815	246,842	246,870	246,898	246,926	246,954	247,118	247,126	247,135	247,143	247,151
Line Pool Rate ($/kw/month)		0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Increase/(Decrease) in Network Pool Rate ($/kw/month), relative to base year			-	-	-	-	-	-	-	-	-	-	-	-	-
RATE IMPACT relative to base year			**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Table 4 – Revenue Requirement and Transformation Connection Pool Rate Impact, page 1

Commerce Way TS			Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec
Calculation of Incremental Revenue Requirement ($000)			2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
			1	2	3	4	5	6	7	8	9	10	11	12
In-service date	31-Dec-11													
Capital Cost	24,126													
Removal Cost	-													
Less: Capital Contribution Required	(12,554)													
Net Project Cost	11,572													
Average Rate Base			5,675	11,238	11,015	10,793	10,570	10,347	10,125	9,902	9,679	9,456	9,234	9,011
Incremental OM&A Costs			42	42	42	42	42	42	42	42	42	42	42	42
Ontario Capital Tax	0.225%		25	23	21	20	18	17	16	14	13	12	11	11
Grants in Lieu of Municipal tax	0.625%		72	72	72	72	72	72	72	72	72	72	72	72
Depreciation	2.0%		223	223	223	223	223	223	223	223	223	223	223	223
Interest and Return on Rate Base	6.71%		381	755	740	725	710	695	680	665	650	635	620	605
Income Tax Provision	33.00%		14	121	91	64	39	17	(4)	(22)	(39)	(54)	(67)	(79)
Large Corporations Tax	0.000%		-	-	-	-	-	-	-	-	-	-	-	-
REVENUE REQUIREMENT PRE-TAX			**757**	**1,236**	**1,189**	**1,145**	**1,104**	**1,065**	**1,029**	**994**	**962**	**931**	**901**	**873**
Incremental Revenue			668	742	817	881	928	977	1,025	1,073	1,122	1,176	1,219	1,264
SUFFICIENCY/(DEFICIENCY)			**(88)**	**(494)**	**(372)**	**(265)**	**(176)**	**(89)**	**(4)**	**79**	**160**	**245**	**318**	**390**
		Base Year												
Transformation Pool Revenue Requirement including sufficiency/(deficiency)		343,684	344,441	344,920	344,874	344,830	344,789	344,750	344,713	344,679	344,646	344,615	344,586	344,558
Transformation MW		211,868	212,280	212,326	212,372	212,411	212,441	212,470	212,500	212,530	212,560	212,593	212,620	212,647
Transformation Pool Rate ($/kw/month)		1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62
Increase/(Decrease) in Network Pool Rate ($/kw/month), relative to base year			-	-	-	-	-	-	-	-	-	-	-	-
RATE IMPACT relative to base year			**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Assumptions

Ontario Capital Tax	0.225%	2009 Ontario capital tax rate
Grants in Lieu of Municipal tax	0.625%	Transmission system average
Depreciation	2.0%	Reflects 50 year average service life for towers, conductors and station equipment, excluding land
Interest and Return on Rate Base	6.71%	Includes OEB-approved ROE of 8.35% and 4% on short-term debt, 5.85% forecast cost of long-term debt and 40/60 equity/debt split
Income Tax Provision	33.00%	2009 federal and provincial corporate income tax rate including surtax
Large Corporations Tax	0.000%	2009 large corporations tax rate
Capital Cost Allowance	8.0%	100% Class 47 assets
Incremental OM&A	0.2%	$42 k for years 1-15 and $65 k for years 16-25.

Table 4 – Revenue Requirement and Transformation Connection Pool Rate Impact, page 2

Commerce Way TS			Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec	Project YE 31-Dec
			2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Calculation of Incremental Revenue Requirement ($000)			13	14	15	16	17	18	19	20	21	22	23	24	25
In-service date	31-Dec-11														
Capital Cost	24,126														
Removal Cost	-														
Less: Capital Contribution Required	(12,554)														
Net Project Cost	11,572														
Average Rate Base			8,788	8,566	8,343	8,120	7,898	7,675	7,452	7,229	7,007	6,784	6,561	6,339	6,116
Incremental OM&A Costs			42	42	42	65	65	65	65	65	65	65	65	65	65
Ontario Capital Tax	0.225%		10	9	8	8	7	7	6	6	6	5	5	5	4
Grants in Lieu of Municipal tax	0.625%		72	72	72	72	72	72	72	72	72	72	72	72	72
Depreciation	2.0%		223	223	223	223	223	223	223	223	223	223	223	223	223
Interest and Return on Rate Base	6.71%		590	575	560	545	530	515	500	485	470	455	441	426	411
Income Tax Provision	33.00%		(90)	(100)	(108)	(116)	(123)	(129)	(134)	(138)	(142)	(145)	(148)	(150)	(151)
Large Corporations Tax	0.000%		-	-	-	-	-	-	-	-	-	-	-	-	-
REVENUE REQUIREMENT PRE-TAX			**847**	**821**	**797**	**797**	**775**	**753**	**733**	**713**	**694**	**676**	**658**	**640**	**624**
Incremental Revenue			1,308	1,352	1,397	1,442	1,487	1,532	1,577	1,623	1,889	1,902	1,916	1,929	1,943
SUFFICIENCY/(DEFICIENCY)			**461**	**531**	**600**	**645**	**712**	**779**	**844**	**910**	**1,195**	**1,227**	**1,258**	**1,289**	**1,319**
		Base Year													
Transformation Pool Revenue Requirement including sufficiency/(deficiency)		343,684	344,531	344,506	344,482	344,481	344,459	344,438	344,417	344,398	344,378	344,360	344,342	344,325	344,308
Transformation MW		211,868	212,675	212,702	212,730	212,757	212,785	212,813	212,841	212,869	213,033	213,041	213,049	213,058	213,066
Transformation Pool Rate ($/kw/month)		1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62
Increase/(Decrease) in Network Pool Rate ($/kw/month), relative to base year			-	-	-	-	-	-	-	-	-	-	-	-	-
RATE IMPACT relative to base year			**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Table 5 – Derivation of Load used in DCF, page 1

		Annual Non-Coincident Peak Load Forecast for Woodstock East TS												
		0	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
		2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
Relevant Area Loads														
Hydro One Distribution	MW	28.7	30.5	33.1	35.7	37.6	39.5	41.4	43.3	45.2	47.1	49.3	50.9	52.5
Woodstock Hydro	MW	88.6	92.6	94.5	96.3	98.3	99.3	100.2	101.2	102.3	103.3	104.3	105.4	106.4
115kV Load Sub-total	MW	117.3	123.1	127.6	132.0	135.9	138.8	141.6	144.5	147.5	150.4	153.6	156.3	158.9
Line Capacity	MW	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9
Load in excess of capacity, calendar-year basis	MW	34.4	40.2	44.7	49.1	53.0	55.9	58.7	61.6	64.6	67.5	70.7	73.4	76.0
PLI-adjustment		*85%*	*85%*	*85%*	*85%*	*85%*	*85%*	*85%*	*85%*	*85%*	*85%*	*85%*	*85%*	*85%*
PLI-adjusted load in excess of capacity	MW	29.4	34.3	38.1	42.0	45.2	47.7	50.2	52.6	55.1	57.6	60.4	62.6	64.9
Adjust for in-service month:														
Project Year														
		31-Dec 2011 to 30-Dec 2012	*31-Dec 2012 to 30-Dec 2013*	*31-Dec 2013 to 30-Dec 2014*	*31-Dec 2014 to 30-Dec 2015*	*31-Dec 2015 to 30-Dec 2016*	*31-Dec 2016 to 30-Dec 2017*	*31-Dec 2017 to 30-Dec 2018*	*31-Dec 2018 to 30-Dec 2019*	*31-Dec 2019 to 30-Dec 2020*	*31-Dec 2020 to 30-Dec 2021*	*31-Dec 2021 to 30-Dec 2022*	*31-Dec 2022 to 30-Dec 2023*	
Load in excess of capacity, project-year basis*	MW	**34.3**	**38.1**	**42.0**	**45.2**	**47.7**	**50.2**	**52.6**	**55.1**	**57.6**	**60.4**	**62.6**	**64.9**	

* Project-year load = 12/12 of current calendar-year load + 0/12 of previous calendar-year load, based on December 31, 2011 in-service date.

Table 5 – Derivation of Load used in DCF, page 2

		Annual Non-Coincident Peak Load Forecast for Woodstock East TS												
		13	*14*	*15*	*16*	*17*	*18*	*19*	*20*	*21*	*22*	*23*	*24*	*25*
		2024	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**
Relevant Norfolk Area Loads														
Hydro One Distribution	MW	54.1	55.7	57.3	58.9	60.5	62.1	63.7	65.3	66.1	66.9	67.7	68.5	69.3
Woodstock Hydro	MW	107.5	108.5	109.6	110.7	111.8	113.0	114.1	115.2	130.5	130.5	130.5	130.5	130.5
115kV Load Sub-total	MW	161.6	164.2	166.9	169.6	172.3	175.1	177.8	180.5	196.5	197.3	198.1	199.0	199.8
Line Capacity	MW	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9	82.9
Load in excess of capacity, calendar-year basis	MW	78.7	81.3	84.0	86.7	89.4	92.2	94.9	97.6	113.6	114.4	115.2	116.1	116.9
PLI-adjustment		*85%*	*85%*	*85%*	*85%*	*85%*	*85%*	*85%*	*85%*	*85%*	*85%*	*85%*	*85%*	*85%*
PLI-adjusted load in excess of capacity	MW	67.2	69.5	71.8	74.1	76.4	78.7	81.0	83.4	97.1	97.7	98.4	99.1	99.8
Adjust for in-service month:														
Project Year		*31-Dec 2023 to 30-Dec 2024*	*31-Dec 2024 to 30-Dec 2025*	*31-Dec 2025 to 30-Dec 2026*	*31-Dec 2026 to 30-Dec 2027*	*31-Dec 2027 to 30-Dec 2028*	*31-Dec 2028 to 30-Dec 2029*	*31-Dec 2029 to 30-Dec 2030*	*31-Dec 2030 to 30-Dec 2031*	*31-Dec 2031 to 30-Dec 2032*	*31-Dec 2032 to 30-Dec 2033*	*31-Dec 2033 to 30-Dec 2034*	*31-Dec 2034 to 30-Dec 2035*	*31-Dec 2035 to 30-Dec 2036*
Load in excess of capacity, project-year basis*	MW	**67.2**	**69.5**	**71.8**	**74.1**	**76.4**	**78.7**	**81.0**	**83.4**	**97.1**	**97.7**	**98.4**	**99.1**	**99.8**

* Project-year load = 12/12 of current calendar-year load + 0/12 of previous calendar-year load, based on December 31, 2011 in-service date.

Table 6 – DCF Assumptions

Hydro One Networks – Transmission Connection Economic Evaluation Model
2009 Parameters and Assumptions

Transmission rates are based on current OEB-approved uniform provincial transmission rates.

	Monthly Rate ($ per kW)
Network	2.5673
Transformation	1.62
Line	0.7014

Grants in lieu of Municipal tax (% of up-front capital expenditure, a proxy for property value):	0.63%	Based on Transmission system
Ontario Capital tax (% of UCC, a proxy for taxable capital):	0.225%	2009 provincial rate

Overhead rate: Varies from year to year; latest forecast as follows:

2009	12.0%	Fully allocated overheads per TSC section 6.5.2 (c) using Hydro One Networks forecast Transmission capitalized overhead rate
2010	10.0%	
2011	11.0%	
2012	12.0%	
2013	11.0%	
2014	11.0%	

AFUDC rate: Varies from year to year; latest forecast as follows:

2009	6.4%	Based on Hydro One Networks Transmission forecast embedded cost of debt. Charged on construction work in progress to in-service date of capital.
2010	6.4%	
2011	6.3%	
2012	6.5%	
2013	6.4%	
2014	6.4%	

Income taxes:

Basic Federal Tax Rate (before surtax) - % of taxable income:	2009	19.00%	Current rate
Federal Surtax - % of taxable income:	2009	0.00%	Current rate
Ontario corporation income tax - % of taxable income:	2009	14.00%	Current rate
Large Corporation Tax - % of UCC (a proxy for taxable capital)	2009	0.000%	Current rate
Capital Cost Allowance Rate, Class 47: **Rate change retroactively enacted in 2006 to 8% for assets added after Feb. 22/05; formerly Class 1*	2009	8.0%	Current rate *
After-tax Discount rate:		5.60%	Based on OEB-approved ROE of 8.35% on common equity and 4% on short-term debt, 5.85% forecast cost of long-term debt and 40/60 equity/debt split, and current enacted income tax rate of 33%

OTHER PUBLIC INTEREST CONSIDERATIONS

1.0 AVAILABILITY, RELIABILITY, AND QUALITY IMPACTS

The proposed facilities will improve the availability and quality of electricity service to consumers in the Woodstock Area.

Replacing the existing 115 kV line between Woodstock TS and Commerce Way TS with new 230 kV lines (to be initially operated at 115 kV) will increase the capability of the transmission system to supply the Woodstock Area well into the future.

The new facilities will also allow Hydro One to maintain adequate voltage levels in accordance with relevant transmission planning guidelines thus improving the quality of electricity service to consumers.

As confirmed by the IESO's SIA (Exhibit B, Tab 6, Schedule 3), the CIA (the document will be filed as Exhibit B, Tab 6, Schedule 4 by mid May 2009) and Hydro One's Load and Capacity analysis, the facilities will improve the availability and quality of electric service to consumers and will not adversely impact the transmission system or other transmission customers.

CONSTRUCTION AND PROJECT ADMINISTRATION

Hydro One can achieve a December 2011 in-service date for the proposed facilities assuming that the Board grants leave to construct approval for the proposed facilities by November 2009.

To complete the project, Hydro One will:

- Install approximately 4 kilometres of 230 kV double circuit transmission line from the existing Woodstock TS to a new Commerce Way TS using steel poles and lattice towers. The new line will replace an existing 115 kV double-circuit lattice steel transmission line.

- Carry out line construction activities that include setting up construction yards, building access roads on the right-of-way (ROW), clearing trees and brush from the ROW, installing foundations, erecting new structures, and stringing new conductor.

- Build station facilities at the new Commerce Way TS on a site at least 120 metres by 80 metres in size. The station facilities will consist of two 50/83MVA 115-27.6 kV transformers, disconnect switches and associated facilities such as ground switches, rigid and strain buses, steel structures, foundations, a building and various protection, control and telecom racks, cabinets and cabling.

- Provide site infrastructure at Commerce Way TS, including an access road, grading, drainage, spill containment and site restoration.

A project schedule showing the tasks leading up to the in-service date is provided in Exhibit B, Tab 5, Schedule 2.

The proposed work requires certain components of the power system to be removed from service during portions of the construction period. To maintain the existing supply to the area, it is necessary to plan work at specific times when outages can be obtained. These outage constraints have been considered in developing the schedule.

Although it is proposed that the existing transmission ROW between Woodstock TS and Commerce Way TS be utilized for the new transmission line, additional permanent land rights will be required at some locations as described in Exhibit B, Tab 6, Schedule 6. The exact location and extent of the additional rights required will be determined after the completion of a legal and engineering survey.

CONSTRUCTION AND IN-SERVICE SCHEDULE

TASK	START	FINISH
Submit Section 92		April 2009
Projected Section 92 Approval		November 2009
Projected EA Approval		Aug 2009
Land Acquisition		May 2009
STATIONS		
Detailed Engineering	Nov 2009	May 2010
Tender & Award Major Station Equipment*	Sep 2008	Oct 2009
Receive Major Station Equipment	Sep 2010	Jan 2011
Construction	Mar 2010	Dec 2011
Commissioning	Jun 2011	Dec 2011
LINES		
Detailed Engineering	Nov 2009	Mar 2010
Tender & Award Structural Steel	Jan 2010	Apr 2010
Receive Structural Steel	Aug 2010	Aug 2010
Construction	Jun 2010	Nov 2011
Construction (Road Removal, Restoration)	Nov 2011	Dec 2011
In Service		Dec 2011

* Due to current long lead times for transformers and other station equipment, awards for this project were required to be made early in the planning process.

OTHER MATTERS / AGREEMENTS / APPROVALS

1.0 SYSTEM IMPACT ASSESSMENT

Under the Market Rules any party planning to construct a new or modified connection to the IESO-controlled grid must request an IESO SIA of these facilities. The IESO has completed a SIA of the proposed facilities under the IESO Connections Assessment and Approval process.

The IESO assessment addresses the impact of the proposed facilities on system operating voltage, system operating flexibility, and on the ability of other connections to deliver or withdraw power supply from the IESO-controlled grid. The IESO's SIA provided in Exhibit B, Tab 6, Schedule 3 confirms that Hydro One's proposed transmission facilities will significantly improve voltage profile and increase supply capability in the Woodstock Area, and will not adversely impact the reliability of the IESO-controlled grid.

2.0 CUSTOMER IMPACT ASSESSMENT

Hydro One has completed a CIA in accordance with its customer connection procedures, and results confirm there are no adverse impacts on transmission customers as a result of this project. The CIA document will be filed as Exhibit B, Tab 6, Schedule 4 by mid May 2009.

3.0 STAKEHOLDER AND COMMUNITY CONSULTATION

Hydro One conducted a stakeholder and community consultation process to identify potential local impacts and concerns associated with this project. The government

ministries, agencies, municipal staff and elected officials, and residents in a defined study area were consulted through personal contact, direct mailing, newspaper notices, and a public information centre. A meeting was also held with representatives of the Six Nations of the Grand River. The feedback received through the consultation process regarding visual impacts, potential effects on the natural environment, Electric and Magnetic Fields ("EMFs"), and potential construction impacts were considered and incorporated as appropriate. The details of Hydro One's stakeholder consultation process are described in Exhibit B, Tab 6, Schedule 5.

4.0 ENVIRONMENTAL ASSESSMENT

The proposed Commerce Way transmission reinforcement facilities fall within the definition of the projects covered by the *Class Environmental Assessment for Minor Transmission Facilities* ("Class EA"), which is approved by the Ontario Ministry of Environment ("MOE") under the Ontario Environmental Assessment ("EA") Act.

The Class EA process for this project includes preparing a Draft Environmental Study Report ("ESR") that documents the following:

- Data collection of environmental and socio-economic features within the defined Study Area;
- Identification of any environmental effects of the proposed transmission facilities and the corresponding mitigation measures;
- Site and route selection and evaluation;
- Public and stakeholder consultation (e.g. municipal officials, provincial ministries, conservation authorities and property owners) to further identify issues and concerns with the project and to address those concerns through mitigation; and

- Communication with First Nations.

As part of the consultation process a Public Information Centre ("PIC") was held in Woodstock on February 21, 2008, where the public had the opportunity to learn about the project and meet the project team. A direct mailing was sent to attendees of the PIC and property owners along and adjacent to the existing line from Woodstock TS to Commerce Way TS (formerly defined as Woodstock East TS). A second PIC was held on February 5, 2009, to present the details of the proposed undertaking, including details of the new transmission line and the location of Commerce Way TS.

Following the second PIC, Hydro One has issued a Draft ESR to initiate the 30-day review and comment period as required by the Class EA process. The Draft ESR is made available to the public, municipal officials, provincial ministries, and conservation authorities through a Hydro One Project Website, and in local libraries or public offices. During the review period, there is an opportunity for any stakeholder to express concerns about the project which can result in additional environmental analysis of the project's potential effects. If no concerns are expressed during the 30-day review period, the ESR is finalized and submitted to the MOE. Hydro One will confirm the completion of the EA process with the Board once the final ESR is submitted.

5.0 COMPLIANCE WITH INDUSTRY STANDARDS AND CODES

The proposed facilities will be constructed, owned and operated by Hydro One. The design and maintenance of these facilities will be in accordance with good utility practice, as established in the Transmission System Code.

6.0 LAND MATTERS

The proposed facilities will largely be located on the existing transmission corridor from Woodstock TS to Commerce Way TS and the line tap to Toyota Woodstock TS, however details on land requirements, existing and required land rights, and the process for acquiring the required land rights are provided in Exhibit B, Tab 6, Schedule 6.

7.0 OTHER APPROVAL REQUIREMENTS

As required, Hydro One will also address the Provincial and Federal regulatory requirements shown below, however, additional requirements may be identified during the EA process and hence the following list should not be interpreted as all inclusive.

Provincial	Federal
• Heritage Act • Conservation Authorities Act • Ontario Water Resources Act • Environmental Protection Act	• Canadian Transportation Act • Canadian Environmental Assessment Act • Canadian Aviation Regulations, Standards, Obstruction Markings

There are also other approvals and permits that may be required as part of the construction process, including the following:

- Encroachment permits and land use permits from Ministry of Transportation;
- Agreements from rail and pipeline companies for crossings; and,
- Approval and permits for road crossings, vehicle restrictions, etc.
- Building permits

Hydro One also voluntarily complies with Municipal Site Development Plan requirements and municipal noise bylaws.

Letter of Endorsement for the Project

Woodstock Hydro Services Inc.
16 Graham Street
Box 245 Stn Main
Woodstock, ON N4S 7X4
Telephone: (519) 537-3488
Fax: (519) 537-5081

Woodstock Hydro
An ISO 9001:2000 Registered Company

April 17, 2007

Alex Urbanowicz, P.Eng
Hydro One Networks Inc.
855 Pond Mills Road
London, Ontario N5Z 4R1

Re: New 27.6 KV Transformer station – Woodstock East

Dear Alex,

Over the past year, Woodstock Hydro Services Inc., Hydro One Networks Inc., and Hydro One Distribution have been actively planning for expected load growth within our respective licensed territories.

The following provides a sense of timing and milestones related to our mutual efforts:

Throughout 2005:

- review Woodstock TS station capacity, expansion or rebuild options and begin load growth forecast planning

- arrive at initial load growth forecasts and establish best approach to alleviate Woodstock TS while accommodating load growth

July 2006:

- Letter of understanding signed by Woodstock Hydro Services Inc. enabling Hydro One Networks Inc. to begin land and equipment procurement process. This document signed in advance of CCRA being completed.

August 2006:

- Woodstock Hydro Services Inc. notified of pending Ontario Power Authority Transmission assessment review.

September 2006:

- Planning for 27.6 KV station placed on hold to allow Transmission Reinforcement Assessment. Outcome of final plan would determine ultimate location and supply voltages for new Woodstock TS.

Woodstock Hydro
An ISO 9001:2000 Registered Company

Woodstock Hydro Services Inc.
16 Graham Street
Box 245 Stn Main
Woodstock, ON N4S 7X4
Telephone: (519) 537-3488
Fax: (519) 537-5081

December 2006:

- Hydro One Networks Inc. completes Transmission Assessment in cooperation with Woodstock Hydro Services Inc and Erie Thames Power Inc.. Final options agreed upon and document filed with Ontario Energy Board.

January/February 2007:

- Hydro One Distribution Inc. and Woodstock Hydro Services Inc. complete updated load growth forecast based on rapidly changing growth environment within Oxford County
- All three parties meet in Woodstock on February 8 2007 to review final load growth forecast. Hydro One Networks Inc. provided hard copy of joint Distribution company forecast

April 2007:

- Hydro One Networks Inc. provide both Distribution companies with projected financial support based on provided load growth forecasts. Hydro One Networks requests final station requirement detail and incremental load split numbers for new station (to be agreed upon between Woodstock Hydro Services Inc. and Hydro One Distribution).

Station Detail Request based on April 4 2007 email:

1.0 The transformer station size, type, # of breakers, metering requirements, O/H or U/G egress

Based on review with Hydro One Distribution, and in consideration of the expected significant ramp up of load growth, both parties agree this station should be 2 x 50/83 MVA, with capacity for up to eight supply points. Metering requirements will follow IESO requirements with SCADA access similar to that now being implemented at the existing Woodstock TS station. In order to provide a full DESN station configuration to meet the supply reliability needs of the expected customer base, upgrading of the existing 1-circuit 115 kV line W12W to 2-circuit from the existing Woodstock TS east to the new station is also required.

Overhead or underground egress will ultimately be determined by the final site location of the TS, however it is expected a combination of both methods of egress are desirable.

2.0 The transformer station desired location

Recent Municipal boundary adjustments resulting in an expansion of the City of Woodstock by close to 5000 acres were completed over the past two years. These boundary adjustments take place in the east (3300 acres) with the balance of the expansion pushing City boundaries to the north of Pittock lake.

Woodstock Hydro Services Inc.
16 Graham Street
Box 245 Stn Main
Woodstock, ON N4S 7X4
Telephone: (519) 537-3488
Fax: (519) 537-5081

Approximately 1000 acres of agricultural land residing in the eastern expansion are now under a Provincial zone change application that will ultimately see these lands rezoned to industrial use.

Of additional significance is the fact these land expansions and zone change applications all take place in legacy Hydro One Distribution territory. Recent meetings with the Economic Development department (City of Woodstock) suggest much of this land will fully developed over the next decade.

In terms of Woodstock Hydro Services growth, the majority of undeveloped (or underdeveloped) industrial and commercial lands also reside in the south-east section of the City.

These growth realities for both LDC's suggest the most rational location for a new station is the south-east section of the City. The proposed Parkinson Road property currently held by the City of Woodstock should be given first consideration if it is deemed suitable from a technical and environmental point of view.

3.0 The desired in service date given that transformers take up to two years to deliver from date of order

Desired in service date is summer 2009. We believe significant and substantial planning and design are now complete with respect to Transmission reinforcement and we are now relatively clear to proceed with the 27.6 KV Transformer station project.

Our preference is to move forward as quickly and efficiently as possible, however we recognize the Section 98 application is not yet approved by the Ontario Energy Board. Hydro One is in a better position to comment on the ultimate in-service date of a new transformer given these regulatory hurdles.

4.0 Load forecast (electronic format)

See following attachments:
Woodstock Hydro – Hydro One Load Growth 2007 Scenario 1.doc
Woodstock Hydro – Hydro One Load Growth 2007 Scenario 1.doc

Please let me know if you have questions or concerns, as they were assembled with Richard Shannon and include options that are relevant to Hydro One distribution planning.

Woodstock Hydro
An ISO 9001:2000 Registered Company

Woodstock Hydro Services Inc.
16 Graham Street
Box 245 Stn Main
Woodstock, ON N4S 7X4
Telephone: (519) 537-3488
Fax: (519) 537-5081

5.0 The % split of existing load between Woodstock Hydro and Hydro One Dx that is above Woodstock TS LTR

The best point of reference for percentage splits are derived from the 25 year load growth forecast as assembled by Hydro One and Woodstock Hydro. Based on this forecast, roughly 15% of the existing overload is attributed to Hydro One Dx, with 85% being attributed to Woodstock Hydro load.

6.0 The % split of the new transformer station costs and transmission line extension between Woodstock Hydro and Hydro One Dx

Based on load growth expectations as of 2007, expect percentage load split for additional load will be as follows:

SCENARIO 2 (Includes transfer of HON Load from Tillsonburg TS)

50% Woodstock Hydro load
50% Hydro One Dx load

SCENARIO 1 (Existing Woodstock area HON Load Base Only)

60% Woodstock Hydro Load
40% Hydro One Dx load

Further to this assumption, it is understood these figure may be largely inaccurate as determined by expected industrial development in east Woodstock located in Hydro One territory. As such, we expect the likelihood of significant financial and load forecast adjustment could be warranted at the five year re-evaluation time period.

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DUAL VOLTAGE PRIMARY PROVISION:

Assuming 230 KV transmission continues to expand within Ontario, it is conceivable that 115 KV transmission could slowly be phased out of the Ontario network.

It may be prudent to consider dual-voltage transformers for the new station; we would appreciate knowing the incremental cost of these transformers. It is our understanding that any future cost of converting from 115 KV to 230 KV would be carried by Hydro One Networks.

We look forward to working with you on this project.

Sincerely,

Jay Heaman
Woodstock Hydro Services Inc.
Manager, Engineering & Conservation
519-537-7172 ext 255
jheaman@woodstockhydro.com

Richard Shannon
Hydro One Networks Inc.
Senior Network Management Engineer
705-719-5716
Richard.shannon@hydroone.com

WOODSTOCK HYDRO

SCENA

2(

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
HYDRO ONE (actual)												
WOODSTOCK HYDRO (actual)	71.0	79.1	82.0									
TOTAL (actual)												

2007 Projections	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
HYDRO ONE (projected)	11.0	11.0	12.2	18.4	19.3	20.3	21.2	24.2	25.2	26.1	27.1	28.0
WOODSTOCK HYDRO (projected)	71.0	79.1	82.0	86.1	93.0	98.6	102.5	105.6	107.2	108.2	109.3	110.4
TOTAL (projected)	82.0	90.1	94.2	104.5	112.3	118.9	123.7	129.8	132.4	134.3	136.4	138.4
Hydro One percentage increase		0.2%	10.9%	50.5%	4.9%	5.2%	4.4%	14.2%	4.1%	3.6%	3.8%	3.3
Hydro One Absolute Increase		0.0	1.2	6.2	0.9	0.0	0.9	3.0	1.0	0.9	1.0	0
Woodstock Hydro Percentage Increase		11.4%	3.7%	5.0%	8.0%	6.0%	4.0%	3.0%	1.5%	1.0%	1.0%	1.0
Woodstock Hydro Absolute Increase		8.1	2.9	4.1	6.9	5.6	3.9	3.1	1.6	1.1	1.1	1
Total Percentage Increase		9.9%	4.6%	10.9%	7.5%	5.9%	4.1%	4.9%	2.0%	1.5%	1.6%	1.5
Total Absolute Increase		8.1	4.1	10.3	7.8	6.6	4.8	6.1	2.6	2.0	2.1	2

2007 Review Notes:

Approximately 4 MG of load from the Hydro One PME unit (Dundas street east metering M6 Hydro One load) was populated in the Woodstock Hydro load forecast and compounded throughout subsequent years. It is understood this load was not included within the Hydro One load and would not have been double counted, however the result was a greater than planned load growth for Woodstock Hydro.

Further reductions in anticipated percentage increase for Woodstock Hydro reflect the fact Woodstock Hydro will likely develop to it's distribution boundary within the next 10 years.

Significant load growth will continue in Woodstock particularly in the east section of the City where 1000 acres of new industrial zoned land is expected to be made available in 2007. This recent development should be reflected in a significant increase to load growth from Hydro One.

LOAD GROWTH FORECAST

IO 1

05-2030

(mw)

2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031

2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
29.0	**29.8**	**30.7**	**31.5**	**32.4**	**33.2**	**34.1**	**34.9**	**35.8**	**36.6**	**37.5**	**38.3**	**39.2**	**40.0**	**40.9**	**41.7**
111.5	**112.6**	**113.8**	**114.9**	**116.0**	**117.2**	**118.4**	**119.6**	**120.8**	**122.0**	**123.2**	**124.4**	**125.7**	**126.9**	**128.2**	**129.5**
140.5	**142.4**	**144.5**	**146.4**	**148.4**	**150.4**	**152.5**	**154.5**	**156.6**	**158.6**	**160.7**	**162.7**	**164.9**	**166.9**	**169.1**	**171.2**
3.6%	2.8%	3.0%	2.6%	2.9%	2.5%	2.7%	2.3%	2.6%	2.2%	2.5%	2.1%	2.3%	2.0%	2.3%	2.0%
1.0	0.8	0.9	0.8	0.9	0.8	0.9	0.8	0.9	0.8	0.9	0.8	0.9	0.8	0.9	0.8
1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.3
1.5%	1.4%	1.4%	1.3%	1.4%	1.3%	1.4%	1.3%	1.4%	1.3%	1.3%	1.3%	1.3%	1.2%	1.3%	1.2%
2.1	1.9	2.0	1.9	2.0	2.0	2.1	2.0	2.1	2.0	2.1	2.0	2.1	2.1	2.2	2.1

WOODSTOCK HYDRO

20

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
HYDRO ONE (actual)												
WOODSTOCK HYDRO (actual)	71.0	79.1	82.0									
TOTAL (actual)												

2007 Projections	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
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WOODSTOCK HYDRO (projected)	71.0	79.1	82.0	86.1	93.0	98.6	102.5	105.6	107.2	108.2	109.3	110.4
TOTAL (projected)	82.0	90.1	94.2	104.5	112.3	118.9	123.7	129.8	135.4	138.3	141.4	144.4
Hydro One percentage increase		0.2%	10.9%	50.5%	4.9%	5.2%	4.4%	14.2%	16.5%	6.7%	6.6%	5.9
Hydro One Absolute Increase		0.0	1.2	6.2	0.9	0.0	0.9	3.0	4.0	1.9	2.0	1
Woodstock Hydro Percentage Increase		11.4%	3.7%	5.0%	8.0%	6.0%	4.0%	3.0%	1.5%	1.0%	1.0%	1.0
Woodstock Hydro Absolute Increase		8.1	2.9	4.1	6.9	5.6	3.9	3.1	1.6	1.1	1.1	1
Total Percentage Increase		9.9%	4.6%	10.9%	7.5%	5.9%	4.1%	4.9%	4.3%	2.2%	2.2%	2.1
Total Absolute Increase		8.1	4.1	10.3	7.8	6.6	4.8	6.1	5.6	3.0	3.1	3

2007 Review Notes:

Approximately 4 MG of load from the Hydro One PME unit (Dundas street east metering M6 Hydro One load) was populated in the Woodstock Hydro load forecast and compounded throughout subsequent years. It is understood this load was not included within the Hydro One load and would not have been double counted, however the result was a greater than planned load growth for Woodstock Hydro.

Further reductions in anticipated percentage increase for Woodstock Hydro reflect the fact Woodstock Hydro will likely develop to it's distribution boundary within the next 10 years.

Significant load growth will continue in Woodstock particularly in the east section of the City where 1000 acres of new industrial zoned land is expected to be made available in 2007. This recent development should be reflected in a significant increase to load growth from Hydro One.

Note for scenario 2:
The increase for Hydro One load projects load shift from Tillsonburg to Woodstock East TS.

LOAD GROWTH FORECAST

Scenario 2

05-2030

(mw)

2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031

2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
36.0	**37.8**	**39.7**	**41.5**	**43.4**	**45.2**	**47.1**	**48.9**	**50.8**	**51.6**	**52.5**	**53.3**	**54.2**	**55.0**	**55.9**	**56.7**
111.5	**112.6**	**113.8**	**114.9**	**116.0**	**117.2**	**118.4**	**119.6**	**120.8**	**122.0**	**123.2**	**124.4**	**125.7**	**126.9**	**128.2**	**129.5**
147.5	**150.4**	**153.5**	**156.4**	**159.4**	**162.4**	**165.5**	**168.5**	**171.6**	**173.6**	**175.7**	**177.7**	**179.9**	**181.9**	**184.1**	**186.2**
5.9%	5.0%	5.0%	4.5%	4.6%	4.1%	4.2%	3.8%	3.9%	1.6%	1.7%	1.5%	1.7%	1.5%	1.6%	1.4%
2.0	1.8	1.9	1.8	1.9	1.8	1.9	1.8	1.9	0.8	0.9	0.8	0.9	0.8	0.9	0.8
1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.3
2.1%	2.0%	2.0%	1.9%	1.9%	1.9%	1.9%	1.8%	1.8%	1.2%	1.2%	1.2%	1.2%	1.1%	1.2%	1.1%
3.1	2.9	3.0	2.9	3.0	3.0	3.1	3.0	3.1	2.0	2.1	2.0	2.1	2.1	2.2	2.1

IESO's System Impact Assessment

REPORT

Power to Ontario.
On Demand.

System Impact Assessment Report

CONNECTION ASSESSMENT & APPROVAL PROCESS

Issue 1.0

Project: *Woodstock East TS*

Applicant: Hydro One Networks Inc.

CAA ID 2008-298

Final Draft Report

Transmission Assessments & Performance Department

April 12, 2008

Document ID	IESO_REP_0491
Document Name	System Impact Assessment Report
Issue	Issue 1.0
Reason for Issue	First issue.
Effective Date	April 12, 2008

System Impact Assessment Report

Woodstock East TS

Acknowledgement

The IESO wishes to acknowledge the assistance of Hydro One in completing this assessment.

Disclaimers

IESO

This report has been prepared solely for the purpose of assessing whether the connection applicant's proposed connection with the IESO-controlled grid would have an adverse impact on the reliability of the integrated power system and whether the IESO should issue a notice of approval or disapproval of the proposed connection under Chapter 4, section 6 of the Market Rules.

Approval of the proposed connection is based on information provided to the IESO by the connection applicant and the transmitter(s) at the time the assessment was carried out. The IESO assumes no responsibility for the accuracy or completeness of such information, including the results of studies carried out by the transmitter(s) at the request of the IESO. Furthermore, the connection approval is subject to further consideration due to changes to this information, or to additional information that may become available after the approval has been granted. Approval of the proposed connection means that there are no significant reliability issues or concerns that would prevent connection of the proposed facility to the IESO-controlled grid. However, connection approval does not ensure that a project will meet all connection requirements. In addition, further issues or concerns may be identified by the transmitter(s) during the detailed design phase that may require changes to equipment characteristics and/or configuration to ensure compliance with physical or equipment limitations, or with the Transmission System Code, before connection can be made.

This report has not been prepared for any other purpose and should not be used or relied upon by any person for another purpose. This report has been prepared solely for use by the connection applicant and the IESO in accordance with Chapter 4, section 6 of the Market Rules. The IESO assumes no responsibility to any third party for any use, which it makes of this report. Any liability which the IESO may have to the connection applicant in respect of this report is governed by Chapter 1, section 13 of the Market Rules. In the event that the IESO provides a draft of this report to the connection applicant, you must be aware that the IESO may revise drafts of this report at any time in its sole discretion without notice to you. Although the IESO will use its best efforts to advise you of any such changes, it is the responsibility of the connection applicant to ensure that it is using the most recent version of this report.

HYDRO ONE

Special Notes and Limitations of Study Results

The results reported in this study are based on the information available to Hydro One, at the time of the study, suitable for a preliminary assessment of a new generation or load connection proposal.

The short circuit and thermal loading levels have been computed based on the information available at the time of the study. These levels may be higher or lower if the connection information changes as a result

of, but not limited to, subsequent design modifications or when more accurate test measurement data is available.

This study does not assess the short circuit or thermal loading impact of the proposed connection on facilities owned by other load and generation (including OPGI) customers.

In this study, short circuit adequacy is assessed only for Hydro One breakers and does not include other Hydro One facilities. The short circuit results are only for the purpose of assessing the capabilities of existing Hydro One breakers and identifying upgrades required to incorporate the proposed connection. These results should not be used in the design and engineering of new facilities for the proposed connection. The necessary data will be provided by Hydro One and discussed with the connection proponent upon request.

The ampacity ratings of Hydro One facilities are established based on assumptions used in Hydro One for power system planning studies. The actual ampacity ratings during operations may be determined in real-time and are based on actual system conditions, including ambient temperature, wind speed and facility loading, and may be higher or lower than those stated in this study.

The additional facilities or upgrades which are required to incorporate the proposed connection have been identified to the extent permitted by a preliminary assessment under the current IESO Connection Assessment and Approval process. Additional facility studies may be necessary to confirm constructability and the time required for construction. Further studies at more advanced stages of the project development may identify additional facilities that need to be provided or that require upgrading.

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WOODSTOCK EAST TS
IESO SYSTEM IMPACT ASSESSMENT

SIA Findings

The proposed Woodstock East TS is a developmental project which is required to relieve the present overloading of Woodstock TS and provide adequate power supply to the Woodstock area loads. The load in the area is expected to experience a rapid growth in the near future due to the "spin-off" industries resulting from the Toyota Woodstock plant.

Conclusions

This System Impact Assessment has examined the impact of the proposed Woodstock East TS on the reliability of the IESO-Controlled grid. The studies concluded that:

1. The proposed project will not have a materially adverse effect on the reliability of the IESO-Controlled grid.

2. The proposed project will relieve the overload at the existing Woodstock TS and increase the power supply capability in Woodstock area.

3. All the pre-contingency voltages, post-contingency voltages and voltage declines meet Market Rules requirements.

4. No thermal overload concerns were identified for the monitored transmission circuits in the studied scenarios. All power flows on the monitored circuits were observed to be within the continuous ratings of the circuits.

Notification of Approval for Connection Proposal

It is recommended that Notification of Conditional Approval for connection be issued to Hydro One, subject to IESO's Requirements for Connection listed below, and any further requirements that may be identified by Hydro One Networks Inc. in the Customer Impact Assessment.

IESO's Requirements for Woodstock East TS Connection

The IESO requirements for the connection of the proposed Woodstock East TS are as follows:

- It is required that Hydro One and the area LDC shall work together to initiate a plan for reactive load compensation at the station and/or customer side to ensure compliance with the Market Rules and to inform the IESO.

- The connection applicant is required to provide disconnect switch parameters and ensure that the performance of the equipment that is eventually installed meets or exceeds Market Rule requirements, i.e., the 230 kV disconnect switches must be capable of continuously operating in the range 220 kV and 250 kV.

- Hydro One is required to provide the short circuit of the 230 kV/115 kV equipment and components. If the short circuit capacity of the 230 kV equipment is below 63 kA, Hydro One will be required to upgrade the equipment at their own expense when and if the system short circuit levels exceed their withstanding (interrupting) capability.

- The Connection Applicant is required to confirm that voltage control will be available from local or remote location to provide 3% or 5% reduction to support the operating obligations.

- Hydro One is required to install all the equipment needed to continuously monitor the information that is required by the IESO. The IESO will finalize items to be monitored during the IESO Facility Registration Process.

1. Project Description

Hydro One Networks is proposing to establish a new 115-27.6 kV, 50/66.7/83.3 MVA DESN station in Woodstock area. To permit the connection of the new station, the Woodstock Area Transmission (WATR) facilities must be in service and also part of the 115 kV line facilities east of the existing Woodstock TS must be rebuilt. The new station will be connected to the rebuilt section of the 115 kV double circuit line B8W about 4 km east of Woodstock TS.

Woodstock TS has exceeded its 10-day summer LTR. In the short term, arrangements are being made for temporary load transfer of 8 MVA to Ingersoll TS to help relieve the problem. The proposed Woodstock East TS will relieve the overloading of the existing TS as well as provide additional capacity to accommodate future load growth in Woodstock area.

Woodstock area load is being supplied off Buchanan TS by a long 115 kV transmission corridor. The power supply capability of this transmission is limited due to voltage performance and is approaching its capacity. Hydro One has initiated a transmission reinforcement project to address the area problems which was recently assessed by the IESO under CAA ID 2007-263. The proposed Woodstock Area Transmission Reinforcement will address the voltage concerns and increase the area transmission supply capability by providing a new 230 kV power supply point for Woodstock area load. The WATR project is scheduled for completion by April 2010. Due to transmission limitations in the area, the new Woodstock East TS cannot be connected to the grid before the WATR facilities are in-service.

A schematic diagram of the 230/115 kV transmission system in Woodstock area after the proposed Woodstock Area Transmission Reinforcement is shown in Figure 1. The proposed connection of Woodstock East TS is shown in Figure 2 and the single line diagram for Woodstock East TS is shown in Figure 3.

As shown in Figure 2, the proposed Woodstock East TS is located 4 km east of the existing Woodstock TS and west of Toyota TS. As part of this project Hydro One also plans to rebuild the double circuit line between Woodstock TS and the new transformer station. Hydro One has also indicated that, if suitable property cannot not be found in that area, a location within 1 km east of Toyota will be considered. In this case, about 6 km B8W circuit from the existing woodstock TS will be rebuilt to double circuit line to provide double power supply to the proposed Woodstock East TS. Since there is no significant electrical difference between these two options only the preferred first option was examined in this SIA study.

The project is scheduled for completion by June, 2010.

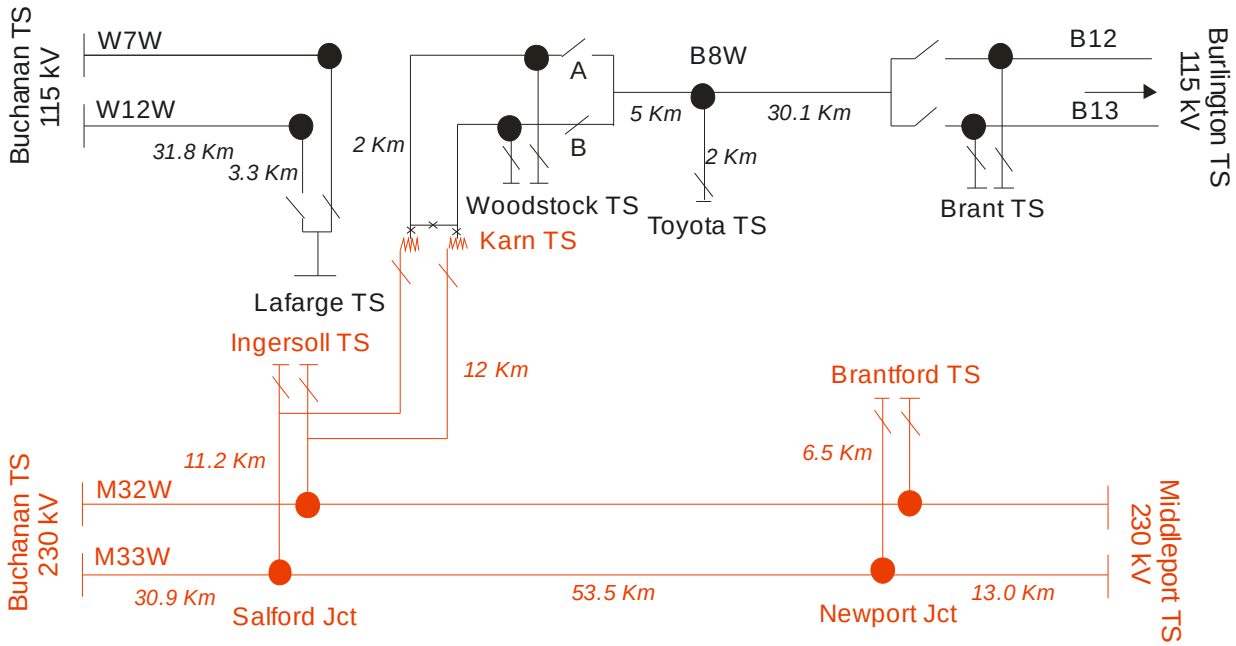


Figure 1. Proposed Woodstock Area Transmission Reinforcement

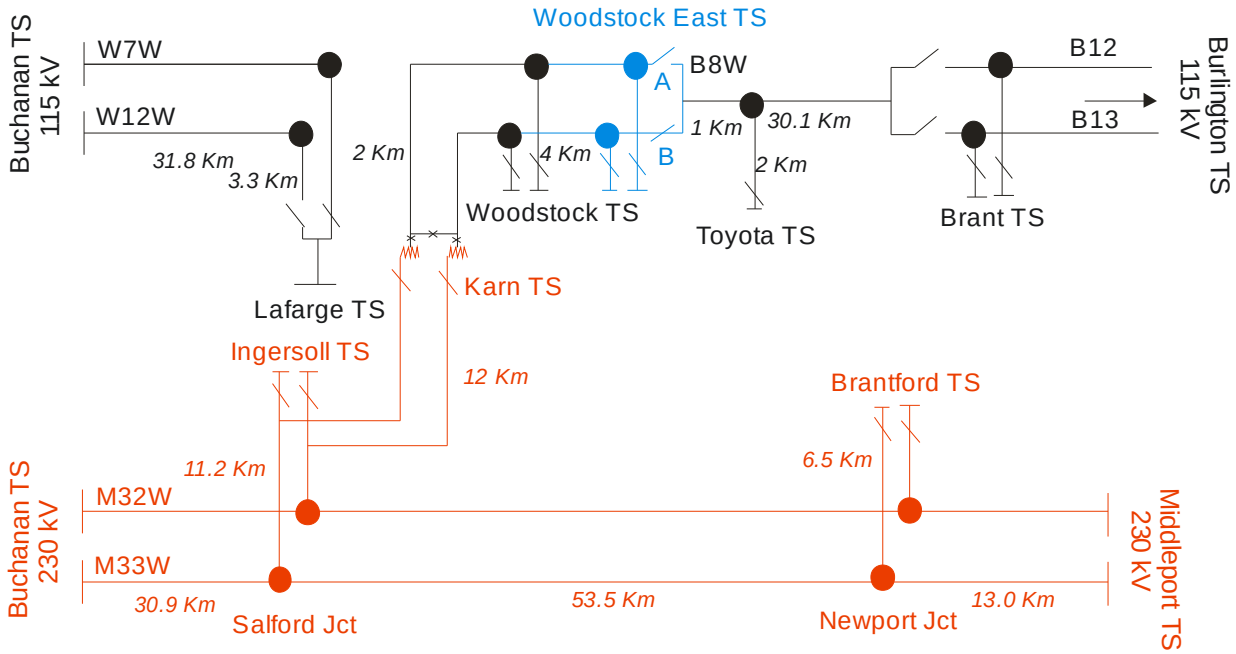


Figure 2. Proposed Connection of Woodstock East TS

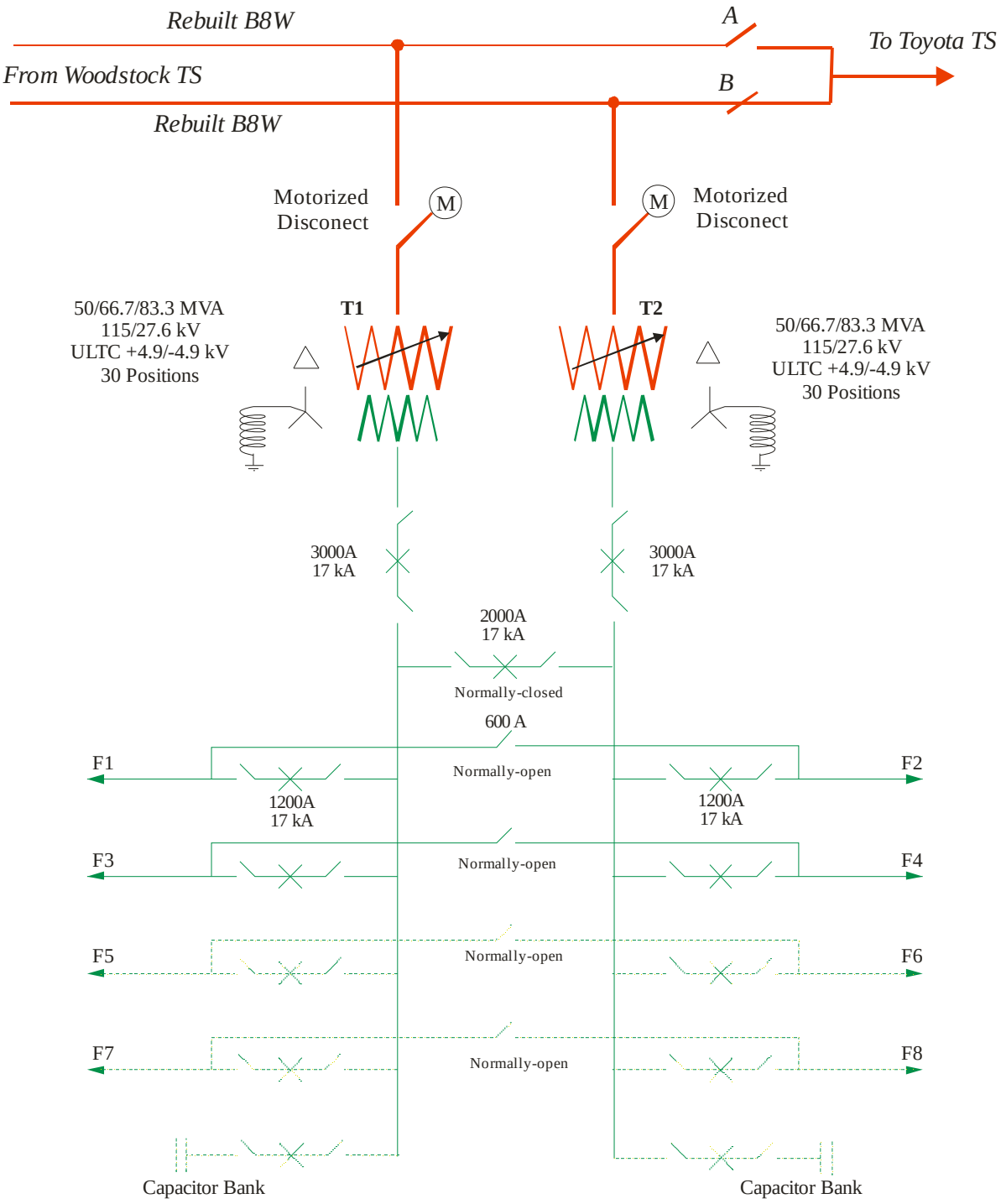


Figure 3. Single Line Diagram for Woodstock East TS

– End of Section –

2. General Requirements

2.1 Power Factor

The Market Rules require that wholesale customers and distributors connected to the IESO-controlled grid shall operate at a power factor within the range of 90% lagging to 90% leading as measured at the defined meter point.

The connection applicant has advised that Woodstock East TS load power factor is 0.9. The load flow analysis was carried out to determine transformer losses that will need to be compensated for in order to achieve minimal 0.9 power factor at high voltage side. The analysis indicated that the station load increase from 40.8 MW to 55.5 MW will correspond to transformers' losses being increased from 2.7 MVAr to 5.0 MVAr, hence bringing high voltage side power factor down from 0.88 to 0.87. By the time the station's load reaches its LTR of 132.8 MVA (119.5 MW @0.9 P.F.), the power factor will drop to 0.83. Thus, the load
at Woodstock East TS will need to be compensated to a higher power factor to ensure that IESO's power factor requirements are met. The summary of the study with the needed reactive compensation time scheduled are shown in Table 1 below.

Table 1 Reactive Power Compensation Requirements

Year	27.6 kV			220 kV			Compensation (MVAr)
	P (MW)	Q (MVAr)	P.F.	P (MW)	Q (MVAr)	P.F.	
2010	40.8	19.7	0.9	40.8	22.4	0.88	3
2011	46.9	22.7	0.9	46.9	26.2	0.87	4
2012	49.5	24.0	0.9	49.5	28.0	0.87	4
2013	51.4	24.9	0.9	51.4	29.2	0.87	5
2014	53.6	25.9	0.9	53.6	30.5	0.87	5
2015	55.5	26.9	0.9	55.5	31.9	0.87	5
	119.5	57.9	0.9	119.5	80.9	0.83	21

Based on the assumption that the station will operate with 0.9 load power factor, as indicated by the proponent, the power factor at the defined metered point will be slightly below 0.9 lagging when the stations is placed in service. As the load increases, additional reactive compensation will become necessary. Hydro One and the area LDC shall work together to initiate a plan for reactive load compensation at the station and/or customer side to ensure compliance with the Market Rules and to inform the IESO.

2.2 Underfrequency Load Shedding Requirements

The Market Rules (Chapter 5 section 10.4) require that each distributor and connected wholesale customer, in conjunction with the relevant transmitter, make arrangements to enable the automatic disconnection of up to 35% of its peak demand for conditions of system under-frequency. To meet this requirement an under frequency load shedding (UFLS) scheme must be installed at the new station.

The under frequency automatic load shedding should be provided by tripping 28 kV feeder breakers to achieve:

- Automatic load shedding of 12% of station load at a nominal set point of 59.3 Hz and
- Automatic load shedding of an additional 23% of station load at a nominal set point of 58.8 Hz, for a total load reduction of 35% of the total station load.

2.3 Voltage Reduction Facilities Requirements

The Market Rules (Chapter 4 Appendix 4.3) requires that distributors connected to the IESO controlled grid with directly connected load facilities of aggregated rating of 20 MVA or more and the capability to regulate distribution voltage under load, shall install and maintain facilities to provide voltage reduction capability to achieve load reduction during periods when supply resources are limited. Voltage reduction capability represents the capability of reducing demand by lowering the customer voltage by 3% and 5% and having the controlling authority to be able to effect the voltage reduction within five minutes of receipt of the direction from the IESO.

The Connection Applicant is required to confirm that voltage control will be available from local or remote location to provide 3% or 5% reduction to support the operating obligations.

2.4 On-line Monitoring

The Market Rules (Chapter 4 section 7.5) require that each connected distributor shall provide the IESO on a continual basis with on-line monitored quantities as specified in Appendix 4.17. It is required that Hydro One install all the equipment needed to monitor the information required by the IESO on a continuous basis. The IESO requires that the following quantities at Woodstock East TS be provided to the IESO on a continual basis via approved communication protocols:

1. The voltage on the 115 kV bus
2. The status of the 115 kV switches
3. The voltage on the 27.6 kV bus
4. The status of the transformer 27.6 kV breakers
5. The real and reactive power flow through both transformers

Hydro One is required to install all the equipment needed to continuously monitor the information that is required by the IESO. The IESO will finalize items to be monitored during the IESO Facility Registration Process.

2.5 Protection Systems

With respect to the protection and telecommunication requirements, the connection applicant will have to follow the Transmission System Code technical requirements for tapped transformer stations supplying load.

The diagram that was provided by the applicant shows each transformer being separated from the transmission system via a motorized disconnection switch. For this particular arrangement the Transmission System Code requires that transfer trip of the Transmitter's breakers at the terminal stations be provided for transformer faults or for a condition of failure to operate of the 115 kV breakers. In the case of Woodstock East TS, which is to be connected to the double circuit 115 kV lines B8W the transfer trip must be sent to Karn TS terminals of the faulted circuit.

3. Review of Connection Proposal

3.1 Connection Arrangement

3.1.1 115 kV circuits

To provide the supply to Woodstock East TS, Hydro One is proposing to rebuild B8W to a double circuit line from Woodstock TS to the tapping point of the new Woodstock East TS. The line will be built to the same standards specified in the WATR plan for rebuilding the existing line into Woodstock TS from Karn TS. This new 4 km line section from Woodstock TS to Woodstock East TS is to be steel pole or lattice built for 230 kV operation but initially operated at 115 kV. The new 115 kV line is to have the following ratings as provided by the connection applicant:

- Maximum operating voltage: 230 kV
- Maximum Continuous Rating: 1130 A (Summer, 30 °C)
- Maximum emergency Rating: 1810 A (Summer, 30 °C)

3.1.2 Woodstock TS

The existing 115 kV disconnect switches at Woodstock TS, 10L7-B8W and 10L12-B8W, allow W7W or W12W to be connected to B8W. With the rebuild of B8W to a double circuit line, these two switches, Labeled “A” and “B” in Figure 1, will be removed.

3.1.3 Woodstock East TS

The new Woodstock East TS will be connected to the rebuilt 115 kV double circuits B8W from Woodstock TS. The existing Woodstock TS and Toyota TS as well as the proposed Woodstock East TS will be supplied by Karn TS.

The proposed Woodstock East TS will be equipped with two transformers (115/27.6 kV, 50/66.7/83 MVA). The two transformers are identical and each transformer is configured with a delta winding on the high side. The LV windings are wye connected and the neutral is to be grounded via a 1.5 ohm reactor (1000 A continuous, 6000 A for 15 seconds). Each transformer is equipped with under-load tap changers located on the HV winding with ± 4.9 kV voltage band achieved in 29 steps.

The connection applicant indicated that the HV to LV impedance should be approximately 13.06% on the nameplate rating of 50 MVA.

Hydro One proposes to connect each transformer at Woodstock East TS to the IESO-controlled grid via one 230 kV motorized disconnect switch with a continuous current rating of 1200 A.

Similar to the existing in-line switches, 10L7-B8W and 10L12-B8W, at the Woodstock TS, two motor-operated disconnect switches, suitable for 230 kV operation, are to be installed between the rebuilt B8W two-circuit line and the existing single circuit B8W. These switches having continuous rating of 1200 A are labeled “A” and “B” in Figures 3.

Hydro One did not provide maximum continuous voltage for the 230 kV disconnect switches in the SIA applications. It should be noted that all 230 kV connection equipment must be capable of continuously operating in the ranges of 220 kV and 250 kV (Reference 2 of Appendix 4.1 of the Market Rules).

The connection applicant is required to provide disconnect switch parameters and ensure that the performance of the equipment that is eventually installed meets or exceeds Market Rule requirements, i.e., the 230 kV disconnect switches must be capable of continuously operating in the range 220 kV and 250 kV.

The proposed Woodstock East TS will consist of four feeders initially. The ultimate footprint for the station would accommodate eight feeder positions and 2 cap banks.

The new 27.6 kV circuit breakers and switches will be installed at Woodstock East TS with the rating as shown in Table 2.

Table 2 Breaker and Switch Ratings

Equipment	Nominal Voltage (kV)	Continuous Current Rating (A)	SC Interrupting Capability (kA/cycles)
Transformer Breakers	28	3000	17/5
Bus Tie Breaker	28	2000	17/5
Feeder Breakers	28	1200	17/5
Feeder Tie Switches	28	600	

– End of Section –

4. Data Verification

Based on standards for supply of municipal electrical utilities the capability of a transformer station is defined as the maximum load that one transformer can carry for a predefined period of time. This value is usually computed using specific transformer data and daily loading curves, and temperature data specific to the transformer location. Hydro One has indicated that the summer 10-day LTR @ 30 degrees is expected to be 132.8 MVA.

The system performance standards listed in the Transmission System Code require that the 230 kV and 115 kV system fault levels not exceed 63 kA and 50 kA (Sym.), respectively. This implies that 230 kV and 115 kV equipment installed should be sized to withstand or interrupt 63 kA and 50 kA (Sym.), respectively. However, lower capability equipment is allowed when the system short circuit levels are lower and no system expansion is expected.

The connection applicant has not provided the short circuit capacity for new 230 kV and 115 kV equipment and components.

Hydro One is required to provide the short circuit of the 230 kV/115 kV equipment and components. If the short circuit capacity of the 230 kV equipment is below 63 kA, Hydro One will be required to upgrade the equipment at their own expense when and if the system short circuit levels exceed their withstanding (interrupting) capability.

The high voltage motorized disconnect switches are designed to meet the requirements with maximum continuous operating voltage of 250 kV. The applicant has advised that interrupting rating is not required for the switches. However, each disconnect switch shall be rated to interrupt the maximum magnetizing current of the specified 250 MVA transformer.

A full description of the connection arrangement of the proposed Woodstock East TS is included in Section 3.1 of this report.

– End of Section –

5. Fault Level Assessment

This project involves the expansion of transmission system with loads being radially connected to a new supply point. In general, radial loads do not have a large impact on the system fault levels, but a small contribution in short circuit currents can be observed due to the grounding of the transformers. In the case of Woodstock East TS the high voltage winding is delta configured, hence line-to-ground faults will not results in any increase in fault level.

– End of Section –

6. Further Analysis

This connection assessment study concentrated on identifying the effect of the proposed Woodstock East TS on thermal loading of the transmission lines and system voltages for pre and post contingency situations.

6.1 Description of Area Transmission

After the completion of WATR project and Woodstock East TS project, the loads at Woodstock TS, Woodstock East TS and Toyota TS will be supplied via the rebuilt 115 kV double circuit line W7W/W12W and B8W emanating from Karn TS. The rebuilt circuits are joined to the single circuit B8W via disconnect switches at Woodstock East TS with one normally open and the other one normally close. At the other end, the circuit B8W is connected to double circuit 115 kV line B12/B13 at Brant TS via two disconnect switches which are operated normally open. The transmission system in Woodstock area after WATR project and Woodstock East TS is shown in Figure 2.

The area transmission is also equipped with one 115 kV, 120 MVAr shunt capacitor at Buchanan TS, 2×20 MVAr LV shunt capacitors at Brantford TS and 2×20 MVAr LV shunt capacitors at Woodstock TS.

6.2 Load Forecasts

The load forecast in the Woodstock area was provided by Hydro One and is summarized as well as station capability in Table 3.

Table 3 Station Capability and Load Forecast (MVA)

Stations	Capability	2010	2011	2012	2013	2014	2015
Woodstock	92.1	92.1	92.1	92.1	92.1	92.1	92.1
Woodstock East	132.8	45.3	52.1	55.0	57.1	59.5	61.7
Toyota	N/A*	27.8	27.8	27.8	27.8	27.8	27.8
Load off Karn TS	***200.1***	***165.2***	***172.0***	***174.9***	***177.0***	***179.4***	***181.6***
Ingersoll	175	99.7	101.7	103.7	105.7	107.8	110.0
Brantford	173	208.9	212.2	215.6	218.9	223.3	226.7

*: single transformer

It should be noted that the loads at Brantford TS exceed the station load capability. As indicated in the SIA study for Powerline TS (CAA ID 2005-196), load at Brantford is to be limited within the station capability and all the loads above the capability in that area will be supplied via Powerline TS.

6.3 Load Supply Deliverability

The load security and restoration criteria for IESO-controlled grid are defined in the Ontario Resource and Transmission Assessment Criteria document as follows:

"With any one element out of service, equipment loading must be within applicable long-term emergency ratings, voltages must be within applicable emergency ranges, and transfers must be within applicable normal condition stability limits. Not more than 150MW of load may be interrupted by configuration. Planned load curtailment or load rejection, excluding voluntary demand management, is not permissible.

With any two elements out of service voltages must be within applicable emergency ranges. Equipment may be loaded up to applicable short-term emergency ratings immediately following a contingency, but must be reduced to the long-term emergency ratings in the time afforded by the short-term ratings. Not more than 600MW of load may be interrupted as a result of the contingency, and this may include up to 150MW of planned load curtailment or load rejection, excluding voluntary demand management.

Where local generation exist, additional planned load curtailment or load rejection is permissible up to the capacity of the largest local generating unit, or 600 MW, whichever is less. The additional load curtailment is permitted only for generating unit outages with all transmission facilities in service or with any one or two elements out of service. Generating unit outages must consider any common failure modes between units of a multi-unit or combined-cycle plant.

The transmission system must be planned such that, following design criteria contingencies on the transmission system, affected loads can be restored within the restoration times listed below:
All load must be restored within approximately 8 hours.

When the amount of load interrupted is greater than 150MW, the amount of load in excess of 150MW must be restored within approximately 4 hours.

When the amount of load interrupted is greater than 250MW, the amount of load in excess of 250MW must be restored within 30 minutes."

The load supplied by the 115 kV double circuit line off Karn TS is higher than 150 MW but lower than 600 MW. Hence IESO criteria are met: (a) for one element out of service the load continues to be supplied via the remaining circuit and (a) for two elements out not more than 600 MW of load would be interrupted.

6.4 Study Assumptions

This system impact study was performed for 2009 summer peak area loads with the following assumptions:

1. Loads in Woodstock area were scaled to level in 2015 in Table 1 except that load at Brandford is at its capability, i.e., 173 MVA,
2. Load power factor of 0.9 for loads at stations in Table 1,
3. 2 × 20 MVAr LV shunt capacitors at Woodstock TS in service,
4. Existing 2 × 20 MVAr LV shunt capacitors at Brantford TS in service,
5. Existing 1 × 120 MVAr 115 kV shunt capacitor at Buchanan TS in service,
6. Voltage dependent load model for post-contingency pre-ULTC simulations (50% constant impedance and 50% constant current for active power and 0% constant current and 100% constant impedance for reactive power).

6.5 Voltage Analysis

The following IESO criteria must be satisfied before any new equipment is connected to the transmission system:

1. The pre-contingency voltage on 230 kV buses can not be less than 220 kV.
2. The post-contingency voltage on 230 kV buses can not be less than 207 kV.
3. The pre-contingency voltage on 115 kV buses can not be less than113 kV.
4. The post-contingency voltage on 115 kV buses can not be less than 108 kV.
5. The voltage drop following a contingency can not exceed 10% pre-ULTC and 10% post-ULTC.

Load flow studies have been carried out to examine the voltage performance at stations with the proposed Woodstock East TS project.

Contingencies associated with M32W or M33W and W7W are simulated for voltage studies. Simulation results indicate that there is no difference in voltages between contingencies associated with M32W and M33W. Therefore, only results with contingencies involved M32W are shown in this report.

The simulation results for pre- and post-contingency voltages are shown in Table 4 and Table 5.

Table 4 Pre- and Post-contingency Voltages for Loss of M32W

Stations	**Buchanan**	**Karn**		**Woodstock**		**Woodstock E.**		**Toyota**	
Buses (kV)	230	230	115	115	27.6	115	27.6	115	13.8
Pre-contingency (kV)	241.8	236.0	120.0	118.5	28.4	118.0	28.1	117.9	13.4
Pre-ULTC (kV)	241.9	230.2	111.9	114.6	27.4	114.3	27.0	113.8	12.9
Voltage Decline (%)	-0.04	2.46	6.75	3.29	3.52	3.14	3.91	3.48	3.73
Post-ULTC (kV)	241.1	227.7	113.2	112.5	27.8	112.0	27.9	111.9	12.6
Voltage Decline (%)	0.29	3.52	5.67	5.06	2.11	5.08	0.71	5.09	5.97

Table 5 Pre- and Post-contingency Voltages for Loss of W7W

Stations	**Buchanan**	**Karn**		**Woodstock**		**Woodstock E.**		**Toyota**	
Buses (kV)	230	230	115	115	27.6	115	27.6	115	13.8
Pre-contingency (kV)	241.8	236.0	120.0	118.5	28.4	118.0	28.1	117.9	13.4
Pre-ULTC (kV)	242.0	236.4	119.2	118.1	27.8	117.3	26.7	117.2	13.3
Voltage Decline (%)	-0.08	-0.17	0.67	0.34	2.11	0.59	4.98	0.59	0.75
Post-ULTC (kV)	241.8	235.8	118.6	117.4	27.8	116.5	27.8	116.4	13.2
Voltage Decline (%)	0.00	0.08	1.17	0.93	2.11	1.27	1.07	1.27	1.49

The study results indicate that all the pre-contingency voltages and post-contingency voltage declines meet the Market Rules requirements.

6.6 Thermal Study

This section covers an investigation of thermal capability of the 230 kV and 115 kV circuits related to the proposed project and any new thermal problems introduced by the new project. The same modified base case and study assumptions listed in section 5.3 were used.

Ratings of the 230 kV circuits M32W/M33W and the 115 kV circuits W7W/W12W are shown in Table 6. The ratings for the existing circuits were calculated for the summer peak conditions, i.e. temperature of 35°C, wind speed of 5 km/h and for the day time. Pre-load dependant LTRs were calculated assuming circuit pre-contingency loading of 75%.

Table 6 Circuit Ratings

Circuits	Sections	Continuous Rating		15 Minutes LTR	
		A	MVA*	A	MVA*
M32W/M33W	Buchanan-Middleport	2130	849	3250	1295
	Salford Jct-Ingersoll	830	331	1020	406
	Ingersoll-Karn	1410	561	1590	633
W7W/W12W	Karn-Woodstock	1130	235	1810	376
B8W	Woodstock-Woodstock East	1130	235	1810	376

*: MVA@ 230 kV for M32W/M33W and 120 kV for W7W/W12W

Simulations were performed to investigate power flows for pre-contingency conditions and after the loss of M32W or W7W. Results are shown in Table 7.

Table 7 Pre- and Post-contingency Power Flow

Circuits	M32W/M33W			W7W/W12W	
Sections	Buchanan-Middleport	Salford Jct-Ingersoll	Ingersoll-Karn	Karn-Woodstock	Woodstock-Woodstock E
Continuous Rating (MVA)	894	331	561	235	235
Pre-Contingency (MVA)	211.8	151.9	95.4	94.5	57.2
% of Continuous Rating	23.7	45.9	17.0	40.2	24.3
LTR (MVA)	1295	406	633	376	376
Post-Contingency (MVA) (loss of M32W)	334.3	303.5	179.2	99.6	59.7
% of LTR	25.8	74.8	28.3	26.5	15.9
Post-Contingency (MVA) (loss of W7W)	213.4	145.9	93.4	180.0	96.0
% of LTR	16.5	35.9	14.8	47.9	25.5

The results indicate that pre-contingency power flows are far below the circuit continuous ratings and the post-contingency power flows on the remaining circuits are well within the LTR of the circuits. Therefore, it can be concluded that there is no thermal concern for the 230 kV and 115 kV circuits with the proposed Woodstock East TS project.

6.7 Summary

The findings of analysis are summarized as follows:

1. Pre-contingency and post-contingency voltages in Woodstock area with the proposed project meet Market Rules requirements.

2. There is no thermal overloading concern associated with the 230 kV and the 115 kV circuits with the proposed Woodstock East TS project.

3. The area transmission system meets the planning criteria for load supply security.

– End of Report –

Customer Impact Assessment

The CIA document will be filed by mid May 2009

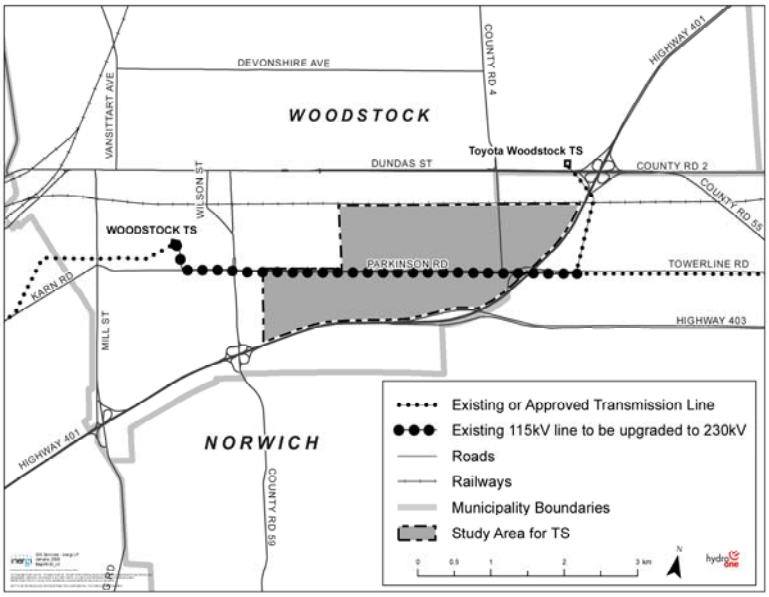
APPENDIX A

You Are Invited to Our Public Information Centre

Woodstock East Transformer Station and Associated Transmission Line Upgrades

Hydro One Networks (Hydro One) plans to reinforce electricity supply in the Woodstock area to address the growing electricity needs created by strong economic and industrial growth. As part of this plan, Hydro One is proposing to construct a new transformer station (TS) and rebuild an existing 115 kilovolt (kV) single-circuit transmission line as a double-circuit line with 230 kV capacity on new structures, but continue to operate the line at 115 kV. Hydro One invites you to a Public Information Centre to learn more about its plans and the project.

The study area for the proposed transmission facilities is within the City of Woodstock and the Township of Norwich, as shown on the map below.



This project is subject to provincial *Environmental Assessment Act* approval in accordance with the Class Environmental Assessment for Minor Transmission Facilities. Construction of the proposed facilities must also be approved by the Ontario Energy Board.

Public Information Centre

The Public Information Centre (PIC) will give you an opportunity to learn more about the project and provide your comments to our project team. Please join us on:

Thursday February 21, 2008, 4:00 p.m. – 8:00 p.m.
Quality Hotel & Suites, Joe Boyle Room
580 Bruin Boulevard, Woodstock, ON

A second PIC will be held in Spring 2008 to present and seek public input on the preferred site for the new station and the associated transmission line upgrades.

If you have questions about the project or would like to be on the project mailing list, please contact:

Carrie-Lynn Ognibene, Community Relations
Hydro One Networks Inc.
Tel: (416) 345-6799 or 1-877-345–6799
Email: Community.Relations@HydroOne.com

Visit our project web site at:
www.HydroOneNetworks.com/newprojects

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APPENDIX B

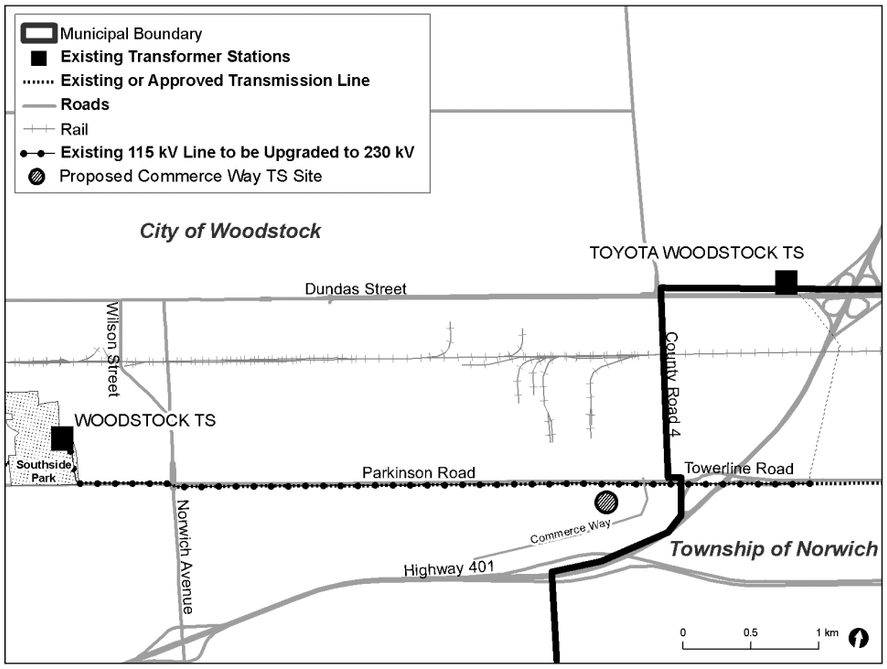
PUBLIC INFORMATION CENTRE #2

CLASS ENVIRONMENTAL ASSESSMENT STUDY

Commerce Way Transformer Station (TS) (formerly Woodstock East TS) and associated transmission line upgrades

Hydro One Networks Inc. (Hydro One) invites you to our second Public Information Centre for a proposed new transformer station in the eastern part of the City of Woodstock and associated transmission line upgrades to reinforce electricity supply in the area.

Since the initial Public Information Centre held in February 2008, Hydro One has identified its preferred location for the new Commerce Way TS, as shown on the map below.



The proposed Commerce Way TS will consist of two 115/27.6 kilovolt (kV) transformers and associated facilities. To supply the new station, Hydro One is proposing to upgrade the existing single-circuit 115 kV transmission line that runs from Woodstock TS in Southside Park and along Parkinson Road to Commerce Way TS. The new line would be built as a double-circuit 230 kV line, but would initially continue to operate at 115 kV. Hydro One is also seeking approval to upgrade, in the future, the existing 115 kV line between the new Commerce Way TS and the tap point supplying the Toyota Plant along Towerline Road in the Township of Norwich.

Public Information Centre
This Public Information Centre (PIC) will give you an opportunity to learn more about this project and to provide your input to members of our project team. Please join us on:

Thursday, February 5, 2009
4:00 p.m. – 8:00 p.m.
Quality Hotel & Suites, Vansittart A Room
580 Bruin Boulevard, Woodstock, ON

This project is subject to provincial *Environmental Assessment Act* approval in accordance with the *Class Environmental Assessment for Minor Transmission Facilities*. Construction of the facilities also requires Ontario Energy Board approval. A draft Environmental Study Report for the project will be available following the PIC for a 30-day public review period.

For more information, please contact:
Amy Bowen, Community Relations
Hydro One Networks Inc.
Tel: 1-877-345-6799
Email: Community.Relations@HydroOne.com

Or visit our project web site at:
www.HydroOneNetworks.com/newprojects

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APPENDIX C

NOTICE OF COMPLETION

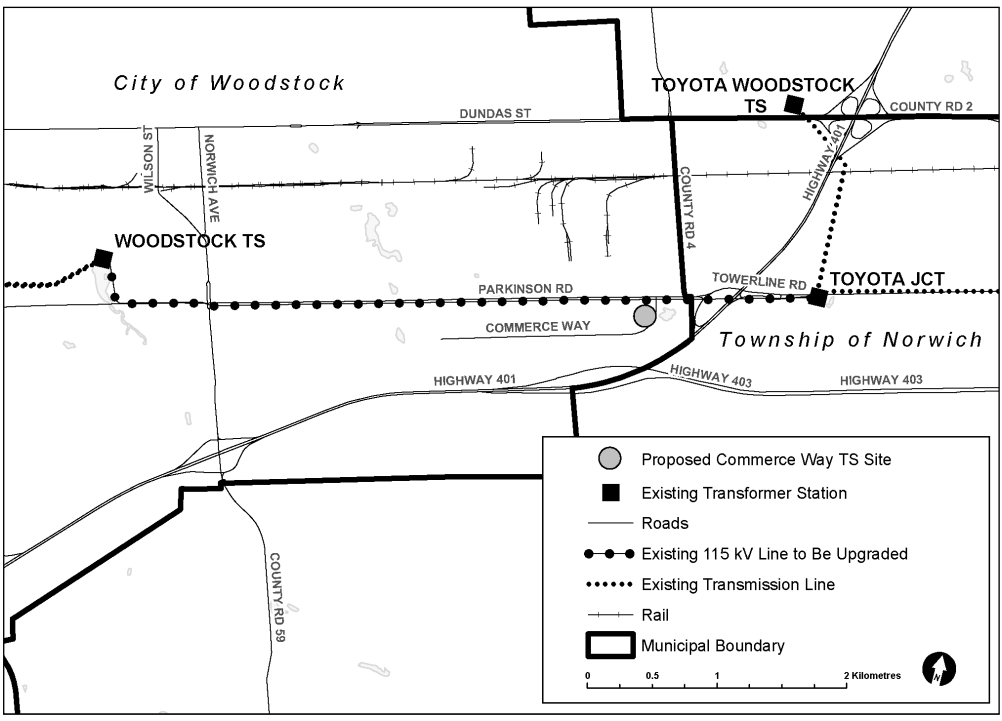
CLASS ENVIRONMENTAL ASSESSMENT (EA)

Commerce Way Transformer Station (TS) and Associated Transmission Line Upgrades

Hydro One Networks Inc. (Hydro One) has completed the Class Environmental Assessment (EA) for a proposed new 115/27.6 kilovolt (kV) transformer station (Commerce Way TS). Hydro One's preferred location for the new transformer station is within the City of Woodstock's Commerce Way business park, as shown on the map below.

To bring electrical supply to the new station, Hydro One is proposing to upgrade the existing single-circuit 115 kV transmission line on the existing transmission right-of-way from Woodstock TS in Southside Park along Parkinson Road to the proposed Commerce Way TS. The line would be rebuilt as a double-circuit line on taller structures with 230 kV capacity, but would initially continue to operate at 115 kV. The Class EA also addresses the potential future need to upgrade the existing 115 kV line between the Commerce Way TS and Toyota Junction, the tap point supplying the Toyota Woodstock TS on Towerline Road in the Township of Norwich.

These new facilities are needed to supply future electricity demand in the Woodstock area. Subject to completion of the Class EA process and receipt of Ontario Energy Board approval, Hydro One is targeting to have the proposed facilities in service by the end of 2011.



How to Submit Your Input

In accordance with the *Class EA for Minor Transmission Facilities*, the draft Environmental Study Report (ESR) will be available for public review and comment for a 30-day period from Thursday, March 12 to Monday, April 13, 2009. The draft ESR can be viewed at www.HydroOneNetworks.com/newprojects. A copy of the report is also available at the following locations. Please call each location for hours of operation.

Woodstock Hydro
16 Graham Street
Tel: (519) 537 3488

Woodstock Public Library
445 Hunter Street
Tel: (519) 539 4801

City of Woodstock
500 Dundas Street
Tel: (519) 539 1291

Township of Norwich
210 Main Street East, Otterville
Tel: (519) 863 2709

Written questions or comments on the draft ESR must be received no later than 4:30 p.m. on Monday April 13, 2009. Please address correspondence to:

Yu San Ong
Environmental Planner
Hydro One Networks Inc.
483 Bay Street, North Tower, 12th Floor
Toronto, ON M5G 2P5

Tel: (416) 345 5031
Fax: (416) 345 6919
Email: yusan.ong@HydroOne.com

If no concerns are expressed, the ESR will be finalized and filed with the Ministry of Environment (MOE). The project will be considered acceptable and will proceed as outlined in the draft ESR. If questions or comments on the project cannot be resolved by Hydro One during the 30-day review period, the concerned stakeholder(s) may make a written request to the MOE to "bump-up" the project to an Individual EA as outlined in the Part II of the *Ontario Environmental Assessment Act*. Written requests must be received by the Minister no later than 4:30 p.m. on Monday, April 13, 2009 at the following address:

Ministry of the Environment
135 St. Clair Avenue West, 12th Floor
Toronto, ON M4V 1P5

Please note that a duplicate copy of the request must also be sent to Hydro One at the address noted above.

This Notice of Completion is issued on March 6, 2009.

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STAKEHOLDER AND COMMUNITY CONSULTATION

1.0 INTRODUCTION

Hydro One identified and consulted with affected property owners and stakeholders who may have an interest in this undertaking. This Schedule describes Hydro One's consultation process, input received and the results to date. Hydro One has completed the Class EA process and intends to continue consultation with property owners along the transmission corridor throughout project implementation. Hydro One has committed to keeping municipal and county officials, as well as staff of relevant provincial government ministries and agencies, informed of the project status. Hydro One also intends to continue communicating with the First Nations and Métis communities that have expressed an interest in the project.

2.0 OBJECTIVES OF THE CONSULTATION PROCESS

The intent of the process is to inform affected property owners, stakeholders, First Nations and Métis communities and the general public about the project, identify any issues, and develop project plans that address those issues, where appropriate. A summary of the issues expressed to date, and how Hydro One intends to address them, is set out in Section 3.0 of this Schedule.

2.1 Consultation with Municipal and County Officials

The initial step in the consultation process, prior to the first Public Information Centre, involved a presentation to the City of Woodstock Council on February 7, 2008. Representatives of Woodstock Hydro also attended this meeting to support the need for the project.

Hydro One provided Council with a description of the proposed undertaking, outlined the project study area, and explained the need for a new transformer station (TS) on the east side of the City and the associated transmission line upgrade to connect the new station to the existing Woodstock TS. Hydro One also reviewed its plans for public consultation and indicated that the project is subject to Class Environmental Assessment (EA) process and Ontario Energy Board (OEB) "Leave to Construct" approval. The Class EA process and the OEB process to review Hydro One's application to construct the proposed facilities include opportunities for public input.

As part of the study area falls within the Township of Norwich, Hydro One also met with the Township's Mayor and Chief Administrative Officer on the afternoon of February 7, 2008 to provide a project briefing. The County of Oxford was also advised of the project through the office of the Chief Administrative Officer.

Woodstock City Council concurred with the need for additional transmission capacity to ensure adequate and reliable supply for local industry and future economic growth. Hydro One's project team invited municipal officials to attend the February 21, 2008 public information centre and made a commitment to keep them informed throughout the project approval and implementation stages.

Hydro One was assisted by the City of Woodstock's Economic Development Department in reviewing potential sites within the defined study area. In January 2009, Hydro One identified its preferred site, owned by the City, for the proposed Commerce Way TS within the Commerce Way business park. Hydro One subsequently proceeded to notify key stakeholders of its preferred site, and plans for a second public information centre on February 5, 2009 to review the preferred site and the associated transmission line with interested parties.

2.2 First Nations Engagement

Hydro One consulted with the Ontario Ministry of Aboriginal Affairs, and Indian and Northern Affairs Canada, and has provided information on this project to the following First Nations: Chippewas of the Thames First Nation; Oneida Nation of the Thames; Munsee-Delaware Nation; Mississaugas of the New Credit First Nation; Chippewas of Kettle and Stoney Point; Walpole Island First Nation; and Six Nations of the Grand River. Hydro One will continue consultation and discussions with First Nations relating to this project and will work to resolve any issues or concerns that may arise.

2.3 Consultation with Government Agencies

Hydro One has informed and sought input on the proposed undertaking from a broad range of government agencies and other stakeholders, including:

- Upper Thames River Conservation Authority
- Grand River Conservation Authority
- Long Point Region Conservation Authority
- Canadian Environmental Assessment Agency
- CN Rail
- Indian and Northern Affairs Canada
- Ministry of Agriculture, Food and Rural Affairs
- Ministry of Culture
- Ministry of Energy
- Ministry of Environment
- Ministry of Education
- Ministry of Municipal Affairs and Housing
- Ministry of Natural Resources

Ministry of Tourism and Recreation
Ministry of Transportation
Ministry of Aboriginal Affairs
Ministry of the Attorney General
Ontario Provincial Police

The Member of Provincial Parliament (MPP) for Oxford was also kept informed of the project and invited to attend the public information centres.

2.4 Consultation with Other Community Stakeholders

Hydro One identified and provided project information to several interest groups in the region, including Woodstock Field Naturalists' Club, Oxford County Federation of Agriculture, Canadian Auto Workers, Stewardship Oxford, Carolinian Canada, and Friends of Pittock.

2.5 Public Information Centres and Notification

Hydro One used various methods to notify the local community and stakeholders about the project and held two public information centres (PICs) as part of the Class EA process. The municipal stakeholders, MPP, and government agencies were also informed about the PICs.

The first PIC was held on February 21, 2008, from 4 p.m. to 8 p.m. at the Quality Hotel & Suites in Woodstock. It gave interested parties an opportunity to review displays and maps of the proposed undertaking, to learn about the project approval and public consultation processes, and to discuss any issues or concerns with Hydro One representatives. Twelve Hydro One staff representing a variety of disciplines including

transmission system planning, local distribution system operations, environmental planning and issues, construction methods and impacts, real estate, regulatory approvals, public consultation and communications were present. In addition, two representatives from SENES Consulting were on hand, along with the President & CEO and Manager of Operations, Woodstock Hydro.

A newspaper advertisement announcing commencement of the Class EA and PIC #1 was placed in the: *Woodstock Sentinel Review* (February 13 and 20, 2008); *Oxford Review* (February 15, 2008); and *Norwich Gazette (*February 13 and 21, 2008). The newspaper advertisement described the proposed undertaking and included a map of the study area for the Woodstock East TS, which is now being referred to as Commerce Way TS. It also provided a Hydro One contact name and information and the link to the project web page on Hydro One's website. A copy of newspaper advertisement for PIC #1 is attached as *Appendix A.*

A second PIC was held on February 5, 2009 from 4 p.m. to 8 p.m. at the Quality Hotel & Suites in Woodstock. The main purpose of PIC #2 was to present and seek input on the preferred site for the Commerce Way TS, and to outline the next steps in the Class EA process and OEB approval process. Eight Hydro One and two SENES Consulting representatives were on hand, as well as the President & CEO and Manager of Operations, Woodstock Hydro.

A newspaper advertisement announcing Hydro One's preferred site for the proposed Commerce Way TS and PIC #2 was placed in the following newspapers: *Woodstock Sentinel Review* (January 29 and February 3, 2009); *Oxford Review* on (January 30, 2009) and *Norwich Gazette (*January 28 and February 4, 2009). A copy of the newspaper ad for PIC #2 is attached as *Appendix B.*

Notification for both PICs consisted of approximately 400 personally-addressed notices to property owners within the study area for the new transformer station, and to property owners within 120 metres of the transmission line that would be upgraded, initially between Woodstock TS and the proposed Commerce Way TS, and at a future date, if required, between Commerce Way TS and Toyota Junction, the "tap" point that supplies the Toyota Woodstock facility. In addition, approximately 4200 copies of the newspaper advertisement were delivered via Canada Post unaddressed AdMail to all owners/occupants of residential, farm and commercial premises within 500 metres of the existing transmission line Hydro One proposes to upgrade. Individuals on the project mailing list were also directly notified of PIC#2.

Visitors to the PICs were asked to sign in at the registration desk and were provided with a copy of the display panels and a comment form and had the opportunity to discuss their issues and concerns with Hydro One staff and consultants. Various handouts were also available including Health Canada information on Electric & Magnetic Fields (EMF) and energy conservation.

To facilitate public access to project information and feedback, a project web page was created on Hydro One's website at www.HydroOneNetworks.com/newprojects. The web page provides an overview of the project, timelines and approvals process, and all relevant documents and communications of interest to the public are posted. The web page will be kept up to date throughout the Class EA process and during project construction.

Attendance and Feedback at the Public Information Centres

Thirty-five individuals attended PIC#1, including a representative from the Ministry of Transportation of Ontario (London), a Planner from the County of Oxford, and a representative of Friends of Pittock. Seventeen individuals submitted comment forms, thirteen of which asked to be placed on the project mailing list. The majority who attended lived in or close to the project study area. A few individuals were from outside the project area, but had participated in public consultation for the Woodstock Area Transmission Reinforcement Project in 2006 – 2007. In general, those who attended said they understood the importance of ensuring a reliable and adequate supply of electricity for the Woodstock area. A few residents whose properties are located within the commercial area on the south side of Parkinson Road expressed their desire that the proposed transformer station be located away from their homes and preferably toward the eastern side of the business park. Some individuals had questions about the potential effects of electric and magnetic fields from electrical facilities, and there were a few questions about potential disruption to traffic along Parkinson Road during construction, or other potential disturbances for area residents.

Thirteen individuals attended PIC#2 including the Mayor and one Councilor from the City of Woodstock, and the Operations Manager for the County of Oxford. The majority attending were residents who live in the vicinity of the proposed facilities. They were mainly interested in what the new towers would look like and some had questions about potential health effects from power lines. A representative of a company located in the Commerce Way business park dropped by to review the maps and find out if there would be any changes to the existing Hydro easement which crosses their property. Another commercial landowner of an undeveloped site in the area commented that Hydro One's preferred site for Commerce Way TS could potentially affect the value of his property and its future development potential. This individual also commented that the station

should be aesthetically pleasing given its proposed location on a corner at one of the entranceways to the business park. Feedback received during the consultation process to-date is summarized in the following section.

Completion of the Class EA Process

In accordance with the Class EA process, Hydro One made its draft Environmental Study Report (ESR) available for a 30-day public review and comment period from March 12 to April 13, 2009. Notice of Completion advertisements were placed in the following local papers: *Oxford Review* (March 6, 2009); *Woodstock Sentinel Review(* March 9, 2009); *Norwich Gazette* (March 11, 2009). A copy of the advertisement is attached in *Appendix C.*

The advertisement informed the public that the draft ESR for the project was available for review at several public locations and that the document could also be viewed or downloaded from Hydro One's project website. It provided information on how interested parties could submit their comments to Hydro One and / or the Ministry of the Environment.

Notice of Completion letters were also sent to the provincial government agencies, conservation authorities, interest groups, municipal planners, and relevant First Nations. In addition, all individuals on Hydro One's project mailing list and all elected officials in the project areas were sent a copy of the Notice of Completion advertisement.

At the conclusion of the public review and comment period, no comments from members of the public had been received, nor were there any requests to elevate the Class EA to an Individual EA. Three comments were received from government agencies and these have been incorporated into the final Environmental Study Report.

3.0 SUMMARY OF KEY ISSUES AND HYDRO ONE RESPONSES

Following is a list of the main issues expressed to date and Hydro One's response or proposed method to address or mitigate the issue.

Issue	Description of Issue	Hydro One Response
Evaluation process for preferred TS site	A few participants had questions about the evaluation process that lead to the identification of the preferred site for Commerce Way TS.	Data gathered from maps, field visits and discussions with the relevant agencies were used as part of the site selection process. Data regarding natural environment, socio-economic environment, and cost and technical were analyzed, and the advantages and disadvantages of the alternative sites were studied in order to rank the sites in order of preference.
Proximity of TS to Hwy 401	A representative from the MTO explained main concerns would relate to transmission lines crossing Hwy 401 , and that MTO would need to review site plan and permits could be required, if the station is to be located in close proximity to the highway.	The proposed location of the new Commerce Way TS is 300m away from Hwy 401, not near the Highway 401 corridor.
Appearance and boundaries of Commerce Way TS	One commercial property owner of an undeveloped site near the preferred site for Commerce Way TS inquired about the proposed appearance of the station. The individual's main concern is that the site be aesthetically pleasing since it will occupy the corner at one of the entranceways to Commerce Way Business Park.	The proposed Commerce Way TS would have a footprint of approximately 150 m x 150 m on a 6-acre parcel of land. The exact property boundaries and location of the station on the site have not yet been determined as Hydro One is still in the process negotiating the purchase of the property. The station equipment would be low-profile, and fenced for safety and security. The site will be landscaped to ensure it's aesthetically compatible with other businesses in the area. Hydro One has already spoken to City officials about this issue and has created a proposed landscape plan that complies

Issue	Description of Issue	Hydro One Response
		with the City of Woodstock's Landscape Design Guideline (December, 1996).
Protection of wetlands	A few residents expressed the importance of protecting the wetland within the study area, and urged Hydro One to select a TS site away from the wetland.	The proposed TS site, on the east side of the Commerce Way Business Park, is located about 1050m away from the Brick Ponds Wetland.
Property values	A few residential landowners who live along the south side of Parkinson Road within a commercially-zoned area expressed concerns regarding the potential effects of the proposed TS on their property values. They expressed their preference that the TS be built as far east as possible within the study area.	Hydro One's criteria for evaluating alternative sites and selecting a preferred site for the new TS included avoiding close proximity to residential areas. The preferred site for Commerce Way TS is about1430m away from the nearest residential property.
	A few of the owners explained that their residential properties had been re-zoned for commercial/ industrial use and inquired if Hydro One would consider purchasing these properties for the proposed transformer station.	Selecting a site in the eastern part of the Commerce Way business park is also preferable to Hydro One and Woodstock Hydro from a technical point of view; as such, Hydro One did not consider it feasible to pursue discussions with these landowners regarding their potential interest in selling their properties.
	One commercial property owner of an undeveloped site near the preferred site for Commerce Way TS was concerned that the new station could have a negative impact on of the value and future development potential of his property.	The location of a transformer station in a commercial/industrial area is a compatible land use. Many of the businesses looking to locate in the area require a reliable supply of electricity, and as such the reinforced electrical system should be viewed as a positive feature for future economic development which is attractive to business and industry considering located in

Issue	Description of Issue	Hydro One Response
		Woodstock.
Tower types and locations	A majority of individuals, when questioned, indicated their preference for steel poles in residential areas instead of lattice towers. The Mayor of Woodstock has also expressed a preference for steel poles, and would like to see them along the entire route from Woodstock TS to Commerce Way TS.	Hydro One's general practice is to propose steel poles in built residential areas, which would include the section of the transmission line between Woodstock TS and Norwich Avenue. In commercially-zoned areas, Hydro One's practice is to install lattice towers. For this project, narrow base lattice structures are being proposed for the section of the transmission line between Norwich Avenue and Commerce Way TS. Installing a steel pole is approximately $50,000 more expensive than a narrow-base lattice structure. Going beyond Hydro One's standard practice and installing steel poles in the commercially-zoned area between Norwich Avenue and Commerce Way TS would result in a significant increase in the overall project cost. This matter has been discussed with representatives of Woodstock Hydro, as the local distribution company would share the cost of the project with Hydro One.
	A few individuals also inquired about where the new towers (structures) would be located and the construction process.	The overall number of transmission structures should not change. The new structures will be in the same location as the existing structures, and construction activities related to the upgrading of the existing transmission line would occur mainly within the existing right-of-way. Hydro One will be consulting with the County Roads Supervisor regarding minor

Issue	Description of Issue	Hydro One Response
		adjustments to the location of one tower on the south side of Parkinson Road to maximize clearance for turning traffic.
Long-term plans for Woodstock TS	A question was raised about the possibility of decommissioning Woodstock TS once the new Commerce Way TS is in service.	The Woodstock TS will not be decommissioned after Commerce Way TS and Karn TS (to be constructed in the Township of South-West Oxford) are in service. Woodstock TS cannot be expanded due to its location within Southside Park; however, it will continue to be an integral part of the electrical infrastructure that supplies the Woodstock area.
Construction impacts	A few individuals inquired about construction impacts, and in particular potential disruption to traffic along Parkinson Road.	Hydro One will consult with affected property owners prior to the start of construction to identify underground infrastructure and to discuss the location of any construction access points that may be required along the right-of-way. Prior notification will be given for any pre-construction work, such as soil testing, and Hydro One will inform affected owners and municipal and county officials of its construction schedule. Hydro One will make best efforts to minimize impacts of its construction activities on area residents and businesses and will restore the right-of-way to pre-construction condition when the project is complete. Any required interruption to traffic along Parkinson Road will be temporary and will be coordinated with local road supervisors. Appropriate traffic control measures will be put into place as appropriate to ensure the safety of motorists and construction crews.

Issue	Description of Issue	Hydro One Response
		Standard best practices will be followed to ensure typical construction disturbances, such as dust and noise are controlled.
Stability of transmission structures	A resident in the study area inquired about the stability of the transmission poles and towers and their potential to fall on adjacent lands.	Hydro One's transmission structures are designed to withstand severe wind and a weather conditions. If a tower were to fall – an extremely rare occurrence – the towers are designed to fall within the transmission corridor, and do so because of the tension on the wires attached to the towers. If a tower were to be hit or the wires knocked down, automated protection systems will instantly shut electricity on that circuit to protect public safety.
Electric and Magnetic Fields (EMFs)	A few individuals asked about potential health effects of the transmission line (e.g. exposure to EMFs).	While the existing 115 kV transmission line between Woodstock TS and Commerce Way TS will be upgraded to handle a future capacity of 230 kV, it will continue for the foreseeable future to be operated at 115 kV. As such, Hydro One does not expect a significant change in the EMF levels associated with the upgraded transmission line. For more than 30 years, research studies have examined the possibility that exposure to EMFs might affect health. While national and international health agencies, including Health Canada and the World Health Organization, have concluded that the scientific research does not demonstrate that EMFs cause or contribute to adverse health effect, some questions remain the subject of on-going research. Hydro One recognizes that some people have concerns about EMFs and we take seriously our responsibility to understand,

Issue	Description of Issue	Hydro One Response
		appropriately address and communicate information on this subject. Hydro One defers to Health Canada's position on EMFs. The federal agency responsible for regulating and advising on health issues has stated that: "there is no compelling scientific evidence that EMFs in living and school environments, regardless of locations from power transmission lines, cause ill health such as cancer. This position is consistent with the overall opinion from most national and international scientific bodies." A copy of a Health Canada's Fact Sheet *Electric and Magnetic Fields at extremely low frequencies* was provided at the PICs, and it contains links to Health Canada's website (www.hc-sc.gc.ca) and other useful publications. Information about EMF and links to other organizations is also available at www.HydroOneNetworks.com, under the Environment Section.
Proposed in-service date	One individual representing a company located in the area was concerned that the new transmission facilities will not be in service quickly enough for manufacturing plants and other just-in-time suppliers who need a reliable supply of power.	The proposed transmission facilities are scheduled to be in-service by late 2011. This facility cannot be connected until the facilities located between Ingersoll TS and Woodstock TS, including Karn TS, are in-service.
Status of other Woodstock Area Transmission Infrastructure Projects	Some individuals asked about other projects in the area, such as the Woodstock Area Transmission Reinforcement Project which was approved by the Ontario Energy Board in October 2007.	Hydro One has responded to strong economic growth in the Woodstock area with three transmission projects representing a total investment of $134 million, the first of which was the transmission connection of the new Toyota Woodstock Manufacturing Plant. Hydro One has also begun construction on the Woodstock Area Transmission

Issue	Description of Issue	Hydro One Response
		Reinforcement Project between Ingersoll TS and Woodstock TS. More information on this project is available at www.hydroonenetworks.com/newprojects

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LAND MATTERS

1.0 DESCRIPTION OF LAND REQUIRED

The Commerce Way project's proposed transmission facilities will include a new double circuit 230 kV overhead transmission line located within the existing double circuit 115 kV transmission line corridor. The existing corridor running from the Woodstock TS easterly to the proposed Commerce Way TS site, a distance of approximately 4 kilometers, is a combination of:

- provincially owned property segments held under title to the Ministry of Public Infra Structure and Renewal, and managed by the Ontario Realty Corporation;
- Municipal properties managed by The City of Woodstock, Parks and Recreation, and the Economic & Development Committee
- easement rights on private properties; and
- Municipal road corridors.

A site for the new Commerce Way TS will be acquired in fee within the Commerce Way Business Park a location supported by the City of Woodstock, Economic & Development Committee. The TS site is estimated to require approximately 7.41 acres (2.99 ha.) inclusive of the existing transmission line strip.

The proposed transmission line facilities will be partially accommodated by land rights Hydro One has presently secured along the existing corridor. These rights consist of an Occupation Agreement with the City of Woodstock Parks and Recreation Department, easement rights Hydro One enjoys on all of the provincially-owned corridor lands, as well as its existing permanent easements rights on private property. Additional permanent easement rights will be required to widen a limited number of sections along the existing

66 feet wide corridor to allow for additional clearances where new larger angle Dead-end towers will replace the existing angle towers. The extent of the need for new permanent easements is presently being reviewed, and will be confirmed upon completion of the legal and engineering survey of the existing corridor.

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2.0 DESCRIPTION OF LAND RIGHTS

The existing transmission line corridor crosses approximately 45 privately-owned properties and one municipal park property managed by City of Woodstock Parks & Recreation. The corridor crosses a total of 12 city streets that provide access to residential neighborhoods, numerous Commercial and Industrial sites and the City of Woodstock Commerce Way Business Park. The transmission corridor parallels a main artery where a combination of residential, commercial and industrial properties front and any impacts post-construction should be minimal.

Hydro One has certain existing permanent easement rights along the length of the existing corridor that allow for the present occupation, construction and use of the lands for the project, but additional permanent easements will also be required, as described in Section 1.0 of this Schedule. The land rights for the new Commerce Way TS will be acquired in ownership.

The project costs discussed in Exhibit B, Tab 4, and Schedule 2 includes Hydro One's best estimate of the land requirements as described in Section 1.0 of this Exhibit**.**

3.0 LAND ACQUISITION PROCESS

Hydro One will be using its existing land rights along the corridor from existing Woodstock TS to the proposed Commerce Way TS. In all cases where new land rights

are required, Hydro One will attempt to secure the rights through negotiated agreements with affected landowners. Where a negotiated agreement is not possible within a reasonable time frame, Hydro One will seek approval to expropriate the required land rights in accordance with the requirements of Section 99 of the *OEB Act*, immediately after a Board approval is received. Copies of the land agreements that will be used to acquire the land rights associated with the line facilities are included at the end of this schedule (see Attachment 1).

Landowners will be informed of this project as part of the stakeholdering and community consultation process described in Exhibit B, Tab 6, Schedule 5. Landowners will also be notified of the routing of the proposed facilities as part of the Board's Section 92 notice requirements and as part of the EA approval process.

ATTACHMENT 1

LEGAL AGREEMENTS/FORMS

Appendix A	Easement Agreement
Appendix B	Offer to Grant and Easement
Appendix C	Damage Claim Form
Appendix D	Damage Release Form

EASEMENT AGREEMENT

Schedule "A"

The Transferor is the owner in fee simple and in possession of xxxxxxxxx

(the **"Lands"**)

Hydro One Networks Inc. (the "Transferee") has erected, or is about to erect, certain Works [as more particularly described in paragraph 1(a)] in, through, under, over, across, along and upon the Lands.

1. The Transferor hereby grants and conveys to the Transferee, its successors and assigns the rights and easement, free from all encumbrances and restrictions, the following unobstructed and exclusive rights, easements, rights-of-way, covenants, agreements and privileges in perpetuity (the **"Rights")** in, through, under, over across, along and upon that portion of the Lands of the Transferor described herein as xxxxxxxxxxxxx described as Part xxxxxx of Reference Plan xxxxxxxxxx hereto annexed (the **"Strip"**) for the following purposes:

   (a) To enter and lay down, install, construct, erect, maintain, open, inspect, add to, enlarge, alter, repair and keep in good condition, move, remove, replace, reinstall, reconstruct, relocate, supplement and operate and maintain at all times in, through, under, over, across, along and upon the Strip and electrical transmission system and telecommunications system consisting in both instances of pole structures, steel towers, anchors, guys and braces and all such aboveground or underground lines, wires, cables, telecommunications cables, grounding electrodes, conductors, apparatus, works, accessories, associated material and equipment, and appurtenances pertaining to or required by either such system (all or any of which are herein individually or collectively called the **("Works")** as in the opinion of the Transferee are necessary or convenient thereto for use as required by Transferee in its undertaking from time to time, or a related business venture.

   (b) To enter on and selectively cut or prune, and to clear and keep clear, and remove all trees (subject to compensation to owners for merchantable wood values), branches, bush and shrubs and other obstructions and materials, over or upon the Strip, and without

limitation, to cut and remove all leaning or decayed trees located on the Lands whose proximity to the Works renders them liable to fall and come in contact with the Works or which may in any way interfere with the safe, efficient or serviceable operation of the Works or this easement by the Transferee.

(c) To conduct all engineering, legal surveys, and make soil tests, soil compaction and environmental studies and audits in, under, on and over the Strip as the Transferee in its discretion considers requisite.

(d) To erect, install, construct, maintain, repair and keep in good condition, move, remove, replace and use bridges and such gates in all fences which are now or may hereafter be on the Strip as the Transferee may from time to time consider necessary.

(e) Except for fences and permitted paragraph 2(a) installations, to clear the Strip and keep it clear of all buildings, structures, erections, installations, or other obstructions of any nature (hereinafter collectively called the **"obstruction"**) whether above or below ground, including removal of any materials and equipment or plants and natural growth, which in the opinion of the Transferee, endanger its Works or any person or property or which may be likely to become a hazard to any Works of the Transferee or to any person or property or which do or may in any way interfere with the safe, efficient or serviceable operation of the Works or this easement by the Transferee.

(f) To enter on and exit by the Transferor's access routes and to pass and repass at all times in, over, along, upon and across the Strip and so much of the Lands as is reasonably required, for Transferee, its respective officers, employees, agents, servants, contractors, subcontractors, workmen and permitees with or without all plant machinery, material, supplies, vehicles and equipment for all purposes necessary or convenient to the exercise and enjoyment of this easement subject to compensation afterwards for any crop or other physical damage only to the Lands or permitted structures sustained by the Transferor caused by the exercise of this right of entry and passageway.

(g) To remove, relocate and reconstruct the line on or under the Strip subject to payment by the Transferee of additional compensation for any damage caused thereby.

2. The Transferor agrees that:

(a) It will not interfere with any Works established on or in the Strip and shall not, without the Transferee's consent in writing, erect or cause to be erected or permit in, under or upon the Strip any obstruction or plant or permit any trees, bush, shrubs, plants or natural growth which does or may interfere with the Rights granted herein. The Transferor

agrees it shall not, without the Transferee's consent in writing, change or permit the existing configuration, grade or elevation of the Strip to be changed, and the Transferor further agrees that no excavation or opening or work which may disturb or interfere with the existing surface of the Strip shall be done or made unless consent therefor in writing has been obtained from Transferee, provided however, that the Transferor shall not be required to obtain such permission in case of emergency. Notwithstanding the foregoing, in cases where in the reasonable discretion of the Transferee, there is no danger or likelihood of danger to the Works of the Transferee or to any persons or property and the safe or serviceable operation of this easement by the Transferee is not interfered with, the Transferor may at its expense and with the prior written approval of the Transferee, construct and maintain roads, lanes walks, drains, sewers water pipes, oil and gas pipelines, fences (not to exceed 2 metres in height) and service cables on or under the Strip (the **"Installation"**) or any portion thereof; provided that prior to commencing such Installation, the Transferor shall give to the Transferee thirty (30) days' notice in writing thereof to enable the Transferee to have a representative present to inspect the proposed Installation during the performance of such work, and provided further that Transferor comply with all instructions given by such representative and that all such work shall be done to the reasonable satisfaction of such representative. In the event of any unauthorized interference aforesaid or contravention of this paragraph, or if any authorized interference, obstruction or Installation is not maintained in accordance with the Transferee's instructions or in the Transferee's reasonable opinion, may subsequently interfere with the Rights granted herein, the Transferee may at the Transferor's expense, forthwith remove, relocate, clear or correct the offending interference, obstruction, Installation or contravention complained of from the Strip, without being liable for any damages cause thereby.

(b) Notwithstanding any rule of law or equity, the Works installed by the Transferee shall at all times remain the property of the Transferee, notwithstanding that such Works are or may become annexed or affixed to the Strip, and shall at anytime and from time to time be removable in whole or in part by Transferee.

(c) No other easement or permission will be transferred or granted and no encumbrances will be created over or in respect to the Strip, prior to the registration of a Transfer of this grant of Rights.

(d) The Transferor will execute such further assurances of the Rights in respect of this grant of easement as may be requisite.

(e) The Rights hereby granted:

(i) shall be of the same force and effect to all intents and purposes as a covenant running with the Strip; and

(ii) are declared hereby to be appurtenant to and for the benefit of the Works and undertaking of the Transferee described in paragraph 1(a).

3. The Transferee covenants and agrees to obtain at its sole cost and expense all necessary postponements and subordinations (in registrable form) from all current and future prior encumbrancers, postponing their respective rights, title and interest to the transfer of easement herein so as to place such Rights and easement in first priority on title to the Lands.

4. There are no representations, covenants agreements, warranties and conditions in any way relating to the subject matter of this grant of Rights whether expressed or implied, collateral or otherwise except those set forth herein.

5. No waiver of a breach or any of the covenants of this grant of Rights shall be construed to be a waiver of any succeeding breach of the same or any other covenant.

6. The burden and benefit of this transfer of Rights shall run with the Strip, and the Works and undertaking of the Transferee and shall extend to, be binding upon and enure to the benefit of the parties hereto and their respective heirs, executors, administrators, successors and assigns.

OFFER TO GRANT AN EASEMENT TO
HYDRO ONE NETWORKS INC.

I/We, **[**Insert Transferor's Name(s)] **(**the **"Transferor(s)"**), being the owner/owners of [Insert Complete Legal Description] (herein called the "**Lands**") in consideration of payment of the sum of five **($5.00) DOLLARS** (the **"Offer Consideration")**, and other good and valuable consideration (the sufficiency of which consideration is hereby acknowledged), hereby covenants and agrees as follows:

1(a) THE Transferor hereby grants to Hydro One Networks Inc. its successors and assigns (the **"Transferee"**) the exclusive right, irrevocable during the periods of time below specified in paragraph 2, (the **"Offer"**) to purchase free from all encumbrances upon the terms and conditions hereinafter set out the perpetual rights, easements and privileges set out in the Transfer and Grant of Easement document (the **"Transfer of Easement"**) annexed hereto as Schedule "A" (the **"Rights"**) in, through, under, over, across, along and upon that portion of the above Lands as shown highlighted in red on Schedule "B" hereto annexed (the **"Strip"**).

1(b) THE purchase price for the Rights shall be the sum of [Insert amount] **($ 00.00)** (Dollars) (the "**Purchase Price**") of lawful money of Canada to be paid by cash or uncertified cheque to the Transferor on Closing.

2. THIS Offer may be accepted by Transferee any time within 60 days from the date of this Agreement by a letter delivered or facsimile transmission or mailed postage prepaid and registered, to the Transferor at the address set out in paragraph 12. If this Offer is not accepted within this time frame, this Agreement and everything herein contained shall be null, void and of no further force and effect. If this offer is accepted by the Transferee in the manner aforesaid, this Agreement and the letter accepting such Offer shall then become a binding contract between the parties, and the same shall be completed upon the terms herein provided for.

3. THE Transfer of Easement arising from the acceptance of this Offer shall be executed and delivered to the Transferee on or before the One Hundred and Twentieth (120th) day after the date of Transferee's acceptance of this Offer (the **"Closing"**) subject to the availability of a satisfactory survey, if required, and time shall in all respects be of the essence hereof. If no satisfactory survey is then available, the date for Closing shall be extended in Transferee's sole discretion to a date not exceeding sixty (60) days from the said One Hundred and Twentieth (120th) day and this purchase transaction shall then be completed on such extended date for Closing.

4. IF the Transferee accepts the Offer herein: a) the Transferee shall not grant or transfer an easement or permission, or create any encumbrance over or in respect of the Strip prior to registration of the Transfer of Easement, and b) the Transferee has permission to approach prior encumbrancers to obtain all necessary consents, postponements or subordinations (in registrable form) from all current and future prior encumbrancers, consenting to this Transfer of Easement, and/or postponing their respective rights, title and interest so as to place such Rights and Transfer of Easement in first priority on title to the Strip.

5. TITLE to the Strip shall at Closing be good and free from all registered restrictions, charges, liens, easements and encumbrances of any kind whatsoever except for those title matters disclosed in Schedule "C".

6. THE Transfer of Easement and all ancillary documents necessary to register same on title shall be prepared by and at the expense of the Transferee and shall be substantially in the form as the annexed Schedule "A". The Transferor hereby covenants and agrees that the Transferee may, at its option, register this Agreement or Notice thereof, and the Transfer of Easement on title to the Lands, and the Transferor hereby covenants and agrees to execute, at no further cost or condition to the Transferee, such other instruments, plans and documents as may reasonably be required by the Transferee to effect registration of this Agreement or Notice thereof prior to Closing and the Transfer of Easement at any time thereafter.

7. THE Transferor covenants and agrees with Transferee that it has the right to convey the Rights without restriction and that Transferee will quietly possess and enjoy the Rights and that Transferor will execute upon request such further assurances of the Rights as may be requisite to give effect to the provisions of this Agreement.

8. AS of the date of the Transferee's acceptance of the Offer, the Transferor grants to the Transferee, in consideration of the Offer Consideration, free from all encumbrances and restrictions the following rights, easements, rights of way, covenants, agreements and privileges in, through, under, over, across, along and upon the Strip:

   (a) to erect, maintain, operate, repair, replace, relocate, upgrade, reconstruct, and remove at any time and from time to time, an electrical transmission line or lines and communication line or lines consisting of all necessary pole structures and steel towers, poles and anchors with all guys, braces, wires, cables and associated material and equipment (all or any of which works are herein called "the line");

   (b) to erect, maintain and use such gates in all fences which are now or may hereafter be on the Strip as the Transferee may from time to time consider necessary;

   (c) to mark the location of the line under the Strip by suitable markers, but said markers when set in the ground shall be placed in fences or other locations which will not interfere with any reasonable use the Transferor shall make of the Strip;

   (d)

      (i) to cut selectively trees and shrubs on the Strip and to keep it clear of all trees, shrubs and brush which may interfere with the safe operation and maintenance of the line;

      (ii) subject to payment of additional compensation therefore, to cut prune, and remove if necessary trees located outside the Strip whose condition renders them liable to interfere with the safe operation and maintenance of the line;

   (e) To conduct engineering and legal surveys in, on and over the Strip;

(f) To clear the Strip and keep it clear of all buildings, structures and other obstructions of any nature whatever including removal of any materials which in the opinion of the Transferee are hazardous to the line. Notwithstanding the foregoing, in all cases where in the sole discretion of the Transferee the safe operation and maintenance of the line is not endangered or interfered with, the Transferor from time to time or the person or persons entitled thereto, may with prior written approval of Transferee, at his or her own expense construct and maintain roads, lanes, walks, drains, sewers, water pipes, oil and gas pipelines, and fences (not to exceed 2 metres in height) on or under the Strip or any portion thereof, provided that prior to commencing any such installation, the Transferor shall give the Transferee 30 days notice in writing so as to enable Transferee to have a representative inspect the site and be present during the performance of the work and that the Transferor complies with any instructions which may be given by such representative in order that such work may be carried out in such a manner as not to endanger, damage or interfere with the line.

(g) To enter on, and exit from, and to pass and repass at any and all times in, over, along, upon, across, through and under the Strip and so much of the Lands as may be reasonably necessary, at all reasonable times, for the Transferee and its respective officers, employees, workers, permittees, servants, agents, contractors and subcontractors, with or without vehicles, supplies, machinery, plant, material and equipment for all purposes necessary or convenient to the exercise and enjoyment of the said rights and easement subject to payment by the Transferee of compensation for any crop or other physical damage only to the Land caused by the exercise of this right of entry and passageway; and

(h) To remove, relocate and reconstruct the line on or under the Strip, subject to payment by the Transferee of additional compensation for any damage caused thereby.

9. THE Transferor consents to the Transferee, its respective officers, employees, agents, contractors, sub-contractors, workers and permittees or any of them entering on, exiting and passing and repassing in, on, over, along, upon, across, through and under the Strip and so much of the Lands as may be reasonably necessary, at all reasonable times after the date of this Agreement until such time as this Offer is accepted and the purchase is completed with or without all plant, machinery, material, supplies, vehicles, and equipment, for all purposes necessary or convenient to the exercise and enjoyment of the Rights, subject to compensation afterwards for any crop or other physical damage only to the Lands or permitted structures sustained by the Transferor caused by the exercise of this right of entry and passageway.

10. THIS Agreement and Transfer and Grant of Easement Rights shall both be subject to the condition that the provisions of The Planning Act, R.S.O. 1990, c. P. 18, as amended, have, in the opinion of Transferee, been satisfactorily complied with. If after consultation with Provincial Agencies and Municipalities, the Transferee decides that the provisions of the Planning Act, R.S.O. 1990, c.P.18, and amendments thereto, have not been or cannot be complied with, it may, at its option, cancel this Agreement.

11. ANY documents or money payable hereunder may be tendered upon the parties hereto or their respective solicitors and money may be tendered by negotiable uncertified cheque or cash.

12. ANY acceptance of this Offer, demand, notice or other communication to be given in connection with this Agreement shall be given in writing and shall be given by personal delivery, by registered mail postage prepaid, or by facsimile transmission, addressed to the recipient as follows:

To: Transferee	To: Transferor
Hydro One Networks Inc. 185 Clegg Road, Markham, Ontario L6G 1B7	
Facsimile No:	Facsimile No.
Phone:	Phone:
Attention:	Attention:

or to such other address, facsimile number or individual as may be designated by notice given by either party to the other. Any acceptance of this offer, demand, notice or other communication shall be conclusively deemed to have been given when actually received by the addressee or upon the second day after the day of mailing.

13. THE Transferor represents that he is not now and at the time of Closing shall not be a spouse within the meaning of the Family Law Act, R.S.O. 1990, c. F. 3, as amended, failing which, the Transferor shall cause this Agreement and all related documents to be accepted and consented to in writing by the spouse of the Transferor to the satisfaction of the Transferee and at no further cost or condition.

14. IN the event of and upon acceptance of this Offer by the Transferee in manner aforesaid this Agreement and the letter accepting such Offer shall then become a binding contract of sale and purchase between the parties, and the same shall be completed upon the terms herein provided for.

15. The Transferee will covenant and agree with the Transferor to indemnify and save harmless the Transferor, his tenants, or other lawful occupiers of the Strip for any loss, damage and injury caused by the acceptance of the Offer and the granting and transfer of Rights or anything done pursuant thereto or arising from any accident (not excluding any Act of God) that would not have happened but for the presence of its line on the Strip, provided, however, that the Transferee shall not be liable to the extent to which such loss, damage, or injury is caused or contributed to by the neglect or default of the Transferor, his tenants guests, invitees or other lawful occupiers of the Strip or their servants, agents, or workmen.

16. THE Transferor covenants and agrees that if and before the Transferor sells, transfers, assigns, disposes (or otherwise parts with possession) of all or part of the Lands to a third party (the “Third Party”) the Transferor shall use best efforts to ensure that the third party assumes the burden and benefit of this Agreement, and agrees to be bound by it. Accordingly the Transferor covenants and agrees to use best efforts to obtain from the Third Party a written acknowledgement and agreement that the Third Party is aware of this Agreement and will continue to be bound by the terms, conditions and stipulations of this Agreement.

17. ALL covenants herein contained shall be construed to be several as well as joint, and wherever the singular and the masculine are used in this Agreement, the same shall be construed as meaning the plural or the feminine or neuter, where the context or the identity of the Transferor/Transferee so requires.

18. THE burden and benefit of this Agreement shall run with the Strip and the works and undertaking of the Transferee and shall be binding upon and enure to the benefit of the parties hereto and their respective heirs, executors, administrators, successors and assigns.

IN WITNESS WHEREOF the Transferor has hereunto set their hands and seals to this Agreement, this _____ day of _____, 2006

SIGNED
In the presence of)
)
)
)
)
)
)
)
)
)
)

_____
Transferor's Name

_____
Transferor's Name

SIGNED,
In the presence of)
)
)
)
)
)

Consent Signature & Release of
Transferor's Spouse, if non-owner.

_____

SCHEDULE "A"

(7) INTEREST / ESTATE TRANSFERRED

The Transferor is the owner in fee simple and in possession of _____(**"Lands"**).

The Transferee has erected, or is about to erect, certain Works (as more particularly described in paragraph 1(a) hereof) in, through, under, over, across, along and upon the Lands.

1 The Transferor hereby grants and conveys to Hydro One Networks Inc, its successors and assigns the rights and easement, free from all encumbrances and restrictions, the following unobstructed and exclusive rights, easements, covenants, agreements and privileges in perpetuity (the **"Rights"**) in, through, under, over, across, along and upon that portion of the Lands of the Transferor described herein and shown highlighted on Schedule "B" hereto annexed (the **"Strip"**) for the following purposes:

(a) To enter and lay down, install, construct, erect, maintain, open, inspect, add to, enlarge, alter, repair and keep in good condition, move, remove, replace, reinstall, reconstruct, relocate, supplement and operate and maintain at all times in, through, under, over, across, along and upon the Strip an electrical transmission system and telecommunications system consisting in both instances of a pole structures, steel towers, anchors, guys and braces and all such aboveground or underground lines, wires, cables, telecommunications cables, grounding electrodes, conductors, apparatus, works, accessories, associated material and equipment, and appurtenances pertaining to or required by either such system (all or any of which are herein individually or collectively called the **"Works"**) as in the opinion of the Transferee are necessary or convenient thereto for use as required by Transferee in its undertaking from time to time, or a related business venture.

(b) To enter on and selectively cut or prune, and to clear and keep clear, and remove all trees (subject to compensation for merchantable wood values), branches, bush and shrubs and other obstructions and materials in, over or upon the Strip, and without limitation, to cut and remove all leaning or decayed trees located on the Lands whose proximity to the Works renders them liable to fall and come in contact with the Works or which may in any way interfere with the safe, efficient or serviceable operation of the Works or this easement by the Transferee.

(c) To conduct all engineering, legal surveys, and make soil tests, soil compaction and environmental studies and audits in, under, on and over the Strip as the Transferee in its discretion considers requisite.

(d) To erect, install, construct, maintain, repair and keep in good condition, move, remove, replace and use bridges and such gates in all fences which are now or may hereafter be on the Strip as the Transferee may from time to time consider necessary.

(e) Except for fences and permitted paragraph 2(a) installations, to clear the Strip and keep it clear of all buildings, structures, erections, installations, or other obstructions of any nature (hereinafter collectively called the **"obstruction"**) whether above or below ground, including removal of any materials and equipment or plants and natural growth, which in the opinion of the Transferee, endanger its Works or any person or property or which may be likely to become a hazard to any Works of the Transferee or to any persons or property or which do or may in any way interfere with the safe, efficient or serviceable operation of the Works or this easement by the Transferee.

(f) To enter on and exit by the Transferor's access routes and to pass and repass at all times in, over, along, upon and across the Strip and so much of the Lands as is reasonably required, for Transferee, its employees, agents, contractors, subcontractors, workmen and permittees with or without all plant machinery, material, supplies, vehicles and equipment for all purposes necessary or convenient to the exercise and enjoyment of this easement, subject to compensation afterwards for any crop or other physical damage only to the Lands or permitted structures sustained by the Transferor caused by the exercise of this right of entry and passageway.

2. The Transferor agrees that:

(a) It will not interfere with any Works established on or in the Strip and shall not, without the Transferee's consent in writing, erect or cause to be erected or permit in, under or upon the Strip any obstruction or plant or permit any trees, bush, shrubs, plants or natural growth which does or may interfere with the Rights granted herein. The Transferor agrees it shall not, without the Transferee's consent in writing, change or permit the existing configuration, grade or elevation of the Strip to be changed and the Transferor further agrees that no excavation or opening or work which may disturb or interfere with the existing surface of the Strip shall be done or made unless consent therefore in writing has been obtained from Transferee, provided however, that the Transferor shall not be required to obtain such permission in case of emergency. Notwithstanding the foregoing, in cases where in the reasonable discretion of the Transferee, there is no danger or likelihood of danger to Works of the Transferee or to any persons or property and the safe or serviceable operation of this easement by the Transferee is not interfered with, the Transferor may at its expense and with the prior written approval of the Transferee, construct and maintain roads, lanes, walks, drains, sewers, water pipes, oil and gas pipelines and service cables on or under the Strip (the **"Installation"**) or any portion thereof; provided that prior to commencing such Installation, the Transferor shall give to the Transferee a minimum of ten days notice in writing thereof to enable the Transferee to have a representative present to inspect the proposed Installation during the performance of such work, and provided further that Transferor comply with all instructions given by such representative and that all such work shall be done to the reasonable satisfaction of such representative. In the event of any unauthorised interference aforesaid or contravention of this paragraph, or if any authorised interference, obstruction or Installation is not maintained in accordance with the Transferee's instructions or in the Transferee's reasonable opinion, may subsequently interfere with the Rights granted herein, the Transferee may at the Transferor's expense, forthwith remove, relocate, clear or correct the offending

interference, obstruction, Installation or contravention complained of from the Strip, without being liable for any damages caused thereby.

(b) notwithstanding any rule of law or equity, the Works installed by the Transferee shall at all times remain the property of the Transferee, notwithstanding that such Works are or may become annexed or affixed to the Strip and shall at anytime and from time to time be removable in whole or in part by Transferee.

(c) No other easement or permission will be transferred or granted and no encumbrances will be created over or in respect to the Strip, prior to the registration of a Transfer of this grant of Rights.

(d) the Transferor will execute such further assurances of the Rights in respect of this grant of easement as may be requisite.

(e) the Rights hereby granted:

(i) shall be of the same force and effect to all intents and purposes as a covenant running with the Strip.

(ii) is declared hereby to be appurtenant to and for the benefit of the Works and undertaking of the Transferee described in paragraph 1(a).

3. The Transferee covenants and agrees to obtain at its sole cost and expense all necessary postponements and subordinations (in registrable form) from all current and future prior encumbrancers, postponing their respective rights, title and interests to the Transfer of Easement herein so as to place such Rights and easement in first priority on title to the Lands.

4. There are no representations, covenants, agreements, warranties and conditions in any way relating to the subject matter of this grant of Rights whether expressed or implied collateral or otherwise except those set forth herein.

5. No waiver of a breach or any of the covenants of this grant of Rights shall be construed to be a waiver of any succeeding breach of the same or any other covenant.

6. The burden and benefit of this transfer of Rights shall run with the Strip and the Works and undertaking of the Transferee and shall extend to, be binding upon and enure to the benefit of the parties hereto and their respective heirs, executors, administrators, successors and assigns.

CHARGEES

THE CHARGEE of land described in a Charge/Mortgage of Land dated _____

Between _____ and _____

and registered as Instrument Number _____ on _____ does

hereby consent to this Easement and releases and discharges the rights and easement herein from the said

Charge/Mortgage of Land.

Name	Signature(s)	Date of Signatures Y M D
	Per:	
	_____	
	_____	

I/We have authority to bind the Corporation

Schedule “B”

Schedule “C”

APPENDIX C

THIS MEMORANDUM OF AGREEMENT dated the day of 2007

Between: herein called the "Claimant"

- and-

Hydro One Networks Inc.

Witnesseth:

The Claimant agrees to accept ……

($) in full payment and satisfaction of all claims or demands for damages of whatsoever kind, nature or extent which may have been done to date by Hydro during the construction, completion, operation or maintenance of the works of Hydro constructed on Lot(s) …….. , Concession(s) ……...or according to Registered Plan No. ……in the …… of ……of which property the Claimant is the ……and which damages may be approximately summarized and itemized as :

Subject to Approval by Hydro One Networks Inc.

Witness

_____
Signature

_____
Signature

_____
Address

W.O. _____

Damage Release Form

FULL AND FINAL RELEASE

IN CONSIDERATION of the payment or of the promise of payment to the undersigned of the aggregate sum of [Insert settlement amount]($), the receipt and sufficiency of which is hereby acknowledged, I/We, the undersigned, on behalf of myself/ourselves, my/our heirs, executors, administrators, successors and assigns (hereinafter the "Releasors"), hereby release and forever discharge HYDRO ONE NETWORKS INC., its officers, directors, employees, servants and agents and its parent, affiliates, subsidiaries, successors and assigns (hereinafter the "Releasees") from any and all actions, causes of action, claims and demands of every kind including damages, costs, interest and loss or injury of every nature and kind, howsoever arising, which the Releasors now have, may have had or may hereafter have arising from or in any way related to the destruction and/or removal of
[Insert description of the damage caused] on the Releasors' property situated at [Insert legal description], Ontario in or about the [Insert timeline when damage occurred], and specifically including all damages, loss and injury not now known or anticipated but which may arise or develop in the future, including all of the effects and consequences thereof.

AND FOR THE SAID CONSIDERATION, the Releasors further agree not to make any claim or take any proceedings against any other person or corporation who might claim contribution or indemnity under the provisions of the *Negligence Act* and the amendments thereto from the persons or corporations discharged by this release.

AND FOR THE SAID CONSIDERATION, the Releasors further agree not to disclose, publish or communicate by any means, directly or indirectly, the terms, conditions and details of this settlement to or with any persons other than immediate family and legal counsel.

AND THE RELEASORS hereby confirm and acknowledge that the Releasors have sought or declined to seek independent legal advice before signing this Release, that the terms of this

Release are fully understood, and that the said amounts and benefits are being accepted voluntarily, and not under duress, and in full and final compromise, adjustment and settlement of all claims against the Releasees.

IT IS UNDERSTOOD AND AGREED that the said payment or promise of payment is deemed to be no admission whatsoever of liability on the part of the Releasees.

AND IT IS UNDERSTOOD AND AGREED that this Release may be executed in separate counterparts (and may be transmitted by facsimile) each of which shall be deemed to be an original and that such counterparts shall together constitute one and the same instrument, notwithstanding the date of actual execution.

IN WITNESS WHEREOF, the Releasors have hereunto set their respective hands this ..... day of ....., 200 .

SIGNED, SEAL AND DELIVERED)
in the presence of)
)
)
)
_____) _____
Witness)
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)
_____)
Address

SIGNED, SEAL AND DELIVERED)
in the presence of)
)
)
)
_____) _____
Witness)
)
)
_____)
Address

ONTARIO RELIABILITY OUTLOOK

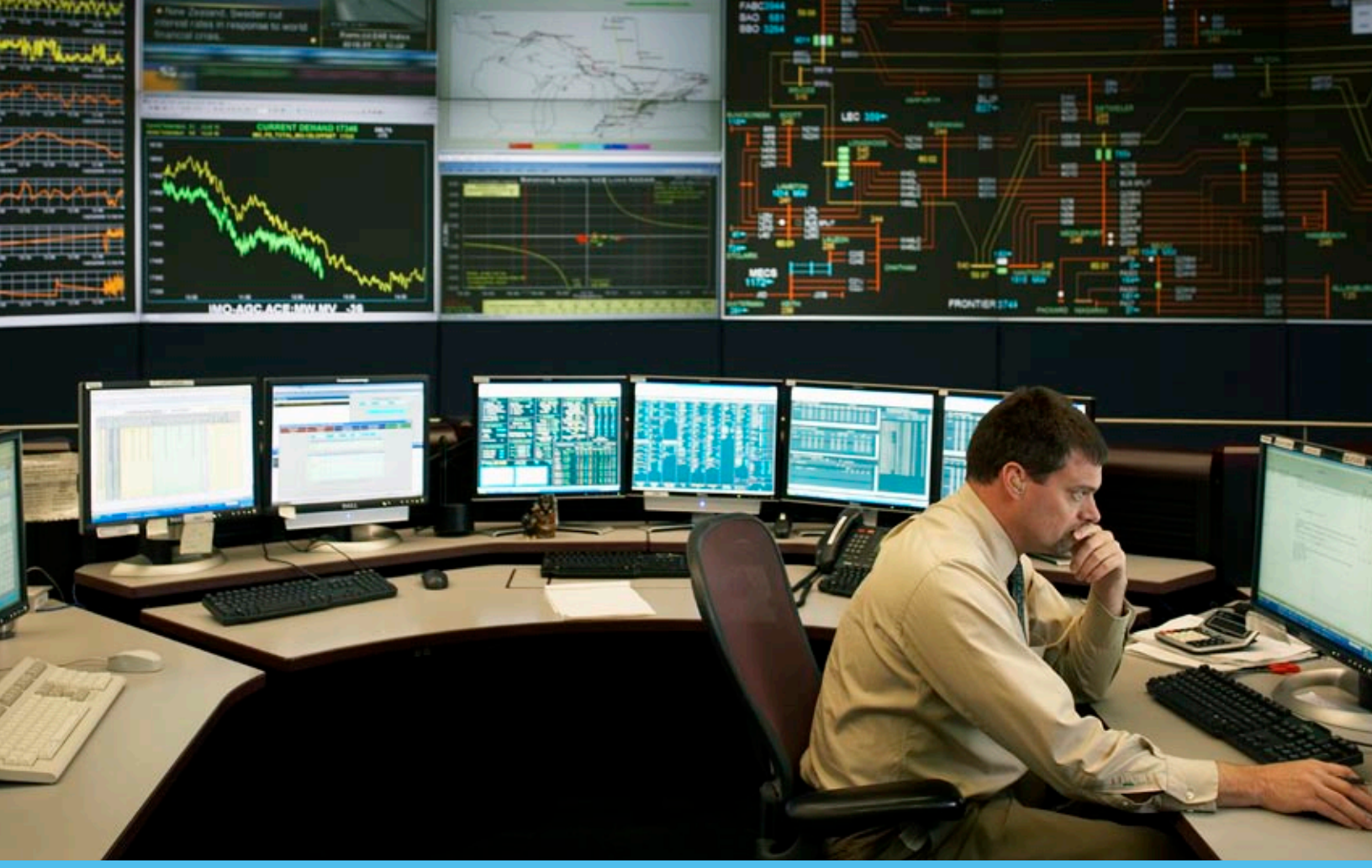
THE ONTARIO RELIABILITY OUTLOOK

DECEMBER

2008

ieso

Power to Ontario. On Demand.



IESO Control Room

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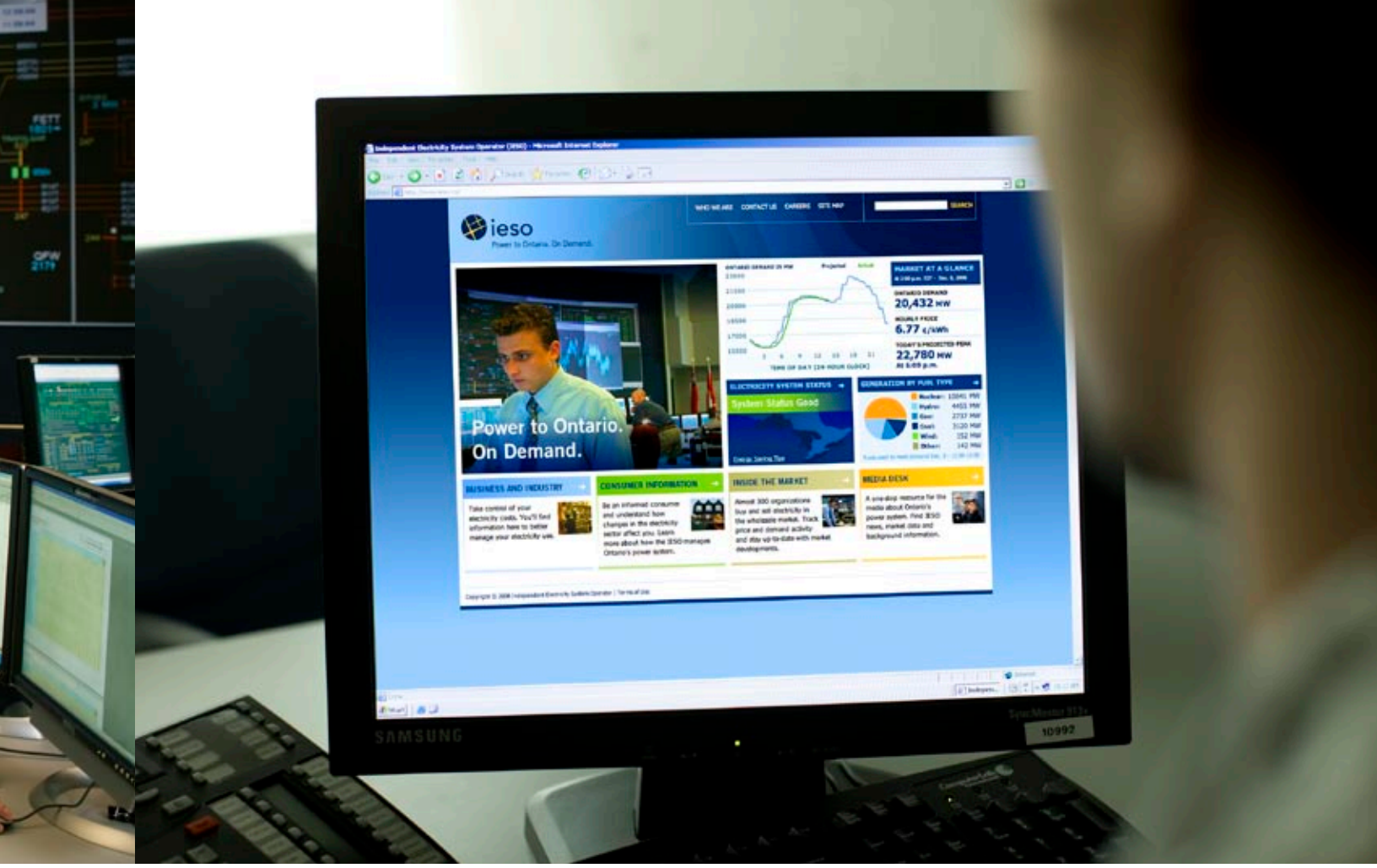


www.ieso.ca

EXECUTIVE SUMMARY

The balance between demand and available supply in Ontario has improved considerably over the last number of years. Efforts to renew Ontario's electricity infrastructure and achieve the province's environmental targets have challenged the industry – yet these efforts are already providing tangible results with an improved reliability outlook in the near term.

In this Outlook, the IESO has identified three priority areas for reliability – the changing supply picture, the challenges of operating a greener electricity system and the continuing need for transmission enhancements. While significant progress has been achieved on all these fronts, other new challenges are emerging.

PRIORITY AREA #1: THE CHANGING SUPPLY PICTURE

Ontario is well positioned for the phase-out of coal-fired generation by the end of 2014. Replacement capacity is either on-line or on schedule. In the years following the coal phase-out, the province's next reliability challenge will be to carefully manage the renewal of its existing nuclear fleet.

From today's perspective, the successful phase-out of all coal production in the province is achievable.

Overall, almost 10,000 MW of new generation or demand management is in service or planned, comprising nuclear refurbishment, new natural gas generation, conservation and more than 1,400 MW of renewable generation projects. Together, these resources will aid in the balancing of the provincial supply mix and support the reduction and eventual phase-out of existing coal generation.

Progress toward these milestones has enabled the implementation of further emission restrictions for coal-powered generation at the beginning of 2009. By 2011, these limitations will significantly reduce coal-plant emissions and are structured so that the IESO can manage potential reliability impacts.

There is a need, however, for the careful management of transmission operations as the Nanticoke Generating Station transitions away from coal-fired generation at a time when Units 1 and 2 at the Bruce A Generating Station are planned to be reintroduced into service. Nanticoke provides critical voltage support to the transmission network, particularly along the 500 kV corridor between London and Toronto. The loss of the Nanticoke generation coupled with the increase in production from Bruce A and new renewable generation in the area will require the installation of shunt capacitor banks and interim reactive power support from the Nanticoke site.

The development of gas-fired generation is rapidly providing replacement capacity and many of the operational capabilities offered by coal. Capacity from gas-fired facilities has surpassed coal generation in the province. Over the last year, the Greenfield Energy Centre and the first phase of the Portlands Energy Centre have been placed in service, providing 1,500 MW of capacity. Another 1,600 MW of gas supply is expected to become operational before the summer of 2009.

As Ontario's electricity sector becomes more dependent on natural gas as a primary fuel, the adequacy and security of the natural gas supply infrastructure becomes even more critical to the reliability of the electricity system. The IESO has been working with its partners in both the gas and electricity industries to develop communication protocols and shared operational and planning studies.

Beyond the coal shutdown, a new challenge emerges – the need to refurbish or retire and replace aging nuclear units. Ministry of Energy and Infrastructure directives call for the amount of planned nuclear capacity be limited to 14,000 MW over the next 20 years. To meet this objective, the majority of nuclear units will need to be refurbished or be replaced through new-build projects.

All four 500 MW units at Pickering B will be nearing the end of their service lives, requiring an analysis of how best to maintain or replace this capacity. Similarly, all four Bruce B units will reach the end of their service lives within the next decade. In addition, a decision is anticipated soon about which technology is to be used in the two new nuclear units on the Darlington site.

These decisions will have significant impacts between 2015-2020 as many of these developments will require major grid-related outage programs and new transmission capability. This convergence of decisions regarding Ontario's nuclear fleet will require intricate planning as some facilities are taken out of service, others are reintroduced, and still others are commissioned for the first time. This planning needs to take into account the operational challenges that each option entails.

PRIORITY AREA #2: OPERATING A GREENER ELECTRICITY SYSTEM

A more sustainable, diverse and variable supply mix requires a more flexible and innovative approach to operating the electricity system. A new model for system operations is emerging – one that responds to production and consumption activity on a local level and then moves to meet remaining provincial electricity needs.

A rapid transformation is taking place within Ontario's generation mix. New renewable resources with different operating characteristics are coming on-stream; generation is becoming increasingly dispersed and demand management is taking a more active role in providing reliability.

Ontario now leads the country in wind power capacity, with over 700 MW of installed wind generation, and more to come. Production from these facilities has been strong with an average capacity factor of 30 per cent for the first 10 months of 2008. Ontario is extremely well-positioned to support the growth of wind generation in the province – with a diversity of potential sites.

Given the intermittent nature of wind facilities, the IESO has been proactively working with others to address any impediments to additional wind integration. It is also looking at operational, planning and forecasting issues. For example, winter forecasts will now incorporate higher capacity factors for wind generation, a reflection of wind's stronger performance at that time of the year.

Providing the necessary flexibility and ramping capability within the new supply mix will be key. Supply must be continually balanced to meet the needs of the province and its interconnections. The IESO will be looking at ways to evolve these capabilities efficiently during this transformation.

Increased distributed or embedded generation will also facilitate the growth of renewables in the province. Distributed generation can be more efficient in mitigating local reliability concerns and reducing power system losses. The Ontario Power Authority (OPA) has signed contracts for approximately 1,400 MW of distributed generation – mostly through wind, solar and biomass projects – to be in place by 2011.

Demand response (DR) programs that specifically target load reduction during hours with tight supply cushions are beginning to take shape, signalling to consumers when those demand reductions are most needed.

DR programs are maturing, and in particular, the OPA's DR 3 program launched this fall is contracting with large customers to reduce load over 100 or 200 peak hours in a year. The structure of this new program will also provide a highly reliable and verifiable supply resource.

The innovation taking place to create a more sustainable supply mix needs to be matched with innovation in system operations. The IESO has been working with industry partners to develop a greater understanding of these new resources as well as what tools and standards are needed to effectively manage them.

With many more players contributing to system reliability, a need for more centralized information gathering and co-ordination is emerging. In jurisdictions with significant amounts of renewable generation, system control centres often have the ability to track production and consumption activity on a local level and then move to maintain reliability by directing large-scale generation to provide energy for the remaining demand.

To be effective, this new approach to system operations would benefit from the co-ordinating influence of market prices and smart grid technologies. Wholesale electricity markets signal to consumers and producers when generation and demand response is needed the most – harmonizing all participants to work in ways that support reliability.

A greener and more distributed electricity sector also requires advanced information technologies to enable the flow of information to and from the distribution level. Smart grid technologies extend the reach of system operations to the distribution system, enabling the system operator to understand how local consumption and production activity can impact the broader reliability picture. These same technologies (such as smart meters) also open the door for a broader group of consumers to respond to price signals and reduce their energy use during peak periods.

The IESO is leading an industry forum to develop a vision for a smart grid in Ontario. The forum report will be released early in 2009.

PRIORITY AREA #3: THE CONTINUING NEED FOR TRANSMISSION ENHANCEMENTS

While significant progress is being made to revitalize the province's transmission system, the demands of the changing supply mix are accelerating. Additional transmission capacity will be needed to support new generation from renewables and to address regional congestion concerns.

Ontario's transmission infrastructure faces challenges on two fronts: an aging existing infrastructure and the need to adapt to the new demands of the changing supply mix. Work is proceeding on a number of important projects to address short-term needs.

The conditional approval provided by the Ontario Energy Board (OEB) to proceed on the construction of a new 500 kV double-circuit line along the Bruce to Milton transmission corridor was an important milestone toward delivering the full capability of the two Bruce nuclear units that are being refurbished as well as new wind resources in the area. It is scheduled to be in service by the winter of 2011/12.

Completion of the new Ontario/Quebec interconnection near Ottawa will increase import capability by an additional 1,250 MW when at full capacity. New transfer capability is being planned for the North-South interface, which will relieve the restrictions on existing generating capacity and accommodate output from expanded hydro facilities on the Mattagami River.

Hydro One has also identified sustainment capital investments totalling over $600 million to be completed during the next two years. These investments are required to maintain both the reliability and the continued availability of its aging transmission infrastructure.

And while significant progress is being made in preparing transmission facilities for the increase of new supply, there remain a number of areas of concern.

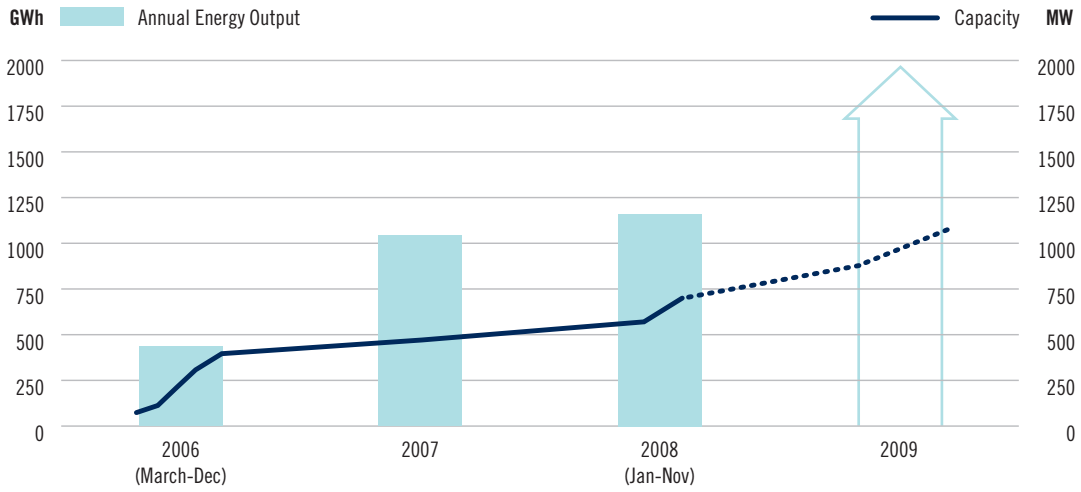
New transmission and generation reinforcements in the West GTA will come in service over the next two years and will greatly support reliability, yet the southerly part of this area still requires additional generation capacity. New peaking facilities in the Kitchener-Guelph-Cambridge area are needed to address supply constraints in that area. Congestion in Northern York Region is being addressed in part by a new transformer station to come in service in summer 2009 and through demand response. The need continues, however, for a peaking gas plant in the area. The OPA is procuring generation for all three regions.

Pressures will also be placed on the transmission system as a result of the growth of renewable generation. A series of transmission lines is needed to support new wind capacity in areas that are either congested or located away from existing transmission facilities. For example, a line is being proposed to Manitoulin Island to accommodate new generation resources to be located on the island.

Transmission enhancements will also be required to accommodate replacement nuclear capacity from the Darlington site. The existing right-of-way between the Bowmanville and Cherrywood transformer stations east of Toronto can accommodate a third 500kV transmission line. The installation of this new line, together with the development of the Oshawa Area Transformer Station, would then provide sufficient transfer capability to allow up to 3,600 MW of new generating capacity from Darlington.

Given the pace of change, managing the system as some generation facilities are retired, new ones incorporated and new transmission facilities are constructed, will require careful outage planning. Changing one component of the system, whether it is generation or transmission, impacts the flows, limits and capabilities of all the other parts of the system. Switching, replacing, refurbishing or building new infrastructure cannot be done on an ad-hoc basis. It requires close co-ordination of all the elements impacted by the proposed changes. Through its outage management process, the IESO will work closely with Hydro One and other partners to ensure the reliable operation of the system during this period of significant change.

ONTARIO WIND CAPACITY AND GENERATION (EXISTING AND PLANNED 2006-2009)



Darlington Generating Station

THE CHANGING SUPPLY PICTURE

Ontario is currently benefiting from a high level of reliability, due in part to new supply coming in service as coal-fired facilities remain operable. There are, however, a number of challenges to reliability following the coal phase-out as the province's aging nuclear fleet undertakes an extensive process of renewal.

Coal Phase-out

Since the 1960s, Ontario's fleet of coal-fired generation has provided both substantial amounts of capacity and operational flexibility to the province's electricity system. Yet concerns about the emission of greenhouse gases and other pollutants from these facilities have led to the provincial decision to phase-out all coal-fired electricity production in Ontario by the end of 2014.

Replacing coal will represent the single largest greenhouse gas reduction initiative in North America – equivalent to taking almost seven million cars off the roads. Lakeview Generating Station, with a capacity of roughly 1,140 MW, was closed in 2005. While the precise timing for the phase-out of coal generation at the remaining stations – Nanticoke, Atikokan, Thunder Bay and Lambton – is still under development, the IESO has released an operational study which concluded that the future resources planned in Ontario Power Authority's (OPA) Integrated Power System Plan will provide sufficient reliability and operational flexibility following the phase-out of coal.

The OPA is presently managing 9,871 MW of generation and demand management contracts, excluding the Standard Offer Program (SOP) for smaller scale projects. These contracts include 3,000 MW of nuclear refurbishment, more than 5,400 MW of natural gas generation, and more than 1,400 MW of renewable and demand reduction capacity, all of which are expected to be in service by 2013. Together, they will aid in the balancing of the provincial supply mix and support the replacement and eventual elimination of existing coal-fired generation.

The retirement of coal-generating capabilities at the Nanticoke station does create operational concerns. As power flows in the Bruce/Southwestern Ontario area begin to change, careful management of the transmission system is crucial. With an increase in generation from Bruce A and new wind farms in the area, coupled with the decrease in generation from Nanticoke, additional reactive power support through the installation of shunt capacitor banks and interim voltage support from the Nanticoke units will be required.

Progress on the coal phase-out is also aiding the implementation of provincial limits on greenhouse gas emissions from the coal-fired units in the near-term. New reductions start next year, initially with targets of 19.6 megatonnes (Mt) in 2009, 15.6 Mt in 2010 with a hard cap of 11.5 Mt by 2011.

"If implemented effectively, climate change initiatives can result in improvements to reliability in North America, bring new generation technologies to fruition, diversifying the fuel mix, strengthening the transmission system and encouraging the development of the smart grid,"

Reliability Impacts of Climate Change Initiatives a report by the North American Electric Reliability Corporation (NERC)

These new restrictions will require close attention and careful management by Ontario Power Generation (OPG) and the IESO to minimize reliability impacts. During this interim period, the IESO can direct OPG's coal-fired assets to exceed those limitations should reliability concerns emerge, providing an added level of confidence that emissions reductions can proceed without jeopardizing reliability.

The Renewal of Ontario's Nuclear Fleet

Nuclear energy provides roughly 50 per cent of Ontario's power needs. This capacity makes up the majority of Ontario's baseload generation that runs continuously, 24 hours a day. Based on Ontario's experience over the last few decades, this proportion of nuclear capacity within the supply mix works to enhance reliability and helps dampen the financial impacts of fluctuating fuel costs.

In determining Ontario's supply mix, the province directed the OPA to plan enough nuclear generation to meet baseload requirements up to a maximum of 14,000 MW capacity. Much of this capacity is, however, nearing the end of its service life, requiring a series of decisions about how to replace it.

This replacement can be achieved through the refurbishment of existing units, the construction of new units or a combination of both. How much of the replacement capacity will be provided through new-build projects will have a significant impact on how electricity supply is managed following the elimination of coal-fired production in 2014.

The approvals process and construction period for new nuclear generation take longer than any other type of generation – as decisions need to be made at least 10 years before the units are required. As a result, these decisions are needed in a timely fashion if the province is to sustain the desired levels of nuclear capacity needed to manage reliability.

How these decisions unfold will also have a significant impact on system reliability and, in particular, will require a sophisticated outage management program in order to incorporate new supply and facilitate retirements or outages for refurbishment. More detail about the impact of changes in Ontario's nuclear capability on the transmission system can found on pages 13-16.

Here's an overview of Ontario's nuclear fleet:

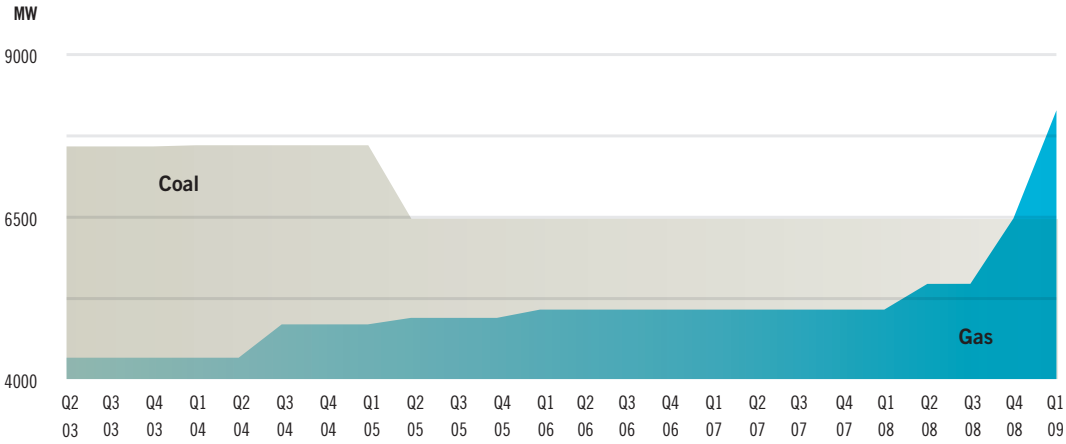
Bruce Generating Station: The refurbished Bruce A Units 1 and 2 are expected to be placed back in commercial service by summer 2010. The service lives of Bruce A Units 3 and 4 are expected to be extended through 2010 and 2015 respectively. These units will then be taken out of service for more than two years for refurbishment. Four Bruce B units are currently operating and will reach their end of service life within the next decade.

Darlington Generating Station: The existing units at Darlington will reach their end of service lives within a decade, or soon after. No decision has been made concerning the possible refurbishments of these units. However, a decision has been taken to build new additional nuclear units at Darlington and a competitive process is currently underway to determine which supplier and technology will be used.

Pickering Generating Station: As Ontario's oldest nuclear facility, the Pickering Generating Station comprises four units operating at Pickering B and two at Pickering A. Pickering A Units 1 and 4 were recently refurbished and placed back in service. Pickering B units will reach their end of service life by the middle of the next decade. A decision is pending about whether to refurbish these remaining units or replace them.

In the case of refurbishment of Pickering B units, the work could begin as early as 2013, and be completed around 2020. To minimize the impact

GAS-FIRED GENERATING CAPACITY NOW EXCEEDS COAL GENERATING CAPACITY



on the system, refurbishment work needs to be staggered to limit the number of units removed from service at any one time.

The alternative to refurbishment of Pickering B is its subsequent replacement with new-build nuclear facilities. The OPA's Integrated Power System Plan assumes that if new-build replacement for Pickering B were contracted, the first unit would begin service around 2020, taking into account the 10-year lead time for design, regulatory and construction activity.

The Pickering decision could affect Ontario's electricity system capacity by the retirement of 2,000 MW of capacity from Pickering B combined with the possible re-assessment of sustaining the 1,000 MW of operable capacity from Pickering A. This capacity and associated energy might be replaced with stepped-up implementation of conservation, more installation of renewables, more intensive operation of existing gas generation, the introduction of new build gas generation, or higher volumes of imports.

Without refurbishment, it is possible that Pickering B might continue to be operated for a few years beyond its otherwise scheduled retirement. There are various means of achieving a short-term extension of Pickering service, including the option of lower production levels from those reactors.

Increased Reliance on Gas

Gas generation is key to providing the flexibility that will be lost with the elimination of coal-fired generation. Projects that were procured earlier in the decade are coming on-stream. Since 2006, more than 1,600 MW of new gas generation has come online. In the next three years, another 3,300 MW of new gas generation is expected to become operational.

The commissioning of the first phase of the Portlands Energy Centre in the summer of 2008 was a critical step in addressing the supply needs of the Toronto area. This fall, the Greenfield Energy Centre in the Sarnia area brought another 1,153 MW of capacity to the system. Looking just ahead to the first quarter of 2009, the Goreway station, St. Clair Energy Centre and the combined cycle operations of the Portlands station, representing a total of approximately 1,660 MW, will ramp up production. The OPA is also in the process of procuring a number of other new generation plants to address regional concerns and to provide the additional operating flexibility needed to eliminate coal generation.

This shift toward natural gas also creates new challenges for the industry. By mid-2009, gas will represent 23 per cent of supply, up from 12 per cent in 2001. As Ontario becomes more dependent on natural gas as a primary fuel for electricity generation, the adequacy and security of the natural gas supply and its infrastructure becomes even more critical to the reliability of electric supply.

Unlike the electricity industry, the effect of contingencies in the gas sector are not always immediate and often take time to become more widespread. As a result, communications channels are being established to ensure that information between the IESO and provincial gas distributors is exchanged when events occur on one system that could impact the other. Work on an agreement to develop a framework for conducting coordinated gas and electricity operating and planning studies is close to completion.

Melancthon Wind Farm Project

OPERATING A GREENER ELECTRICITY SYSTEM

The move to a greener, more distributed supply mix will promote greater innovation in the way the system is managed. System operations need to adapt to the operating characteristics of these resources to ensure that the inherent diversity of the new supply mix works to maintain reliability.

The New Supply Mix

Renewable generation and conservation are taking a more prominent position in Ontario's supply mix. In 2006, the Ontario Government set a target of 22,000 MW of renewable resources and conservation efforts by 2025. The OPA is looking at ways to accelerate – or even surpass – target in its current review of the Integrated Power System Plan (IPSP).

Work to achieve this goal is well underway. Ontario now leads the country in wind generation capacity; the number of distributed generation projects is escalating; and demand response programs are moving to a level where they can be considered as reliable as traditional capacity resources.

Wind

Ontario is moving ahead quickly with the implementation of new wind power developments. There is more than 700 MW of installed wind capacity in the province, which, between January and November 2008, produced more than 1 TWh of electricity. This capacity is expected to grow considerably by the summer of 2009 to 1,100 MW.

The potential to increase the amount of wind supply in the province is significant. In its analysis of the operability of the IPSP, the IESO determined that approximately 5,000 MW of wind generation could be accommodated.

The report recognized that at higher wind penetration levels, heightened attention would be required for the system to be able to handle the variability of wind generation. The report also indicated that the generation mix in the plan did provide adequate load-following capability to support this level of wind generation.

Ontario is well-positioned for considerable growth in wind generation in the province even beyond that level. A 2006 study commissioned by the IESO, the OPA and the Canadian Wind Energy Association provided important analysis that will help facilitate the growth of wind power in the province:

- Ontario has promising wind development potential – with a good selection of sites across the province. A diversity of wind farm locations will mitigate the variability impacts of this resource. For example, it is unlikely that extreme weather incidents would have a sudden impact on the entire system.
- Wind persistence is high from each 10 minute interval to the next. As a result, wind output is not likely to vary more than 10 per cent over these short periods. Understanding this variability is important in understanding whether any additional operational capability from other generation is needed.

The operational characteristics of wind differ significantly from the other resources in the supply mix. The intermittent nature of wind power makes it difficult to forecast generation with certainty. For example, wind output on December 2, 2008 reached 617 MW. By contrast, wind production reached a low of just 2 MW on July 19, 2008, a hot and windless day.

This seasonal bias is reflected in the monthly capacity factors, or the percentage of capacity that actually produced energy. In January and February of this year, average capacity factors were 43 per cent, yet in August, this same figure reached only 13.5 per cent.

To some extent, improved forecasting can help accommodate this level of variability. The IESO has been working to develop new wind forecasting methodologies that will take into account the wind's stronger performance in the winter and shoulder periods of the year. Some of these methodologies are being implemented by the end of 2008 and will result in higher forecast capacities for the winter.

As more variable generation comes online, new tools and processes will be needed to balance this supply against other types of supply during periods of low demand. For example, high levels of wind generation during periods of low demand could create surplus baseload generation concerns. Surplus baseload generation currently occurs only a few times a year and is resolved through the rescheduling of outages to take advantage of these conditions, or through increased exports.

The IESO will continue to work with its partners to ensure the reliable and effective integration of wind within the province – which includes tapping into the experience with wind generation developing in other jurisdictions.

Current Large Wind Operations in Ontario

Erie Shores Wind Farm (99 MW)	Bayham/Malahide/ Houghton Township
Kingsbridge I Wind Power Project (39.6 MW)	Goderich
Melancthon I Wind Project (67.5 MW)	Melancthon Township
Prince I Wind Power Project (99 MW)	Aweres/Dennis/ Pennefather/Prince Township
Prince II Wind Power Project (90 MW)	Dennis/Pennefather Township
Ripley Wind Power Project (76 MW)	Huron/Kinloss Township
Melancthon II Wind Project (132 MW)	Amaranth/ Melancthon Township
Kruger Energy Port Alma Wind Power Project (101 MW)	Port Alma

The expansion of renewables – wind, solar, biomass and others – will increasingly take place within distribution systems, and outside the traditional control of the IESO and its operation of the bulk electrical system. The OPA has already signed contracts for approximately 1,400 MW of renewable embedded generation to be in place by 2011 under its Standard Offer Program.

It is expected that embedded generation will soon displace significant amounts of output from larger generating units that are connected to the high-voltage system. These large units currently provide fast voltage control, operating reserve and load following that contribute to reliability of the grid. The IESO is assessing all of these aspects and will be working closely

with stakeholders to maintain reliability of the grid as the types and characteristics of the future supply mix changes.

The IESO is also working with local distribution companies, the OPA and the OEB to increase visibility of the real-time output of distributed generation in an effective and cost-efficient manner. Knowing how much generation is available and operating within a distribution area is one aspect that will assist the IESO to reliably manage overall provincial load requirements.

Demand Management

Demand response and conservation efforts throughout the province are gaining momentum and are starting to play a more active role in maintaining reliability of the system. The IESO-administered market – with real-time prices that signal the supply/demand situation – ensures that demand management initiatives are triggered when they are most needed. In order to know in advance how much demand management can be relied on, these programs have to be carefully identified, well co-ordinated and their results verified.

Since market opening, the IESO has had at its disposal almost 500 MW of dispatchable load. For the most part, these participants offer operating reserve into the market, curtailing production should the IESO need to invoke operating reserve to maintain reliability. At times, this economically-driven demand response capability has been critical over the last few years to maintain reliability, as it can free up much-needed generation for energy production.

With the launch of the OPA's DR 3 program this summer, demand response efforts are becoming more accessible to a broader group of consumers and will also be able to make a more active contribution to system reliability. The OPA has begun to contract with large customers and aggregators of small customers to reduce consumption for 100 or 200 hours during periods when the supply cushion is low. Registration for this program has accelerated rapidly over the last two months, with an initial 80 MW of load, out of a target of 250 MW, already subscribed to the program.

The operability of the DR 3 program starts to mimic traditional forms of generation in that it is dispatched when supply is needed most. Demand response resources are committed to respond to dispatches for the duration of the contract. The IESO directs DR 3 participants to reduce demand either directly or through an aggregator when the supply cushion is diminished. The IESO is also responsible for the settlement, measurement and verification of the program.

Demand response programs are continuing to evolve. Programs such as Peaksaver, which cycle down residential air conditioners, will also be linked to the same triggers as DR3, widening the scope of concrete demand response measures. Another OPA program, DR2, expected to launch in the new year, will promote institutional changes within organizations that will contribute to lower daily peaks. It will provide the equivalent of capacity payments to companies that revamp their ongoing processes to shift energy use from peak hours to off-peak hours.

Smart Meters

Ontario's smart metering initiative is moving into a new phase with the implementation of time-of-use rates. Currently, Milton Hydro and Newmarket Hydro are billing the majority of their customers on time-of-use rates.

The IESO is responsible for the oversight and management of the central data repository (MDM/R) that collects smart meter consumption data and bundles it into time-of-use billing quantities for local distribution companies. This repository went live in 2008. Further enhancements to the MDM/R and increased customer education will lead the way to a broader roll out of the time-of-use rates in 2009.

Ontario's smart metering network captures information from residential and small business consumers on an hourly basis providing them with a tool to better manage their energy use. This system provides a more flexible platform for other sophisticated demand response programs and tools to be built. As the province contemplates a vision for the development of smart grid capabilities, it has the benefit of a comprehensive smart metering system and consumers who will be accustomed to variable pricing.

Maintaining Reliability and Sustainability

Achieving a more sustainable and diverse supply mix requires more than creating new supply resources and expanding transmission infrastructure. It necessitates a fundamental rethinking of how all the pieces that comprise the electricity system work in tandem to provide a reliable electricity service.

In the traditional system management model, reliability is maintained primarily through large-scale generation that delivers supply through the transmission system. For the most part, the IESO maintains reliability by forecasting provincial demand, directing generators to meet demand, and then monitoring the power flows to ensure reliability is maintained. In effect, almost all system operations take place on the bulk-electricity system.

This paradigm is changing. As increasing amounts of generation will take place within distribution systems, the impact of this activity won't be visible on a provincial level. Distributed generation will also be mostly renewable and potentially intermittent in its operating characteristics. Add to that a more engaged consumer base that makes its energy use decisions based on market signals or demand response programs, and the task of system management clearly needs to evolve.

Reliability standards will need to be updated to facilitate a greater contribution by renewables and distributed generation. Forecasting processes will also need to better incorporate these new forms of supply. Work in both these areas is already progressing. Most importantly, however, the system operator will require a clearer view of electricity production and consumption on all levels of the system. Balancing supply and demand only on the transmission grid will no longer be sufficient to meet the electricity needs of Ontarians, and creates potential reliability risks.

In the coming years, the role of system manager will require a more sophisticated level of information gathering and analysis – particularly within distribution service areas. Advanced technologies will provide the IESO with more detailed information about how local needs are being met through distributed generation and demand response, so that it can then move to address the broader provincial needs that aren't being met.

Through the Ontario Smart Grid Forum, the electricity industry is looking to better understand how to leverage information technologies to support reliability. Automated controls, advanced monitoring systems and information technology provide the capability to bring the "customer to the control room," using electricity consumption and production information on a granular level to build a more accurate overall picture of the province's true energy needs.

More discussion about smart grid technologies can be found on page 17.

Wind Generation in Leading Jurisdictions around the World

Jurisdiction	Wind Capacity (MW)	Total Installed Capacity (MW)	Local Approach
California	2,600 (4.6% of total installed capacity)	56,136	Actively involved in storage technology initiatives. Recent transmission planning study focused on the integration of large volumes of wind to determine load following, hourly ramping requirements, regulation capacity and over-generation issues.
Texas (ERCOT)	6,023 (9.8% of total installed capacity)	61,552	Proactively involved in enhancing high-voltage transmission system to accommodate wind generation.
Spain	15,039 (17% of total installed capacity)	86,231	Wind power is facilitated by pumped generation storage and 40,000 MW of reserve capacity in excess of peak demand. Wind capacity expected to increase by 3,500 MW per year.
Germany	22,247 (17.5% of total installed capacity)	127,000	Infrastructure supports renewables with high rates of transmission capacity and population density.
Denmark	3,125 (24% of total installed capacity)	12,969	Infrastructure supports renewables with high rates of transmission capacity and population density.

LOADING UP: ELECTRICITY STORAGE TECHNOLOGY

New technologies are emerging that store electricity for varying periods of time, allowing better management of supply and demand fluctuations. Storage technologies can be highly responsive to system control requirements, with the ability to ramp-up quickly to meet rising demand and capture excess generation during periods of low demand. This flexibility can work to balance the variability of renewable generation, providing reliability with the added benefit of low emissions.

There are a number of storage technologies currently available:

Pumped Storage reverses the water flow between reservoirs which is then used to produce electricity during peak hours. Many of the newer pumped storage projects use wind turbines to drive the pumps directly – creating a renewable and extremely reliable resource. Pumped generation can, however, come with high construction costs and be difficult to locate given land-use impacts.

Flywheel Systems are literally massive rotating cylinders that can spin as much as 30,000 RPM, developing such inertia that they can be available to provide highly flexible generation regulation. A 20 MW flywheel facility is currently in development in New York State.

Compressed Air Storage takes advantage of abandoned gas and oil wells by storing compressed air and using it to run turbines during peak periods.

Other technologies – including hydrogen production and storage, supercapacitors and advanced battery technologies – are also developing with the potential to offer a suite of new options to manage reliability.

These technologies are being explored by system operators around the world. Many are adapting their current procedures to take advantage of the high-responsive operating characteristics of this form of supply, which can be an ideal companion to some of the variable renewable generation options.

The Sir Adam Beck Pump Generating Station in Niagara provides 174 MW of electricity by using excess generation capacity to pump water from the Niagara River into a 300 hectare reservoir.

The Thorold Cogeneration Project currently under development

THE CONTINUING NEED FOR TRANSMISSION ENHANCEMENTS

Ontario's transmission system is undergoing a similar process of renewal. New infrastructure is needed to replace or upgrade aging facilities, while changes in the provincial supply mix are requiring additional transmission support. In particular, new transmission projects are proceeding to address the province's short-term needs.

Further transmission enhancements will be needed to address the rapid growth of renewable generation in the province to extend the reach of the system to remotely located wind and hydro facilities. New transmission resources, as well as a carefully co-ordinated outage management process, will also be required to accommodate changes within the province's nuclear fleet.

The Bruce Area

Earlier this year, the Ontario Energy Board approved a leave to construct for a new 500 kV double-circuit line between the Bruce nuclear complex and Milton TS. Subject to an environmental assessment approval, the line is scheduled to be in service by winter 2011/12.

This new line will provide sufficient new transmission capacity to deliver the energy from all eight units at the Bruce complex and up to 1,700 MW of wind generation. About 700 MW of this wind generation is already committed and in various stages of construction. Two enabler* lines are proposed to support an additional 1,000 MW of generating capacity: one in the Bruce Peninsula area; and one into the Goderich area. Both would be available by winter 2015/2016.

Construction of the new 500 kV Bruce to Milton line and the associated facilities at the terminal stations will require numerous outages on the grid. This is expected to be especially challenging, particularly since seven or possibly eight Bruce generating units could be available for operation at the Bruce complex before construction of the line is completed. The IESO will be

*Enabler lines are special purpose transmission facilities that connect remote generation and load to the IESO-controlled grid.

working with Hydro One to facilitate the outages required to complete the line construction and to reduce congestion.

Greater Toronto Area

GTA-West

Following the completion of Hurontario SS by the spring 2010, the loads in northern Mississauga, Brampton and Bramalea will have an alternative source of supply, reducing the impact of potential contingencies. Further work in the Hurontario SS area to enhance the supply capability is scheduled to be completed by spring 2012.

Additional transmission enhancements are planned between Milton TS and Claireville TS in order to meet the growing supply needs of Georgetown, Milton, Halton Hills, Brampton and north Mississauga. This project includes new 500/230 kV auto-transformers to be installed at Milton TS by spring 2015 as well as the extension of the 230 kV transmission facilities from Meadowvale TS to Hurontario TS.

The completion of the Sithe-Goreway (840 MW) generating facilities by the spring 2009 will not only provide relief for the auto-transformers at Claireville TS but will also provide valuable reactive compensation to control system voltages. Voltage support is particularly important immediately following a contingency involving any of the 500 kV circuits from the Bruce complex, in southern Ontario, or in the GTA. The completion of the Halton Hills GS (630 MW) by the following spring will reduce the loading on the auto-transformers at Trafalgar TS and provide further post-contingency reactive support to the area.

GTA-Southwest

In response to a directive from the Minister of Energy and Infrastructure, the Ontario Power Authority (OPA) has initiated a process to procure 850 MW of gas-fired generating capacity in the southwestern GTA, along the Oakville TS to Manby TS corridor. The required in-service date for this new generating capacity is December 2013.

This new generating capacity is required to replace existing coal-fired generating facilities that are scheduled to be phased out in 2014 and to meet future local needs. Locating a facility in this area provides 500/230 kV autotransformer relief and will also defer future transmission investments by reducing loads on the 230 kV network that supplies parts of Oakville, southern Mississauga, and southwestern parts of Toronto. This facility will also help to control voltages in this same area.

GTA-Central

Work to increase the transfer capability of the 500 kV corridor that runs across north Toronto is required to reliably accommodate existing and additional supply east of the Greater Toronto Area. Operating currently as two double-circuit lines, these circuits are to be unbundled and terminated as four individual circuits. This work, scheduled to be completed by the winter 2010/11, will also facilitate further expansion at the stations along the corridor to accommodate increased supply to the growing loads north of Toronto.

Subject to the required approvals, an additional 115 kV circuit between Leaside TS and Bridgeman TS is to be installed by spring 2012. This addition, in combination with a planned upgrade of two of the existing 115 kV circuits in the area, will enhance the supply capability in the midtown Toronto area.

The reliability of supply to the central Toronto area is on track to be improved with the completion of the Portlands Energy Centre. The installation of the heat-recovery steam generators at Portlands is now complete, allowing the commissioning of the steam-turbine unit to commence. Once this phase of the work is finished early next year, the plant will then be able to deliver its full-rated output of 550 MW as an efficient combined-cycle facility. The addition of this new generating station, combined with the earlier completion of the John to Esplanade link has provided alternate sources of supply and improved the reliability to the area.

GTA-East

A new 500 kV double-circuit line between Bowmanville TS and Cherrywood TS is proposed in order to accommodate up to 3,600 MW of new generating capacity at Darlington B Generating Station. Subject to necessary approvals, the new line is scheduled to be in service by the summer 2016 to coincide with the planned development of the new generating facilities.

A new Oshawa area 500/230 kV transformer station is also planned to coincide with the completion of the new 500 kV line. This station would connect the existing and new 500 kV circuits with the existing 230 kV transmission facilities that supply loads in the Oshawa, Whitby and Ajax areas and relieve the loadings on the auto-transformers at Cherrywood TS.

It has been proposed that the new 500 kV line should be located on the existing transmission corridor. The IESO has initiated a review in conformance with NERC standards of the effect of losing all the transmission facilities on this common corridor. Any further increase in generation at Darlington or points east will require extensive analysis of the capacity of this transmission corridor.

Northern York Region

The plan to address the supply issues in Northern York Region involved the establishment of a new transformer station to provide relief for the heavily-loaded Armitage TS and the installation of up to 350 MW of gas-fired generating capacity.

Holland TS is nearing completion and will soon allow the transfer of some of the existing load at Armitage TS. This will then free-up capacity at Armitage TS to allow additional load growth in the immediate area to be accommodated at that station.

The OPA has recently procured a 393 MW gas-fired generation facility in the area to be in service by the end of 2011.

Northeast and Central Ontario

In order to remove restrictions on existing generating capacity and to allow additional renewable resources in the north, enhancements to the north to south transmission path are required. Projects in this area, with scheduled in-service dates through to the winter of 2011/12, are designed to increase transmission transfer capability by about 750 MW. This will be enough to remove restrictions on the existing generating capacity in the northeast and to accommodate the increased output from expanded generating facilities on the Mattagami River.

To accommodate additional wind resources on Manitoulin Island, an enabler line from the island to the existing 230 kV transmission corridor between Algoma and Sudbury is proposed to be available by the winter of 2015/16.

Additional renewable resources may need to be procured in the northeast and northwest parts of the province in order to meet provincial supply mix targets. Any further development of resources in the northeast and northwest will require additional transmission capacity. As a result, new transmission facilities both north and south of Sudbury have been proposed with an expected in-service date of winter 2017/18.

Northwest

A promising site for additional wind and hydroelectric generation is in the Lake Nipigon area. An enabler line from the existing 230 kV transmission corridor between Lakehead (Thunder Bay) and Marathon is being considered in order to connect future wind resources and include enough capacity for proposed the Little Jackfish hydroelectric station on Lake Nipigon.

Eastern Ontario

Various projects are underway to increase transfers of up to 1,250 MW in either direction between Ontario and Quebec following the completion of the new interconnection and its associated direct current facilities later next year.

Ontario-New York Ties at Niagara

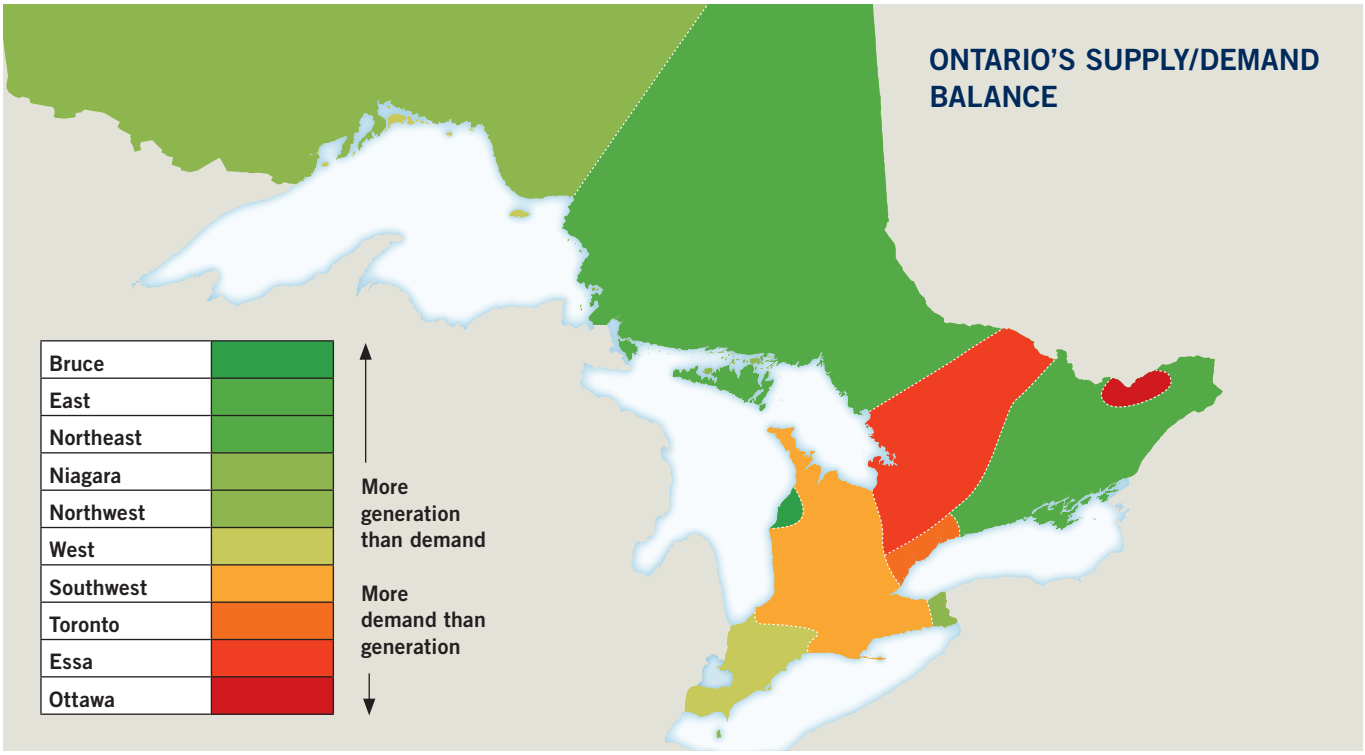
The import capability from New York via the two 345 kV and the two 230 kV interconnections at Niagara is often restricted by the thermal ratings of the existing transmission facilities of the QFW Interface. These limitations are even more pronounced during outage conditions. Completion of the reinforcement of this interface is necessary for improved utilization of the interconnection with New York at Niagara Falls.

Once the QFW work is complete, it becomes appropriate to explore further expansion of the interface capability at Niagara. Since three of the eight river crossings at Beck GS are presently idle, these would appear to present an opportunity to establish an additional interconnection at this location. Increasing the capability of this interface would address these limitations and further augment any future moves toward a more regional approach to balancing supply. This need will become even more prominent with increased renewable resources associated with variable operating characteristics.

Southwestern Ontario

A new transformer station is proposed close to Leamington to supply the growing load in the Leamington area and to off-load the adjacent Kingsville TS. Subject to regulatory approvals, this work is scheduled to be completed by the winter of 2012/13.

The Windsor area is connected into the Ontario transmission grid via four circuits to Chatham, two connected from Keith TS and two from Lauzon TS. These two stations, with a 115 kV transmission path connecting them, provide the main supply to the other stations



in the Windsor area, and act as the main connection point for local generation. Also subject to regulatory approvals, a series of enhancements to the 230 kV transmission facilities in the area will remove the risk of overloads on the local 115 kV system, remove restrictions on local generation, and improve voltage performance in the area between Windsor and Chatham.

Ontario-Michigan Phase Angle Regulators

Phase angle regulating transformers, also known as phase shifters can be used to control, to a limited extent, the flow of power over the grid. For the Ontario-Michigan interconnection, phase shifters have been planned to limit unscheduled parallel or loop flows on transmission assets in southern Ontario and Michigan.

Two phase shifters located at Lambton TS require some remedial work, which is anticipated for 2009. A third phase shifter at Keith TS in Windsor is functioning normally. These phase shifters are available to control flows in emergency situations, but operation under normal conditions is not available pending agreements between the IESO and the Midwest Independent System Operator (MISO).

A fourth phase shifter near Port Huron, Michigan is scheduled to be replaced by late 2009. Control of the flows on this interface is limited until all four phase shifters are in service.

Kitchener-Waterloo-Cambridge-Guelph and Orangeville Areas

Transmission facilities presently supplying the Kitchener, Waterloo, Cambridge, and Guelph areas are all approaching their thermal limits and with continued load growth in the area, some circuits are expected to exceed IESO standards in less than five years.

The OPA is proposing to contract for up to 450 MW of gas-fired generating capacity to be incorporated into Cambridge-Preston TS. In addition to providing peaking capacity for the province, this generating facility would also address some of the existing local supply limitations and to assist with the restoration of the area's loads in the event of a protracted outage involving some of the critical transmission facilities. However, some potential for transmission overloads would still remain in the area.

Several alternatives, which would involve additional transmission reinforcements, are under consideration, and would depend on the eventual size, location and timing of the gas-fired generation.

SMART GRIDS: IMPROVING THE EFFICIENT USE OF INFRASTRUCTURE AND PROMOTING DEMAND MANAGEMENT

The move to greater customer involvement, increased renewable and distributed generation, and expanded transmission capacity necessitate even more flexible and responsive system operations. Smart grid technologies are emerging as a critical component of the renewal taking place in Ontario's electricity sector. They enable system operators to more effectively manage a system that is becoming more diverse, more complex and less predictable.

A smart grid can mean many things. As a whole, it refers to a power system that uses information technologies to automate the flow of information back and forth between consumers and producers and then uses that information to support more efficient production, delivery and consumption decisions. In its many parts, a smart grid can comprise residential smart meters; plug-in cars; widely dispersed micro- and small-scale generation; and aggregators of demand response, just to name a few. All of these components are connected through advanced monitoring and communications systems.

This ability to flow information to and from consumers and suppliers is critical for the development of Ontario's new supply mix. For example, demand management programs rely on consumers and their appliances being able to receive and respond to price signals. Embedded generation can become more efficient and more adequately relieve local congestion if it can respond to electricity prices and communicate directly to the provincial electric system.

For the system operator, the information provided by smart grid technology paints a more detailed and complete picture of the supply and demand situation at each moment – particularly on a local level. In congested areas, operators will have a better understanding of what demand response and generation is available to meet local needs and then be able to more effectively use the surrounding transmission infrastructure to serve remaining needs. Smart grid technology can also provide enhanced operational performance, whether it be anticipating and resolving problems before they become outages, or minimizing the impact and resolution times of those outages that do occur.

As a result, the IESO has launched an industry dialogue about how best to harness the potential of smart grid technologies for Ontario. Ontario's Smart Grid Forum is developing a vision for the province to develop a co-ordinated approach that leverages existing investments and ensures future investments yield full benefit to Ontarians.

Vehicle-2-Grid: How Plug-in Electric Vehicles Support Reliability

Electric plug-in vehicles offer a clear demonstration of how energy use decisions on a small scale can impact the broader reliability picture.

During off-peak hours, car owners can recharge their car batteries, benefiting from lower electricity prices. As a result, generation and transmission capacity is being used when demand is lowest. Homeowners may also choose to avoid higher peak prices by using their car batteries to provide electricity for some of their home consumption.

TABLE 1: GENERATION PROJECTS PLANNED OR UNDERWAY IN ONTARIO

SOURCE OF PROJECT	GENERATION PROJECTS PLANNED OR UNDERWAY	INSTALLED CAPACITY (MW)	PLANNED IN-SERVICE DATES
RENEWABLE GENERATION			
Renewables I RFP – Hydroelectric generation	Umbata Falls Hydroelectric Project	23	Q4 2008
Renewables II RFP – Wind generation	Wolfe Island Wind Project	198	Q2 2009
	Enbridge Ontario Wind Farm	182	Q1 2009
Renewables II RFP – Hydroelectric generation	Island Falls Hydroelectric Project	20	Q4 2009
Government directive for Hydroelectric Energy Supply Agreement with Ontario Power Generation	Little Long, Harmon, Kipling and Smoky Falls	450	Unit in-service dates ranging from 2012 to 2013
	Lac Seul	13	Q4 2008
	Hound Chute	9.5	Q4 2010
	Lower Sturgeon, Sandy Falls and Wawaitin	35	Q4 2010
GAS-FIRED GENERATION			
Clean Energy Supply RFP	Greenfield South Power Plant	280	Under Review
	St. Clair Energy Centre	577	Q1 2009
Government directive for Central Toronto	Portlands Energy Centre Combined Cycle Operation	245	Q1 2009
Government directive for Western GTA	Goreway Station	839	Q1 2009
GTA West RFP	Halton Hills Generation Station	632	Q2 2010
Government Directive for Northern York Region	York Energy Centre	393	Q4 2011
COMBINED HEAT AND POWER			
Combined Heat and Power (CHP) RFP	Algoma Energy Cogeneration Facility	63	Q2 2009
	East Windsor Cogeneration Centre	84	Q3 2009
	Thorold Cogeneration Project	236	Q2 2010
NUCLEAR GENERATION			
Government directive for Bruce Power Refurbishment Implementation Agreement	Bruce A, Unit 1 back in service after refurbishment	750	Q3 2010
	Bruce A, Unit 2 back in service after refurbishment	750	Q2 2010
	Bruce A, Unit 3 (life extended through to 2010) back in service after refurbishment	750	As early as Q3 2013
	Bruce A, Unit 4 (life extended through to 2015) back in service after refurbishment	750	As early as Q3 2018
Nuclear capacity expansion	Additional capacity	27	Q3 2009
	Darlington, two units	TBD	TBD

TABLE 2: REGIONAL REQUIREMENTS – PROJECTS CURRENTLY UNDER STUDY OR PROPOSED

This table lists the projects that Hydro One is actively pursuing. Some of these projects have already been committed and are planned to be in-service within the next two to three years. Others are in the design phase and are expected to be placed in-service in the following decade.

AREA	RELIABILITY NEEDS IN THE AREA	EXPECTED/ REQUIRED BY	PROJECT(S) PROPOSED TO MEET THE REQUIREMENT
Northeastern & Central Ontario	Isolate the Tembec (Spruce Falls) mill from the Smoky Falls line	Spring-2009	Kapuskasing TS: Install a 115kV breaker and reterminate the line from Smoky Falls GS
	Improve operational flexibility	Summer-2009	Pinard TS: Install 230kV circuit-switcher
	Increase transfer capability across the Flow-South Interface	Winter-2008/9	Essa TS x Claireville TS: Uprate 500kV circuits E510V & E511V
		Fall-2009	Porcupine TS: Install 2x125MVAr shunt capacitors
		Fall-2010	Porcupine TS: Install SVC
		Fall-2010	Kirkland Lake TS: Install SVC
		Fall-2010	Essa TS: Install 250MVAr shunt capacitor
		Winter-2010/11	Nobel SS: Install series capacitors in 500kV circuits
		Winter-2011/12	Hanmer TS: Install 149MVAr shunt capacitor
	Increase transfer capability across the Mississagi Flow-East Interface	Summer-2009	Mississagi TS: Expand existing generation rejection scheme
		Fall-2010	Mississagi TS: Install 2x75MVAr shunt capacitors
		Fall-2010	Algoma TS: Install 100MVAr shunt capacitor
		Fall-2011	Mississagi TS: Install +300/-100MVAr SVC
	Incorporate expanded facilities at the Mattagami River plants	Winter-2010/11	Pinard TS: Install 100MVAr shunt capacitor
		Winter-2010/11	Little Long SS: Expand 230kV switching facilities and install 100MVAr shunt capacitor
		Winter-2010/11	Harmon GS to Kipling GS: Modify 230kV transmission line
	Incorporate new, renewable generating capacity	Winter-2015/16	Manitoulin Island: Install new 230kV enabler line
		Summer-2017	North of Sudbury: Reinforce Transmission System
		Winter-2017/18	Sudbury to the GTA: Reinforce Transmission System
Northwestern Ontario	Provide voltage support	Spring-2009	Fort Frances TS: Install 22MVAr moveable shunt capacitor
		Winter-2010/11	Dryden TS: Install shunt capacitor
	Improve the supply to the Thunder Bay area	Summer-2010	Thunder Bay GS: Reconfigure the 115kV busbar
	Replacement for the C7 synchronous condenser	Winter-2010/11	Lakehead TS: Install a +60/ –40MVAr SVC
	Reinforce supply to the Thunder Bay area	Summer-2013	Lakehead TS to Birch TS: Install 230kV line
	Incorporate new, renewable generating capacity	Winter-2014/15	Lake Nipigon Area: Install new 230kV enabler line
Bruce Area	Increase transfer capability from the Bruce Area to accommodate a further 1000MW of new generating capacity	Winter-2008/09	Hanover TS x Orangeville TS: Uprate section of 230kV circuits B4V & B5V
		Spring-2010	Bruce Complex: Modify Bruce Special Protection System
		Spring-2011	Nanticoke TS: Install 500kV 350MVAr SVC
		Spring-2011	Detweiler TS: Install 230kV 350MVAr SVC
		Winter-2011/12	Bruce Complex to Milton TS: Install new 500kV double-circuit line
		Spring-2009 to Fall-2009	Middleport TS, Nanticoke TS & Buchanan TS: Install 7 capacitor banks
	Incorporate new, renewable generating capacity	Winter-2015/16	Goderich Area: Install new 230kV enabler line
		Winter-2015/16	Bruce Peninsula Area: Install new 230kV enabler line
Eastern Ontario	Increase transfer capability between Ontario & Quebec	Summer-2009 and Spring-2010	Hawthorne TS: Establish 1250MW dc Interconnection
		Fall-2008	St Lawrence: Revise Beauharnois-Saunders GR Scheme
		Fall-2012	Hawthorne TS to Merivale TS: Increase capacity of 230kV circuits M30A & M31A
	Increase supply capability to the area	Summer-2012	Ottawa South Area: Reinforce transmission facilities

TABLE 2: CONTINUED

AREA	RELIABILITY NEEDS IN THE AREA	EXPECTED/ REQUIRED BY	PROJECT(S) PROPOSED TO MEET THE REQUIREMENT
GTA-West	Provide voltage support	Winter-2008/09	Meadowvale TS: Install 44kV shunt capacitors
	Provide voltage support	Summer-2009	Halton TS: Install 27.6kV shunt capacitors
	Enhance the supply capability to Pleasant TS & Jim Yarrow TS and limit amount of load lost to individual contingencies	Spring-2010	Hurontario SS: Establish new SS & extend 230kV line from Cardiff TS
		Spring-2011	Hurontario SS to Jim Yarrow Jct: Build two 3km 230kV circuits
		Spring-2012	Hurontario SS to Pleasant TS: Build one 6km 230kV circuit
	Increase supply capability of the corridor and reduce transfers on the 500kV circuits to Claireville TS	Spring-2015	Milton TS: Install 500/230kV auto-transformers and construct new 230kV lines to Hurontario SS to create a new 230kV transmission corridor between Milton TS and Claireville TS.
GTA-Central	Reinforce corridor to allow Claireville 230kV bus to be operated open	Fall-2009	Claireville TS to Richview TS: Terminate idle 230kV circuit
	Increase transfer capability of transmission corridor	Winter-2010/11	Cherrywood TS to Claireville TS: Unbundle the two 500kV super-circuits
	Increase supply capability to the area	Spring-2012	Leaside TS to Bridgeman TS: Build new 115kV circuit
	Improve supply reliability	Summer-2016	Reinforce transmission facilities into downtown Toronto
GTA-East	Incorporate new generating facilities at Darlington B	Summer-2016	Bowmanville TS to Parkway TS: Reinforce the 500kV transmission facilities
	Reinforce supply to the Oshawa/ Whitby/Ajax areas	Summer-2016	Oshawa Area: Build new 500/230kV transformer station
Barrie-Stayner Area	Increase supply capability to the area	Spring-2009	Construct new 230kV double-circuit line between Essa and Stayner TS to replace existing 115kV line.
			Install 230/115kV auto-transformer at Stayner TS
			Install 230/44kV DESN station at Stayner TS
Niagara Area	Increase transfer capability of the Queenston Flow West Interface	Originally scheduled for Summer-2006. Delayed indefinitely	New 230kV double-circuit line between Allanburg TS to Middleport TS to reinforce the 230kV transmission corridor
	Increase supply capability	Spring-2009	Beck GS to Niagara-Murray TS: Uprate 115kV circuit Q4N
	Increase supply capability to the area	Spring-2009	St Catharines Area: Uprate circuits D9HS, D10S & Q11S
Burlington-Branford-Woodstock Areas	Increase load meeting capability of the station	Fall-2008	Burlington TS: Replace 215MVA transformers with 250MVA units
	Increase station's fault interrupting capability	Fall-2011	Burlington TS: Replace twelve 115kV breakers and buswork
	Improve 115kV supply in the Woodstock area	Spring-2011	Ingersoll TS: Extend 230kV tap to new 230/115kV transformer station
		Spring-2011	Woodstock East TS: Install new 115/27.6kV DESN station
Southwestern Ontario	Reinforce supply to the Windsor/Leamington/Kingsville Areas	Winter-2012/13	Essex County: 230kV double-circuit line to the new Leamington TS + 230kV double-circuit line between Sandwich Junction and Lauzon with full 230kV switching installed at Lauzon TS
	Increase the transfer capability through Keith TS	Spring-2013	Keith TS: Replace the two 115MVA transformers with 250MVA units
	Increase supply capability for Windsor	Spring-2014	Keith TS to Essex TS: Uprate 115kV circuits J3E and J4E
Kitchener-Waterloo-Cambridge-Guelph & Orangeville Areas	Provide dynamic voltage support	Spring-2011	Detweiler TS: Install 230kV 350MVAr SVC
	Increase the supply meeting capability for the Cambridge area	Winter-2012/13	Galt Junction to Galt TS: Uprate the 230kV circuits M20D and M21D
	Increase the supply meeting capability for the area	Spring-2012	Reinforce transmission facilities in the area

THE ONTARIO RELIABILITY OUTLOOK IS ISSUED BY THE INDEPENDENT ELECTRICITY SYSTEM OPERATOR (IESO) TO REPORT ON PROGRESS OF THE INTER-RELATED GENERATION, TRANSMISSION AND DEMAND MANAGEMENT PROJECTS UNDERWAY TO MEET FUTURE RELIABILITY REQUIREMENTS.

ieso
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The Independent Electricity System Operator (IESO) manages the province's power system so that Ontarians receive power when and where they need it. It does this by balancing demand for electricity against available supply through the wholesale market and directing the flow of electricity across the transmission system.