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Mississauga, Ontario  
L5C 3K1

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Ontario Energy Board  
P. O. Box 2319  
2300 Yonge Street, Suite 2700  
Toronto, ON M4P 1E4  
Attn: Ms. K. Walli  
Board Secretary

August 23, 2007

Dear Ms. Walli

Re: EB-2007-0706

Please find enclosed Enersource Hydro Mississauga Inc.'s 2008 Electricity Distribution Rates Application.

Sincerely,

A handwritten signature in black ink, appearing to read 'John Bonadie', written over a circular scribble.

John Bonadie  
Regulatory & Rates Analyst

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4 ONTARIO ENERGY BOARD  
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6  
7 IN THE MATTER OF the Ontario Energy Board Act, 1998,  
8 being Schedule B to the Energy Competition Act, 1998,  
9 S.O. 1998, c.15;

10  
11 AND IN THE MATTER OF an Application by Enersource  
12 Hydro Mississauga Inc. for an Order or Orders approving  
13 just and reasonable rates and other service charges for  
14 the distribution of electricity, effective May 1, 2008.  
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19 **APPLICATION**  
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- 21  
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- 23 1. The Applicant, Enersource, is an Ontario business corporation with its office located in  
24 the City of Mississauga. Enersource carries on the business of distributing electricity  
25 within the City of Mississauga.
  
  - 26 2. Enersource hereby applies to the Ontario Energy Board, pursuant to section 78 of the  
27 Ontario Energy Board Act, 1998, for approval of its proposed distribution rates and other  
28 charges, effective May 1, 2008.
  
  - 29 3. This application is supported by written prefiled evidence, prepared in accordance with  
30 the Board's filing requirements for rates based on a forward test year. A summary of the  
31 application is found at ExA/Sched3/Tab1 and a summary of the orders requested is  
32 found at ExA/Sched2/Tab1.
  
  - 33 4. The proposed rates and charges are just and reasonable, ensuring that Enersource will  
34 recover its reasonably incurred costs to provide electricity distribution services to its  
35 customers and allowing Enersource to earn a reasonable return on its invested capital.

1 5. The proposed rates will result in a monthly bill decrease of 1.33% or \$1.55 per  
2 residential customer consuming 1000 kWh per month.

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DATED at Mississauga, Ontario, August 22, 2007.

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Roland Herman  
Executive V.P. and C.O.O.

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ONTARIO ENERGY BOARD

IN THE MATTER OF the Ontario Energy Board Act, 1998,  
being Schedule B to the Energy Competition Act, 1998,  
S.O. 1998, c.15;

AND IN THE MATTER OF an Application by Enersource  
Hydro Mississauga Inc. for an Order or Orders approving  
just and reasonable rates and other service charges for  
the distribution of electricity, effective May 1, 2008.

**APPLICATION**

1. The Applicant, Enersource, is an Ontario business corporation with its office located in the City of Mississauga. Enersource carries on the business of distributing electricity within the City of Mississauga.
2. Enersource hereby applies to the Ontario Energy Board, pursuant to section 78 of the Ontario Energy Board Act, 1998, for approval of its proposed distribution rates and other charges, effective May 1, 2008.
3. This application is supported by written prefiled evidence, prepared in accordance with the Board's filing requirements for rates based on a forward test year. A summary of the application is found at ExA/Sched3/Tab1 and a summary of the orders requested is found at ExA/Sched2/Tab1.
4. The proposed rates and charges are just and reasonable, ensuring that Enersource will recover its reasonably incurred costs to provide electricity distribution services to its customers and allowing Enersource to earn a reasonable return on its invested capital.

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5. The proposed rates will result in a monthly bill decrease of 1.33% or \$1.55 per residential customer consuming 1000 kWh per month.

DATED at Mississauga, Ontario, August 22, 2007.



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Roland Herman  
Executive V.P. and C.O.O.



1 **Summary of the Application**

2  
3 Enersource proposes distribution rates and other regulated rates and charges for the 2008 Test  
4 Year based on:

- 5 • Proposed rate base: \$505.4 million
  - 6 ○ Proposed PPE: \$408.9 million
  - 7 ○ Proposed Working Capital Allowance: \$96.5 million
- 8 • Proposed costs of the period of \$89.8 million
  - 9 ○ Depreciation: \$34.4 million
  - 10 ○ OM&A: \$42.1 million
  - 11 ○ PILs: \$13.3million
- 12 • Overall cost of capital of 7.464% based on
  - 13 ○ A deemed 60/40 debt/equity capital structure
  - 14 ○ Enersource's actual cost of long term debt
  - 15 ○ Return on equity of 9%
- 16 • Recovery of the costs of the following initiatives:
  - 17 ○ The ongoing investment in Smart Meters;
  - 18 ○ The investment in the Customer Information System;
- 19 • Rate riders that return \$5.1 million to rate payers based on:
  - 20 ○ the net return of \$8.552 million related to the clearing of several variance
  - 21 accounts and regulatory asset balances as of December 31, 2006;
  - 22 ○ recovery of the Lost Revenue Adjustment Mechanism claim of \$0.370 million
  - 23 and Shared Savings Mechanism claim of \$1.280 million for Enersource's
  - 24 Conservation and Demand Management activities undertaken in 2006;
  - 25 ○ recovery of \$0.023 million of Ontario price Credit Administrative Costs;
  - 26 ○ return of \$0.031 million due to the past over-recovery of the Large Corporation
  - 27 Tax;
  - 28 ○ recovery of \$0.253 million of Low Voltage charges levied by Hydro One; and

- 1           ○ recovery of \$1.537 million of interest on regulatory assets
- 2           • Special Service Charges at the levels previously authorized for the 2007 Bridge Year;
- 3           • Standby rates that are currently interim made final for the 2006 and 2007 rate period and
- 4           final standby rates for 2008;
- 5           • Administrative fixed charge for standby customers as follows:
- 6           ○ For uncomplicated metering arrangements : \$200/month
- 7           ○ For complicated metering arrangement: \$500/month;
- 8           • Adjusted loss factors;
- 9           • 2006 EDR revenue requirement responsibility methodology to support the determination
- 10          of rates for all customer classes

11

12          The application, if approved, will authorize distribution rates and other charges to recover a

13          revenue requirement of \$124.3 million and will result in a monthly bill decrease of 1.33% or

14          \$1.55 per residential customer consuming 1000 kWh per month.



1 **Contact Information**

2  
3 Please direct all correspondence in this matter to:

4  
5 The Applicant:

6 Kathi Litt  
7 Manager, Rates and Regulatory  
8 Enersource Hydro Mississauga Inc.  
9 3240 Mavis Road  
10 Mississauga, ON L5C 3K1  
11 Tel: 905.283.4247  
12 Fax: 905.566.2737  
13 Email: [klitt@enersource.com](mailto:klitt@enersource.com)

14  
15 Counsel for the Applicant:

16 Pat Moran  
17 Ogilvy Renault, LLP  
18 Royal Bank Plaza, South Tower, Suite 3800  
19 200 Bay Street, P. O. Box 84  
20 Toronto, ON M5J 2Z4  
21 Tel: 416.216.2989  
22 Fax: 416.216.3930  
23 Email: [pmoran@ogilvyrenault.com](mailto:pmoran@ogilvyrenault.com)

Central - 5162 3-11  
11/1/03



# Electricity Distribution Licence

ED-2003-0017

Enersource Hydro Mississauga Inc.

Valid Until

March 31, 2023

*M. C. Garner*

---

**Mark C. Garner**  
Director of Licensing  
Ontario Energy Board

**Date of Issuance: June 26, 2003**

Ontario Energy Board  
P.O. Box 2319  
2300 Yonge Street  
26th. Floor  
Toronto, ON M4P 1E4

Commission de l'Énergie de l'Ontario  
C.P. 2319 2300, rue Yonge 26e étage  
Toronto ON M4P 1E4

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# Electricity Distribution Licence

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## 1 Definitions

In this Licence:

"**Accounting Procedures Handbook**" means the handbook, approved by the Board which specifies the accounting records, accounting principles and accounting separation standards to be followed by the Licensee;

"**Act**" means the Ontario Energy Board Act, 1998, S.O. 1998, c. 15, Schedule B, as amended;

"**Affiliate Relationships Code for Electricity Distributors and Transmitters**" means the code, approved by the Board which, among other things, establishes the standards and conditions for the interaction between electricity distributors or transmitters and their respective affiliated companies;

"**Board**" means the Ontario Energy Board;

"**Director**" means the Director of Licensing appointed under section 5 of the *Act*;

"**distribution services**" means services related to the distribution of electricity and the services the Board has required distributors to carry out, including the sales of electricity to consumers under section 29 of the *Act*, for which a charge or rate has been established in the Rate Order;

"**Distribution System Code**" means the code approved by the Board which, among other things, establishes the obligations of the distributor with respect to the services and terms of service to be offered to customers and retailers and provides minimum, technical operating standards of distribution systems;

"**Electricity Act**" means the *Electricity Act, 1998*, S.O. 1998, c. 15, Schedule A, as amended;

"**Licensee**" means Enersource Hydro Mississauga Inc.;

"**Market Rules**" means the rules made under section 32 of the *Electricity Act*;

"Performance Standards" means the performance targets for the distribution and connection activities of the Licensee as established by the Board in accordance with section 83 of the *Act*;

"Rate Order" means an Order or Orders of the Board establishing rates the Licensee is permitted to charge;

"Retail Settlement Code" means the code approved by the Board which, among other things, establishes a distributor's obligations and responsibilities associated with financial settlement among retailers and consumers and provides for tracking and facilitating consumer transfers among competitive retailers;

"service area" with respect to a distributor, means the area in which the distributor is authorized by its licence to distribute electricity;

"Standard Supply Service Code" means the code approved by the Board which, among other things, establishes the minimum conditions that a distributor must meet in carrying out its obligations to sell electricity under section 29 of the *Electricity Act*;

"wholesaler" means a person that purchases electricity or ancillary services in the IMO-administered markets or directly from a generator or, a person who sells electricity or ancillary services through the IMO-administered markets or directly to another person other than a consumer.

## 2 Interpretation

2.1 In this Licence words and phrases shall have the meaning ascribed to them in the *Act* or the *Electricity Act*. Words or phrases importing the singular shall include the plural and vice versa. Headings are for convenience only and shall not affect the interpretation of the licence. Any reference to a document or a provision of a document includes an amendment or supplement to, or a replacement of, that document or that provision of that document. In the computation of time under this licence where there is a reference to a number of days between two events, they shall be counted by excluding the day on which the first event happens and including the day on which the second event happens and where the time for doing an act expires on a holiday, the act may be done on the next day.

## 3 Authorization Granted under this Licence

3.1 The Licensee is authorized, under Part V of the *Act* and subject to the terms and conditions set out in this Licence:

a)	To own and operate a distribution system in the service area described in Schedule 1 of this Licence;	25
b)	To retail electricity for the purposes of fulfilling its obligation under section 29 of the <i>Electricity Act</i> in the manner specified in Schedule 2 of this Licence; and ,	26
c)	To act as a wholesaler for the purposes of fulfilling its obligations under the Retail Settlement Code or under section 29 of the <i>Electricity Act</i> .	27
<b>4</b>	<b>Obligation to Comply with Legislation, Regulations and Market Rules</b>	28
4.1	The Licensee shall comply with all applicable provisions of the <i>Act</i> and the <i>Electricity Act</i> and regulations under these Acts except where the Licensee has been exempted from such compliance by regulation.	29
4.2	The Licensee shall comply with all applicable Market Rules.	30
<b>5</b>	<b>Obligation to Comply with Codes</b>	31
5.1	The Licensee shall at all times comply with the following Codes (collectively the "Codes") approved by the board, except where the Licensee has been specifically exempted from such compliance by the Board. Any exemptions to this requirement are set out in Schedule 3 of this Licence:	32
a)	the Affiliate Relationships Code for Electricity Distributors and Transmitters;	33
b)	the Distribution System Code;	34
c)	the Retail Settlement Code, and;	35
d)	the Standard Supply Service Code.	36
5.2	The Licensee shall:	37
a)	Make a copy of the Codes available for inspection by members of the public at its head office and regional offices during normal business hours and;	38

- b) Provide a copy of the Codes to any person who requests it. The Licensee may impose a fair and reasonable charge for the cost of providing copies.

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## 6 Obligation to Provide Non-discriminatory Access

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- 6.1 The Licensee shall, upon the request of a consumer, generator or retailer, provide such consumer, generator or retailer with access to the Licensee's distribution system and shall convey electricity on behalf of such consumer, generator or retailer in accordance with the terms of this Licence.

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## 7 Obligation to Connect

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- 7.1 The Licensee shall connect a building to its distribution system if:

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- a) The building lies along any of the lines of the distributor's distribution system, and
- b) The owner, occupant or other person in charge of the building requests the connection in writing.

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- 7.2 The Licensee shall make an offer to connect a building to its distribution system if:

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- a) The building is within the Licensee's service area as described in Schedule 1, and
- b) The owner, occupant or other person in charge of the building requests the connection in writing.

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- 7.3 The terms of such connection or offer to connect shall be fair and reasonable and made in accordance with the Distribution System Code, and the Licensee's Rate Order as approved by the Board.

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- 7.4 The Licensee shall not refuse to connect or refuse to make an offer to connect unless it is permitted to do so by the *Act* or any Codes to which the Licensee is obligated to comply with as a condition of this Licence.

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		51
<b>8</b>	<b>Obligation to Sell Electricity</b>	
		52
8.1	The Licensee shall fulfill its obligation under section 29 of the <i>Electricity Act</i> to sell electricity in accordance with the requirements established in the Standard Supply Service Code, the Retail Settlement Code and the Licensee's Rate Order as approved by the Board.	
		53
<b>9</b>	<b>Obligation to Maintain System Integrity</b>	
		54
9.1	The Licensee shall maintain its distribution system to the standards established in the Distribution System Code, Market Rules and have regard to any other recognized industry operating or planning standards adopted by the Board.	
		55
<b>10</b>	<b>Market Power Mitigation Rebates</b>	
		56
10.1	The Licensee shall comply with the pass through of Ontario Power Generation rebate conditions set out in Appendix A of this Licence.	
		57
<b>11</b>	<b>Distribution Rates</b>	
		58
11.1	The Licensee shall not charge for connection to the distribution system, the distribution of electricity or the retailing of electricity to meet its obligation under section 29 of the <i>Electricity Act</i> except in accordance with a Rate Order of the Board.	
		59
<b>12</b>	<b>Separation of Business Activities</b>	
		60
12.1	The Licensee shall keep financial records associated with distributing electricity separate from its financial records associated with transmitting electricity or other activities in accordance with the Accounting Procedures Handbook and as otherwise required by the Board.	
		61
<b>13</b>	<b>Expansion of Distribution System</b>	
		62
13.1	The Licensee shall not construct, expand or reinforce an electricity distribution system or make and interconnection except in accordance with the <i>Act</i> and Regulations, the Distribution System Code and applicable provisions of the Market Rules.	

13.2 In order to ensure and maintain system integrity or reliable and adequate capacity and supply of electricity, the Board may order the Licensee to expand or reinforce its distribution system in accordance with Market Rules and the Distribution System Code, or in such a manner as the Board may determine.

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#### 14 Provision of Information to the Board and Director of Licensing

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14.1 The Licensee shall maintain records of and provide, in the manner and form determined by the Board or the Director, such information as the Board or the Director may require from time to time.

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14.2 Without limiting the generality of condition 14.1 the Licensee shall notify the Director of any material change in circumstances that adversely affects or is likely to adversely affect the business, operations or assets of the Licensee as soon as practicable, but in any event no more than twenty (20) days past the date upon which such change occurs.

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#### 15 Restrictions on Provision of Information

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15.1 The Licensee shall not use information regarding a consumer, retailer, wholesaler or generator obtained for one purpose for any other purpose without the written consent of the consumer, retailer, wholesaler or generator.

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15.2 The Licensee shall not disclose information regarding a consumer, retailer, wholesaler or generator to any other party without the written consent of the consumer, retailer, wholesaler or generator, except where such information is required to be disclosed:

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a) to comply with any legislative or regulatory requirements, including the conditions of this Licence;

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b) for billing, settlement or market operations purposes;

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c) for law enforcement purposes; or

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d) to a debt collection agency for the processing of past due accounts of the consumer, retailer, wholesaler or generator.

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15.3	The Licensee may disclose information regarding consumers, retailers, wholesalers or generators where the information has been sufficiently aggregated such that their particular information cannot reasonably be identified.	74
15.4	The Licensee shall inform consumers, retailers, wholesalers and generators of the conditions under which their information may be released to a third party without their consent.	75
15.5	If the Licensee discloses information under this section, the Licensee shall ensure that the information provided will not be used for any other purpose except the purpose for which it was disclosed.	76
<b>16</b>	<b>Customer Complaint and Dispute Resolution</b>	77
16.1	The Licensee shall:	78
a)	have a process for resolving disputes with customers that deals with disputes in a fair, reasonable and timely manner;	79
b)	publish information which will make its customers aware of and help them to use its dispute resolution process;	80
c)	make a copy of the dispute resolution process available for inspection by members of the public at each of the Licensee's premises during normal business hours;	81
d)	give or send free of charge a copy of the process to any person who reasonably requests it; and	82
e)	refer unresolved complaints and subscribe to an independent third party complaints resolution service provider selected by the Board. This condition will become effective on a date to be determined by the Director. The Director will provide reasonable notice to the Licensee of the date this condition becomes effective.	83
<b>17</b>	<b>Term of Licence</b>	84
17.1	This Licence shall take effect on June 26, 2003 and terminate on March 31, 2023.	85

<b>18</b>	<b>Transfer of Licence</b>	86
18.1	In accordance with subsection 18(2) of the <i>Act</i> , this Licence is not transferable or assignable without leave of the Board.	87
<b>19</b>	<b>Amendment of Licence</b>	88
19.1	The Board may amend this Licence in accordance with section 74 of the <i>Act</i> or section 38 of the <i>Electricity Act</i> .	89
<b>20</b>	<b>Fees and Assessments</b>	90
20.1	The Licensee shall pay all fees charged and amounts assessed by the Board.	91
<b>21</b>	<b>Communication</b>	92
21.1	The Licensee shall designate a person that will act as a primary contact with the Director of Licensing on matters related to this Licence. The Licensee shall notify the Director promptly should the contact details change.	93
21.2	All official communication relating to this Licence shall be in writing.	94
21.3	All written communication is to be regarded as having been given by the sender and received by the addressee:	95
a)	when delivered in person to the addressee by hand, by registered mail or by courier;	96
b)	seven (7) business days after the date of posting if the communication is sent by regular mail; and,	97
c)	when received by facsimile transmission by the addressee, according to the sender's transmission report.	98

**22 Copies of the Licence** 99

22.1 The Licensee shall: 100

a) make a copy of this Licence available for inspection by members of the public at its head office and regional offices during normal business hours and; 101

b) provide a copy of the Licence to any person who requests it. The Licensee may impose a fair and reasonable charge for the cost of providing copies. 102

## Schedule 1      Definition of Distribution Service Area

---

103

This Schedule specifies the area in which the Licensee is authorized to distribute and sell electricity in accordance with condition 8 of this Licence.

104

1      The City of Mississauga as of December 31, 1990.

105

## Schedule 2      Provision of Standard Supply Service

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106

This Schedule specifies the manner in which the Licensee is authorized to retail electricity for the purposes of fulfilling its obligation under section 29 of the *Electricity Act*.

107

The Licensee is authorized to retail electricity directly to consumers within its service area in accordance with condition 8 of this Licence, any applicable exemptions to this Licence, and at the rates set out in the Rate Orders.

108

## Schedule 3 List of Code Exemptions

---

109

This Schedule specifies any specific Code requirements from which the Licensee has been exempt.

110

The Licensee is exempt from the requirements of section 2.5.3 of the Standard Supply Service Code with respect to the price for small volume/residential consumers, subject to the Licensee offering an equal billing plan as described in its application for exemption from Fixed Reference Price, and meeting all other undertakings and material representations contained in the application and the materials filed in connection with it.

111



## Appendix A Market Power Mitigation Rebates

### 1 Definitions and Interpretation

In this Licence,

"embedded distributor" means a distributor who is not a market participant and to whom a host distributor distributes electricity;

"embedded generator" means a generator who is not a market participant and whose generation facility is connected to a distribution system of a distributor, but does not include a generator who consumes more electricity than it generates;

"host distributor" means a distributor who is a market participant and who distributes electricity to another distributor who is not a market participant.

In this Licence, a reference to the payment of a rebate amount by the IMO includes interim payments made by the IMO.

### 2 Information Given to IMO

a Prior to the payment of a rebate amount by the IMO to a distributor, the distributor shall provide the IMO, in the form specified by the IMO and before the expiry of the period specified by the IMO, with information in respect of the volumes of electricity withdrawn by the distributor from the IMO-controlled grid during the rebate period and distributed by the distributor in the distributor's service area to:

i consumers served by a retailer where a service transaction request as defined in the Retail Settlement Code has been implemented; and

ii consumers other than consumers referred to in clause (i) who are not receiving the fixed price under sections 79.4 and 79.5 of the *Ontario Energy Board Act, 1998*.

b Prior to the payment of a rebate amount by the IMO to a distributor which relates to electricity consumed in the service area of an embedded distributor, the embedded distributor shall provide the host distributor, in the form specified by the IMO and before the expiry of the period specified in the Retail Settlement Code, with the volumes of electricity distributed during the

rebate period by the embedded distributor's host distributor to the embedded distributor net of any electricity distributed to the embedded distributor which is attributable to embedded generation and distributed by the embedded distributor in the embedded distributor's service area to:

- i consumers served by a retailer where a service transaction request as defined in the Retail Settlement Code has been implemented; and 124
- ii consumers other than consumers referred to in clause (i) who are not receiving the fixed price under sections 79.4 and 79.5 of the *Ontario Energy Board Act, 1998*. 125
- c Prior to the payment of a rebate amount by the IMO to a distributor which relates to electricity consumed in the service area of an embedded distributor, the host distributor shall provide the IMO, in the form specified by the IMO and before the expiry of the period specified by the IMO, with the information provided to the host distributor by the embedded distributor in accordance with section 2. 126

The IMO may issue instructions or directions providing for any information to be given under this section. The IMO shall rely on the information provided to it by distributors and there shall be no opportunity to correct any such information or provide any additional information and all amounts paid shall be final and binding and not subject to any adjustment. 127

For the purposes of attributing electricity distributed to an embedded distributor to embedded generation, the volume of electricity distributed by a host distributor to an embedded distributor shall be deemed to consist of electricity withdrawn from the IMO-controlled grid or supplied to the host distributor by an embedded generator in the same proportion as the total volume of electricity withdrawn from the IMO-controlled grid by the distributor in the rebate period bears to the total volume of electricity supplied to the distributor by embedded generators during the rebate period. 128

**3 Pass Through of Rebate** 129

A distributor shall promptly pass through, with the next regular bill or settlement statement after the rebate amount is received, any rebate received from the IMO, together with interest at the Prime Rate, calculated and accrued daily, on such amount from the date of receipt, to: 130

- a retailers who serve one or more consumers in the distributor's service area where a service transaction request as defined in the Retail Settlement Code has been implemented; 131

- b consumers who are not receiving the fixed price under sections 79.4 and 79.5 of the *Ontario Energy Board Act, 1998* and who are not served by a retailer where a service transaction request as defined in the Retail Settlement Code has been implemented; and
- c embedded distributors to whom the distributor distributes electricity.

The amounts paid out to the recipients listed above shall be based on energy consumed and calculated in accordance with the rules set out in the Retail Settlement Code. These payments may be made by way of set off at the option of the distributor.

If requested in writing by OPGI, the distributor shall ensure that all rebates are identified as coming from OPGI in the following form on or with each applicable bill or settlement statement:

"ONTARIO POWER GENERATION INC. rebate"

Any rebate amount which cannot be distributed as provided above or which is returned by a retailer to the distributor in accordance with its licence shall be promptly returned to the host distributor or IMO as applicable, together with interest at the Prime Rate, calculated and accrued daily, on such amount from the date of receipt.

Nothing shall preclude an agreement whereby a consumer assigns the benefit of a rebate payment to a retailer or another party.

Pending pass-through or return to the IMO of any rebate received, the distributor shall hold the funds received in trust for the beneficiaries thereof in a segregated account.



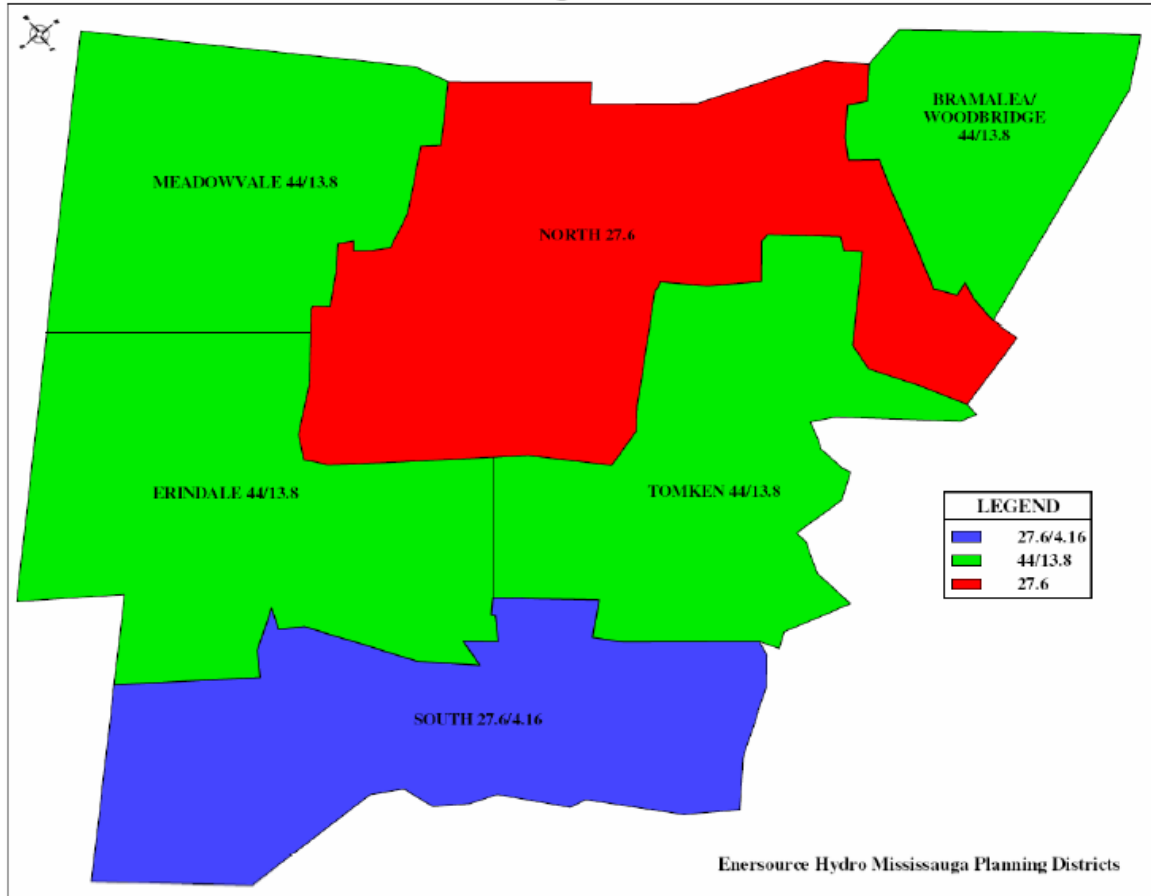


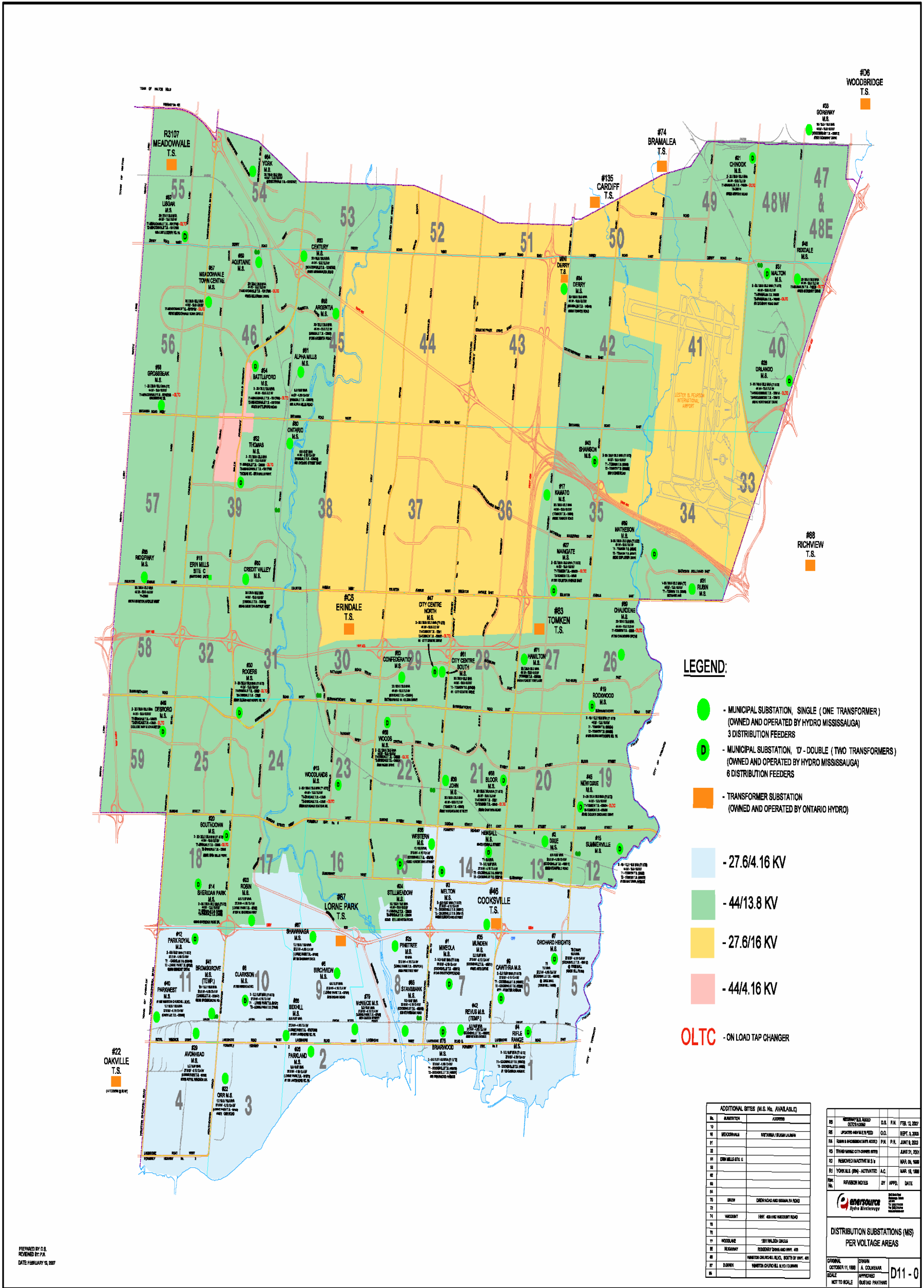
1 **Distribution System Diagrams**

2

3 Please see the attached schematic.

Figure 1







1

## **Distribution System**

2 Electrical power in the City of Mississauga originates from 10 Hydro One Networks Inc.  
3 transformer stations. The power is transformed at these transformer stations from 230 kV down  
4 to Enersource sub-transmission voltages of 44 kV and 27.6 kV or to Enersource primary  
5 distribution voltages of 16.0/ 27.6 kV. The sub-transmission voltages of 44 kV and 27.6 kV are  
6 further transformed at Enersource Municipal Substations to primary distribution voltages of  
7 8.0/13.8 kV and 2.4/4.16 Kv. Enersource's distribution system is comprised of three distinct sub-  
8 systems:

- 9
- One in northern Mississauga that operates at a voltage of 27.6 kV (North 27.6 kV");
  - 10 • One in central Mississauga that operates at a sub-transmission voltage of 44 kV ("44  
11 kV"); and
  - 12 • One in southern Mississauga that operates at a sub-transmission voltage of 27.6 kV  
13 ("South 27.6 kV").

14

15 These systems are identified in the diagram provided at ExA/Sched8/Tab1.

16

17 The sub-transmission system consists of power lines that take electrical energy from the  
18 transformer stations and delivers it directly to larger customers, or to substations where it is  
19 transformed for delivery onto the Enersource distribution system. Enersource's sub-transmission  
20 system is comprised of the following:

21

### ***44 kV Sub-transmission***

- 22
- Delivery points at Meadowvale TS, Erindale TS, Tomken TS, Bramalea TS  
23 and Woodbridge TS;
  - 24 • 47 operational supply feeders with a total capacity of 1645 MVA;
  - 25

- 1           •       2 possible additional feeders from Meadowvale TS (requires bus extension)
- 2                   with a capacity potential of 70MVA;
- 3           •       2 express feeders are for export of generation;
- 4           •       33 industrial/ commercial customers directly connected consisting of 80
- 5                   customer owned power transformers;
- 6           •       1,405 km of 44kV power lines;
- 7

8           ***27.6 kV Sub-transmission***

- 9           •       Delivery points at Cooksville TS, Lorne Park TS and Oakville TS;
- 10          •       26 operational supply feeders with a total capacity of 572 MVA;
- 11          •       767 km of 27.6kV power lines;
- 12          •       285 customers directly connected (269 industrial/commercial and 16
- 13                   residential);
- 14          •       174 customer owned transformers directly connected and 11 EHM
- 15                   transformers directly connected;
- 16          •       4 express feeders.
- 17

18   The distribution system delivers electrical energy from Enersource's substations to the majority  
19   of Enersource's customers. The Enersource distribution system consists of the following:

20

21           ***16.0/27.6 kV Distribution***

- 22          •       Delivery points at Erindale TS, Bramalea TS, Richview TS and Cardiff TS;
- 23          •       32 operational supply feeders with a total capacity of 704 MVA;

- 1           •     40,063 customers connected (4,389 industrial/commercial and 35,674
- 2                     residential);
- 3           •     2,778 km of 16.0/27.6 kV power lines; and
- 4           •     5,953 transformers connected (164 transformers are customer owned).

5

6           ***8.0/13.8 kV Distribution***

- 7           •     40 municipal stations comprised of 62 step-down transformers rated 44/13.8
- 8                     kV;
- 9           •     193 operational feeders with a total capacity of 1,544 MVA;
- 10          •     115,742 customers connected (13,974 industrial/commercial and 101,768
- 11                     residential);
- 12          •     5,401 km of 8.0/13.8kV power lines;
- 13          •     15,675 transformers connected.

14

15          ***2.4/4.16 kV Distribution***

- 16          •     26 municipal substations comprised of 34 step-down transformers rated
- 17                     4.16/27.6 kV;
- 18          •     103 operational feeders with a total capacity of 247 MVA;
- 19          •     28,248 customers connected (2,159 industrial/commercial and 26,089
- 20                     residential);
- 21          •     1,135 km of 2.4/ 4.16 kV power lines;
- 22          •     3,822 transformers connected.

1 **Major Drivers for Facilities Requirement**

2 The major drivers contributing to the need for new or upgrade of facilities include:

- 3
- 4 • Long Term Demand Forecast
  - 5 • Connection of future new large customers
  - 6 • Load Duration Curves
  - 7 • Reliability Performance
- 8

9 Additions to the Enersource system are normally required because of an expected violation of  
10 Enersource's performance criteria or because of aging infrastructure. The most important  
11 performance criterion is to avoid loading any one individual feeder with more than 600 amps  
12 because that would exceed equipment ratings such as the amount of amps that a switch or cable  
13 can carry. From a system planning perspective, Enersource prefers not to load feeders beyond  
14 300 amps. This means that if a feeder fails or under emergency conditions the entire load can be  
15 supplied by an adjacent feeder.

16

17 A sample of voltage performance criteria violations of system adequacy - in particular the ability  
18 to maintain satisfactory power capacity and voltage levels - drives requirements for new  
19 facilities. Enersource checks for violations of its performance criteria using load flow models.  
20 For example, ideally voltage is not to exceed plus or minus 5 % at the customer end to meet CSA  
21 specifications. Most electrical equipment is made to work properly within this 5 % voltage  
22 tolerance. As customers acquire more and more sensitive equipment, this voltage tolerance  
23 becomes more and more important. Where this becomes an issue is on long feeders and system  
24 changes are made to compensate for this. Violations usually result from increased power flows  
25 over sub-transmission or distribution facilities. Aging infrastructure impacts reliability and may  
26 result in a requirement for new or upgrade of facilities.

1 The Enersource system peak is almost entirely weather driven. The summer of 2005 was much  
2 hotter overall than the summer of 2006. This was reflected in improved reliability numbers for  
3 2006 compared to 2005. Enersource customers experienced an average of 27.2 minutes of power  
4 interruption for 2006, which is a decrease of 4.5 minutes (14.2%) from 2005.

5  
6 Significant growth in housing, industrial and commercial service developments has occurred  
7 over the last three years in Mississauga. Extensive industrial development is continuing to occur  
8 within the North 27.6kV system in the industrial/commercial sector and this trend is expected to  
9 continue over the next three to five years. A major water and waste water treatment plant  
10 (approx. 26 MW) is expected to be fully operational by 2008 and will be fed by the South  
11 27.6kV system. The 44kV system continues to serve predominantly residential and commercial  
12 loads and will be further stressed by significant residential loads that are either planned or under  
13 construction as of August 2007 and are in the western and central portion of the city. These sites  
14 will be occupied over the next 2 to 3 years and are projected to add approximately 30MW of  
15 load.

16  
17 Enersource's distribution system must be expanded in the medium term, being 2-5 years, for  
18 Enersource to be able to effectively and reliably serve its customers. The Enersource System  
19 Capacity Report provides a discussion of Enersource's anticipated capital developments for the  
20 years 2008 to 2010. The projects that are recommended in this report are related to the  
21 reinforcement of a number of areas in the City of Mississauga.

22

### 23 **Long Term Demand Forecast**

24 Peak demand has averaged an annual compounded growth of 4.62% over the 2000 to 2006 time  
25 frame. Demand growth is a function of weather, economic activity, the rate of population growth  
26 and the increase in the number of housing units. The City of Mississauga economy has expanded

1 consistently since the year 2000, with the population growing by 40,000 people. Also  
2 approximately 55,000 new jobs were added and more than 20,000 housing units built.

3

4 In the next 5-10 years the City of Mississauga will be fully developed. Modest growth is still  
5 expected because re-development will occur. Specifically, high density housing will be  
6 constructed in place of the existing housing stock. Therefore, growth in peak demand is  
7 expected to continue.

1  
2  
3  
4  
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6  
7  
8  
9

**Host Distributor**  
**and**  
**Embedded Distributors**

Enersource is connected to the provincial transmission grid and takes delivery of power and energy from Hydro One Networks' transmission system. Enersource is not served by a host distributor. Enersource does not deliver power and energy to an embedded rate regulated distributor. Enersource delivers power and energy to unlicensed embedded distributors as enabled by O. Reg. 161/99.





**Load Transfers**

1  
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8  
9  
10  
11  
12

Enersource delivers electricity to customers located outside of its licensed service area under long standing load transfer agreements. Similarly, a few of the inhabitants of Enersource’s service area are provided delivery service by neighbouring distributors, also under long standing load transfer agreements. These agreements must be regularized by January 31, 2009, as required by section 6.5 of the Distribution System Code. Enersource must file a plan setting out how this provision will be satisfied no later than December 31, 2007.

Enersource’s load transfer arrangements with neighbouring distributors are summarized in the following table.

	# non-Enersource customers served by Enersource	# Enersource customers served by other LDC
Toronto Hydro-Electric System Limited	0	0
Oakville Hydro Electric Distribution Inc.	0	6
Milton Hydro Distribution Inc.	37	0
Hydro One Brampton Networks Inc.	7	1

13



1 The activities required to operate a commercial enterprise include:  
2

- 3 • Providing appropriate levels of service and quality of service;
- 4 • Providing accurate and timely bills for the services rendered and correctly applying  
5 payments;
- 6 • Providing and maintaining appropriate levels of contact with customers;
- 7 • Ensuring that all required legal agreements are in place and are enforced;
- 8 • Providing appropriate internal support (e.g., Human Resources, IT).
- 9

10 Enersource does not engage in non-distribution activities. All Enersource's activities are those  
11 required to provide distribution service to an appropriate level of quality.  
12

1

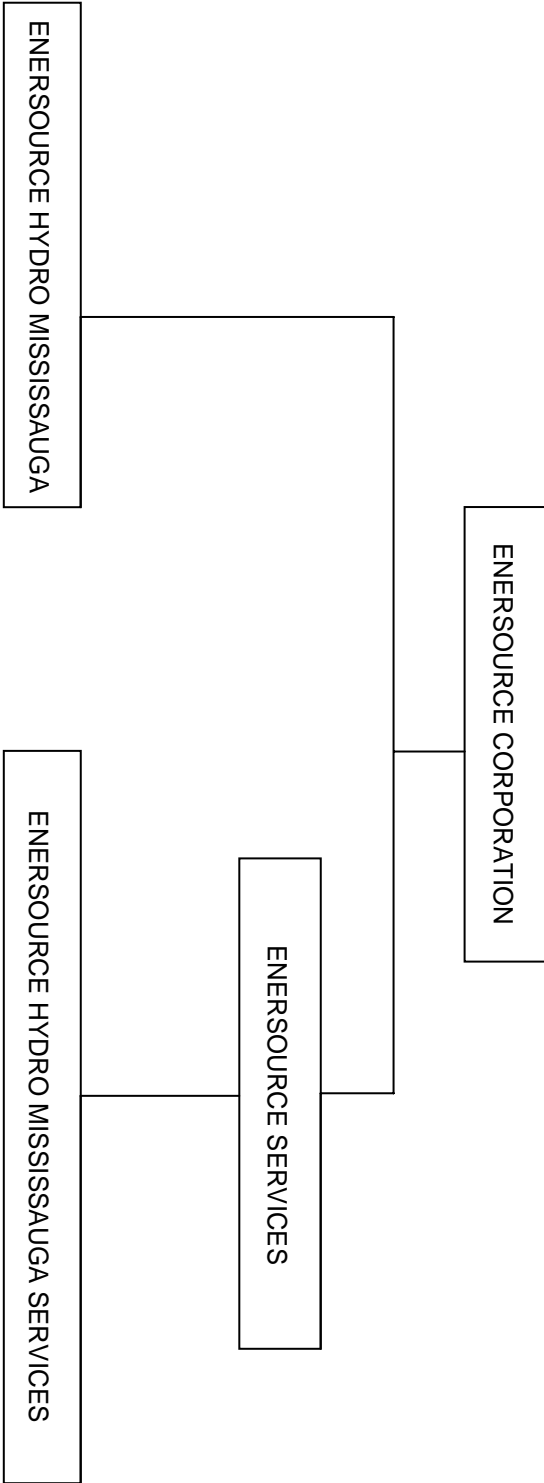
2

**Ownership Structure**

3

4 Attached is an organization chart that identifies Enersource's owner and Enersource's non-  
5 dormant affiliates.

# ENERSOURCE



1 **Enersource's Organization Chart**

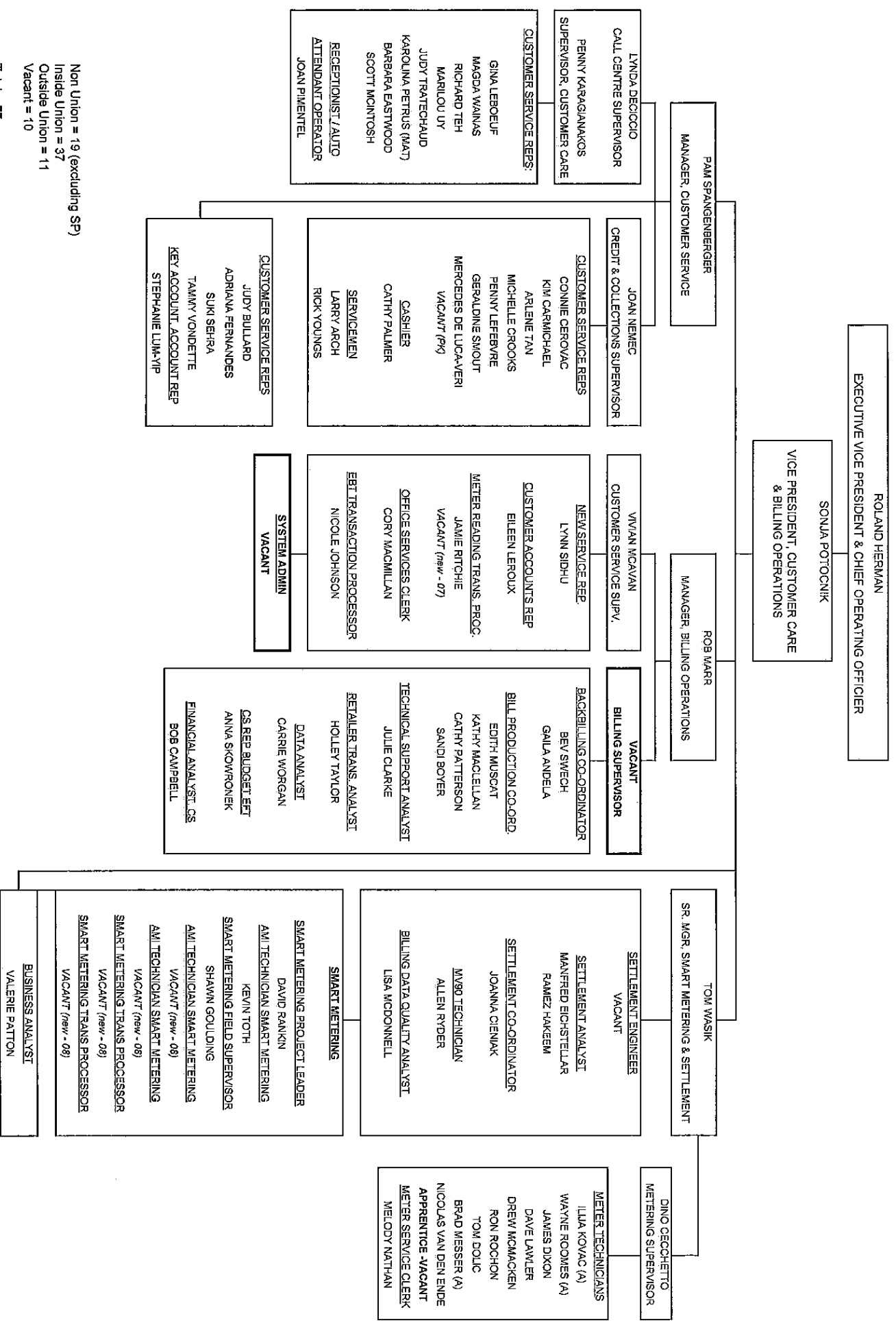
2

3 Attached are Enersource's organization charts as of July 2007.

**ENERSOURCE CORPORATION  
ORGANIZATION CHART  
SUMMARY OF HEADCOUNT**

DIVISION	ENERSOURCE CORPORATION CO.# 20		ENERSOURCE HYDRO REGULATED MISSISSAUGA CO.# 10		Total Active Union		Total Non-Union		Total Vacant Union		Grand Total	
	ACTIVE	VACANT	ACTIVE	VACANT	Inside	Outside	Active	Vacant	Inside	Outside	Active	Vacant
Executive	4		4	0	0	0	8	0	0	0	8	0
HR/ADMIN/SFT/COMM/COUNSEL	13	1			0	0	13	1	0	0	13	1
Finance	25	4			15	0	10	3	1	0	25	4
Rates & Reg. Affairs and Conservation			7	3	1	0	6	3	0	0	7	3
Customer Service & Billing Operations			67	10	37	11	19	4	5	1	67	10
Information Services			40	7	11	7	22	6	1	0	40	7
Distribution & Standards			65	11	4	54	7	1	3	7	65	11
Construction & Logistics			30	1	7	19	4	0	0	1	30	1
Customer Engineering			27	2	8	14	5	0	2	0	27	2
System Operations			35	6	2	24	9	2	0	4	35	6
System Planning			5	3	2	0	3	1	0	2	5	3
Enersource HM Services												
<b>TOTAL</b>	<b>42</b>	<b>5</b>	<b>280</b>	<b>43</b>	<b>87</b>	<b>129</b>	<b>106</b>	<b>21</b>	<b>12</b>	<b>15</b>	<b>322</b>	<b>48</b>

# ENERSOURCE HYDRO MISSISSAUGA CUSTOMER CARE

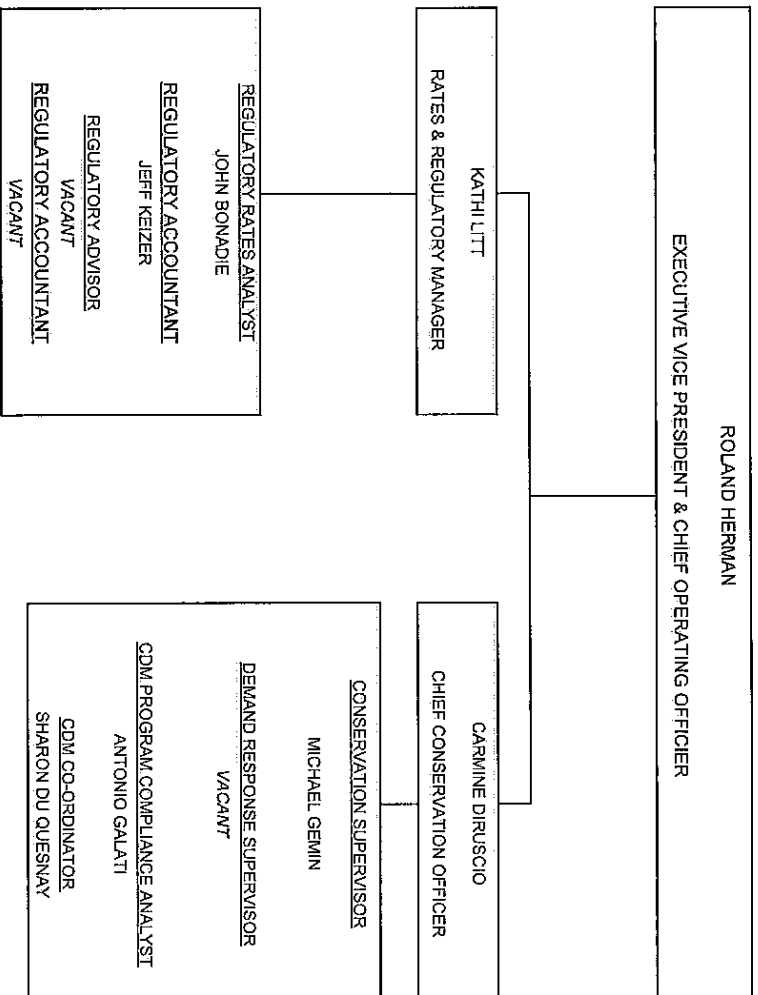


Non Union = 19 (excluding SP)  
 Inside Union = 37  
 Outside Union = 11  
 Vacant = 10  
 Total = 77



# ENERSOURCE HYDRO MISSISSAUGA

## RATES REGULATORY AFFAIRS AND CONSERVATION



Inside union = 1

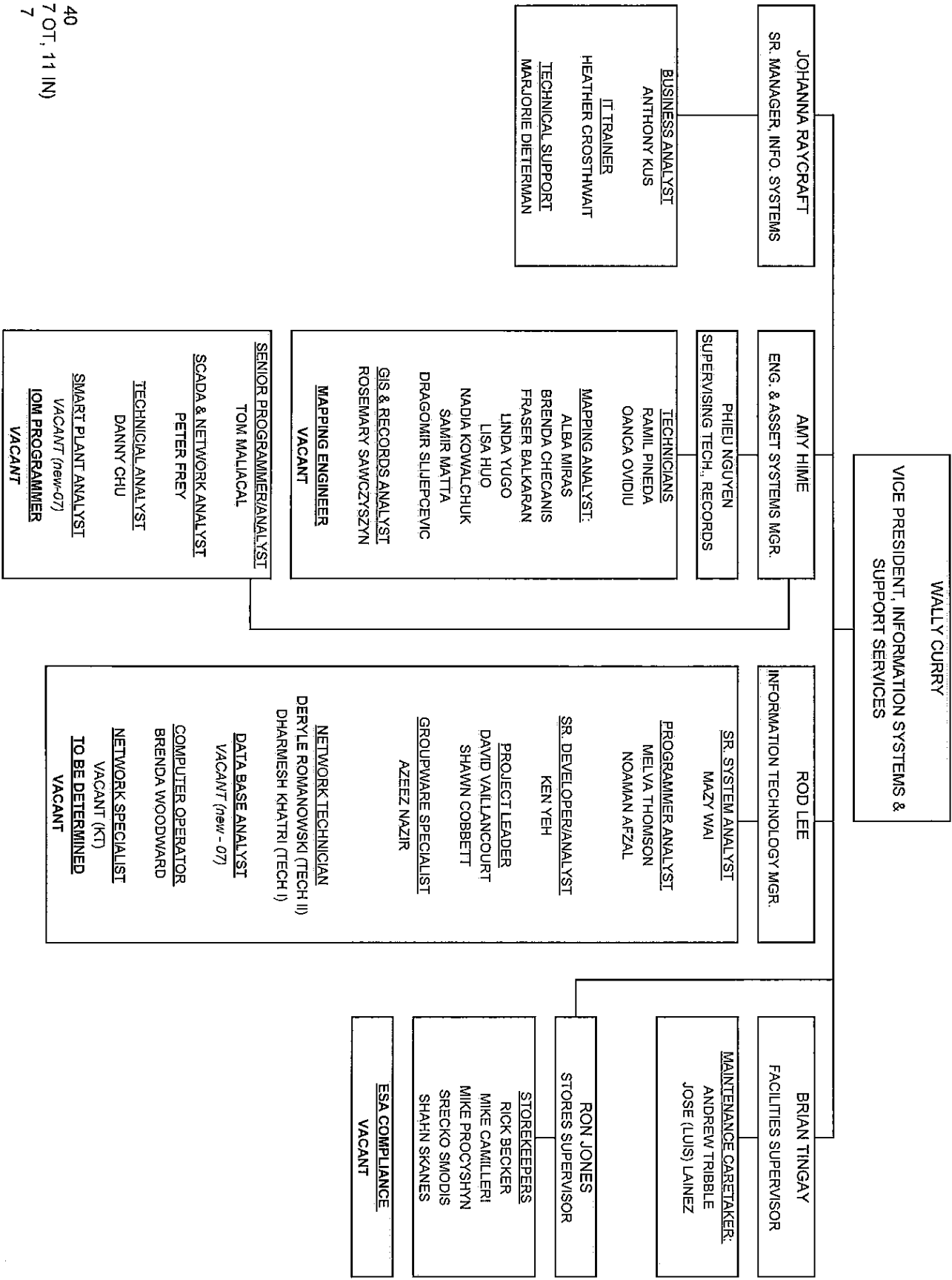
Non union = 6

Total Active = 7

Total Vacant = 3

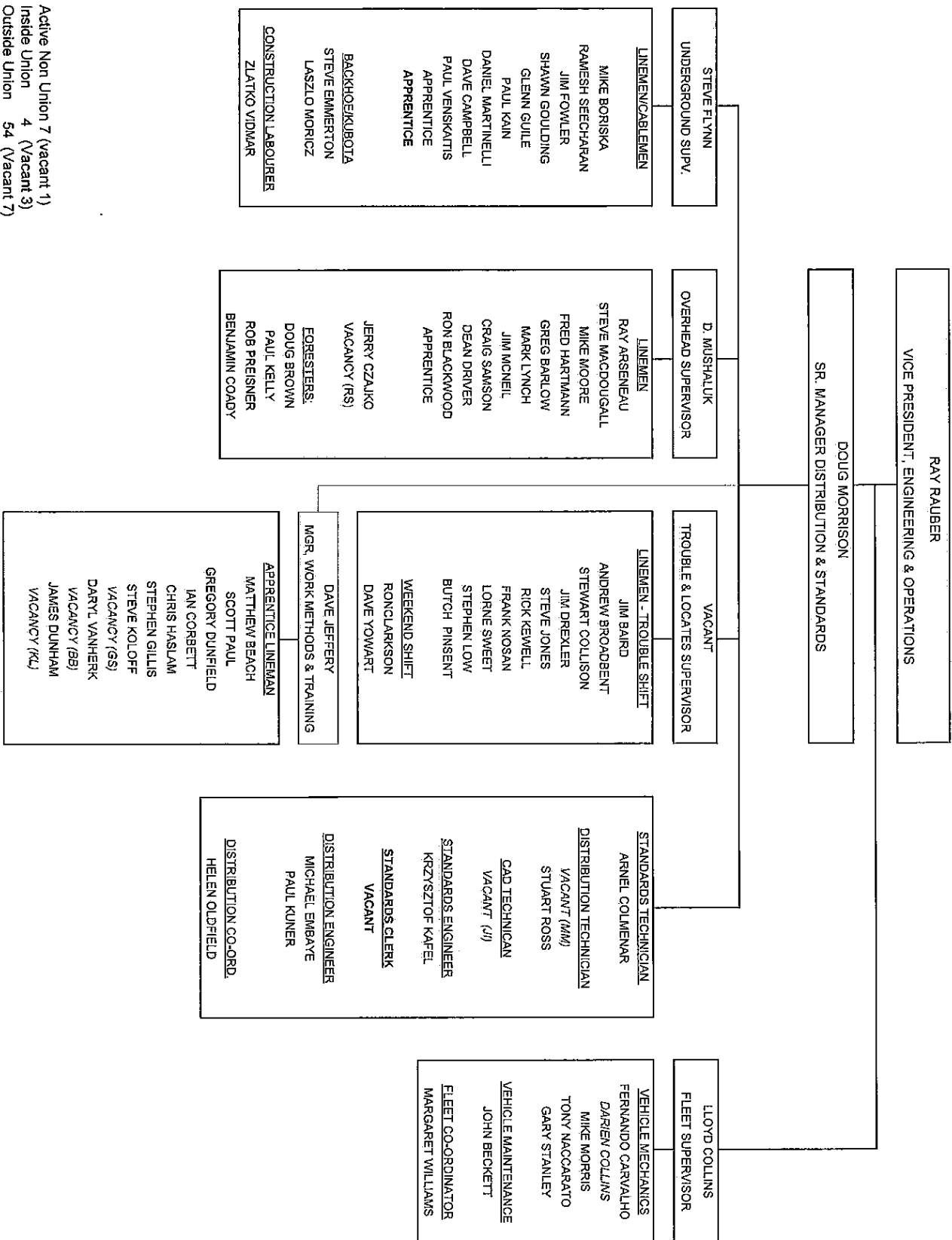
# ENERSOURCE HYDRO MISSISSAUGA

## INFORMATION SYSTEMS SUPPORT SERVICES



# ENERSOURCE HYDRO MISSISSAUGA

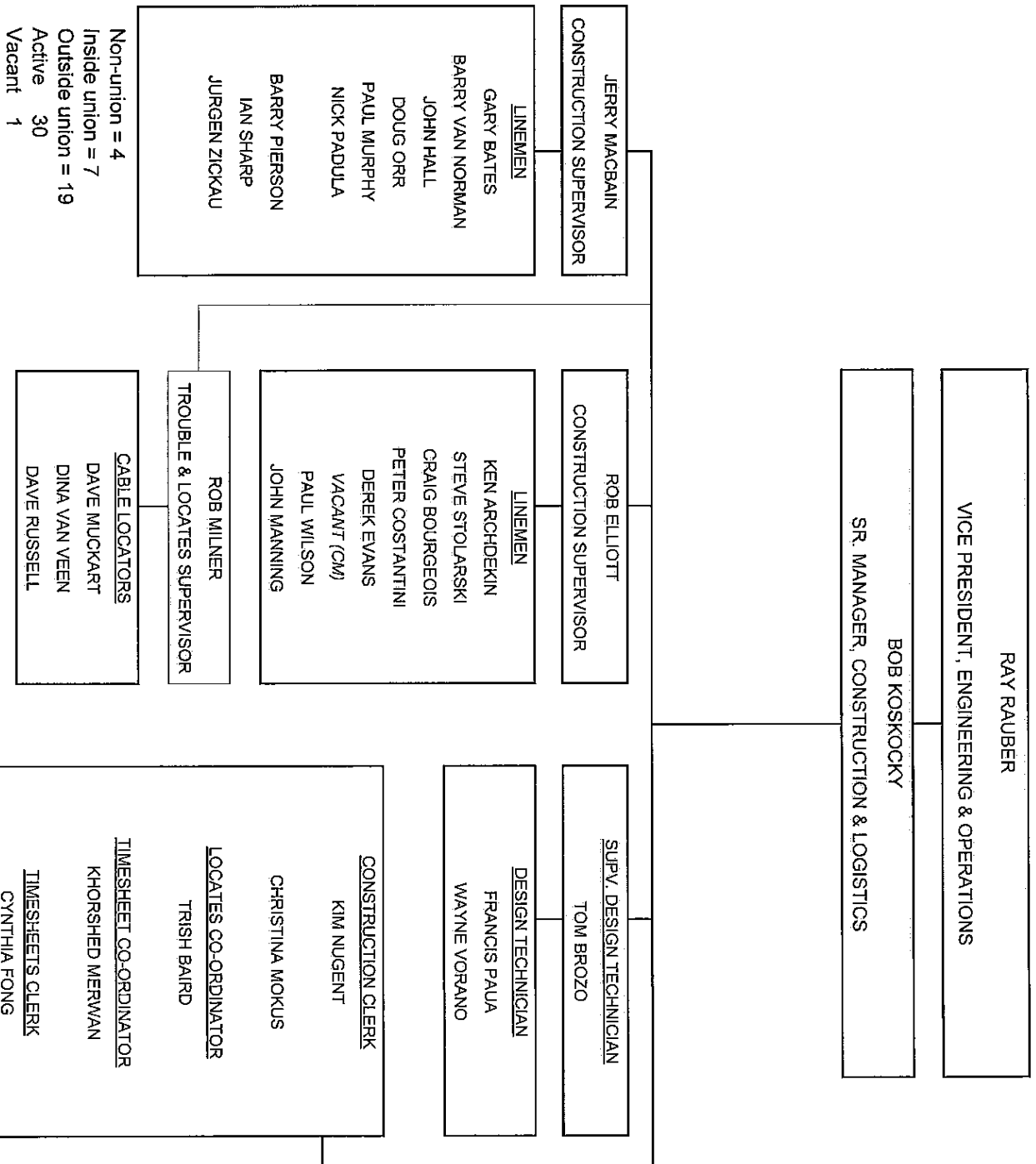
## DISTRIBUTION & STANDARDS



Active Non Union 7 (vacant 1)  
 Inside Union 4 (Vacant 3)  
 Outside Union 54 (Vacant 7)

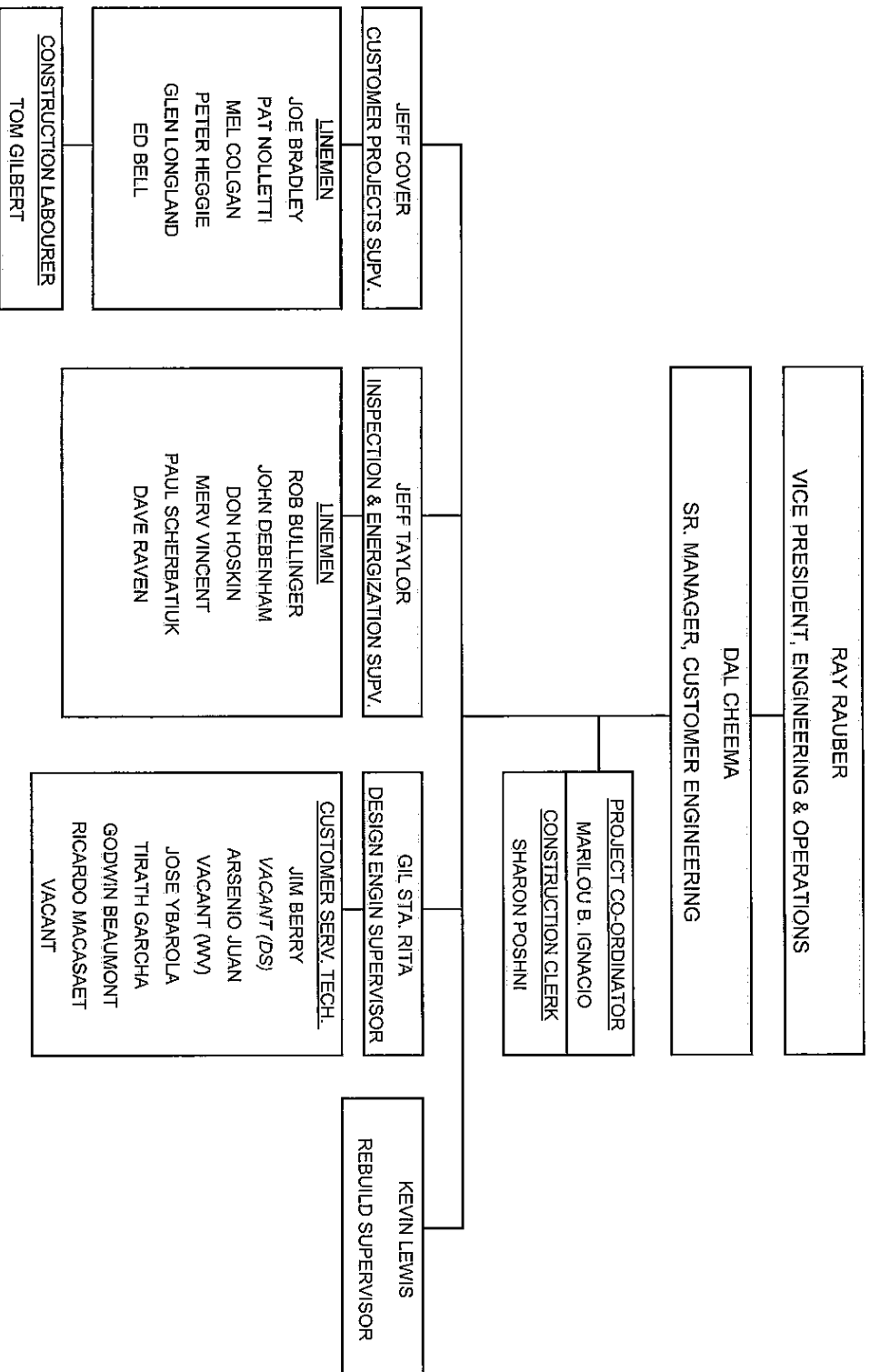
Total 65 active (11 Vacant)

# ENERSOURCE HYDRO MISSISSAUGA CONSTRUCTION & LOGISTICS



# ENERSOURCE HYDRO MISSISSAUGA

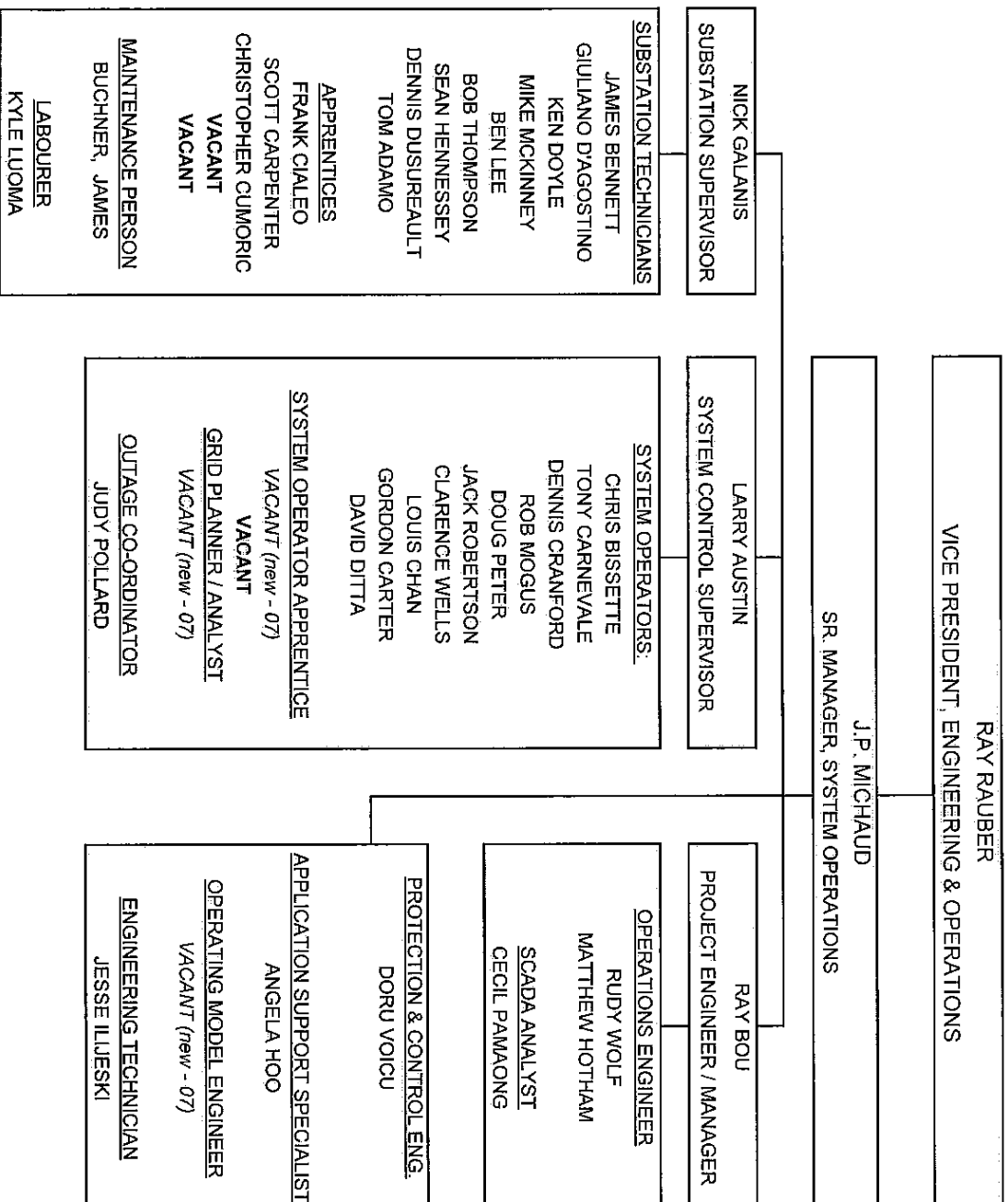
## CUSTOMER ENGINEERING



Active 26  
 LTD 1 (Tom Gilbert)  
 Vacant 2

Total 29

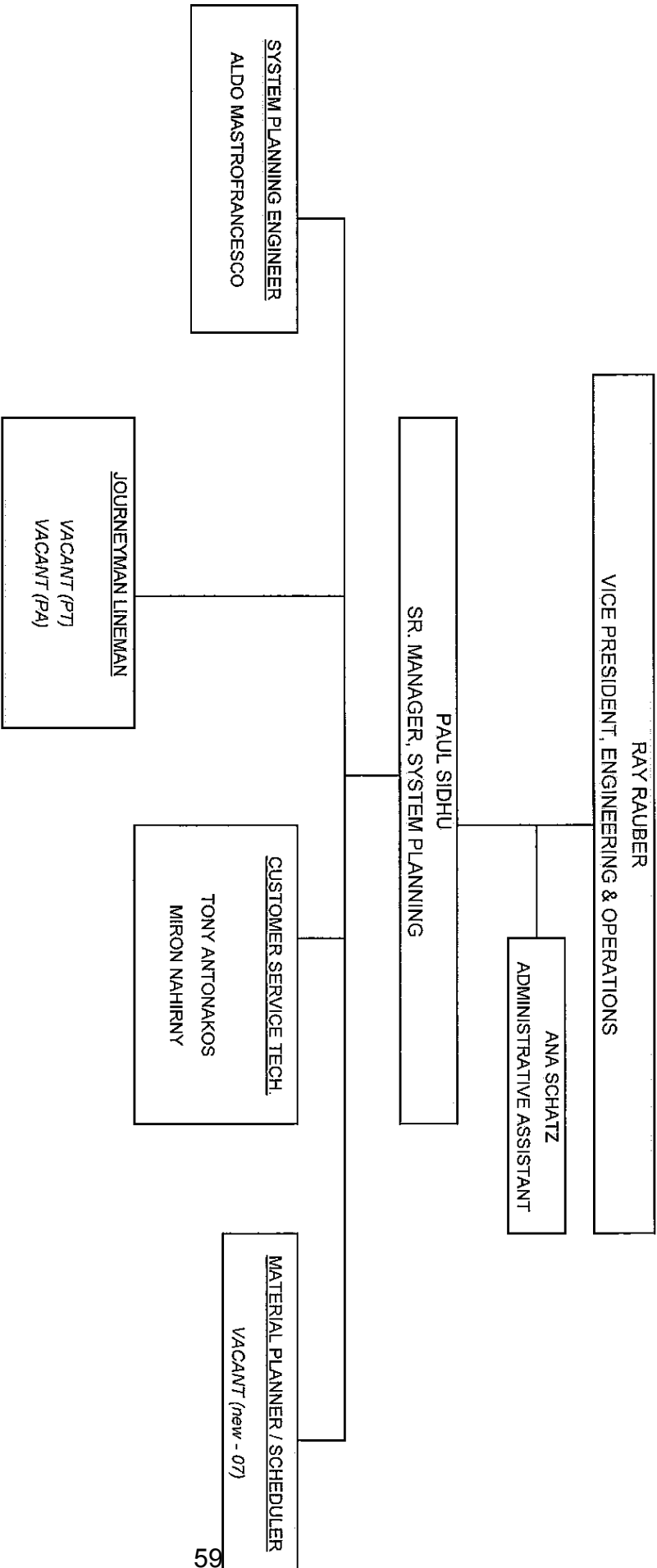
# ENERSOURCE HYDRO MISSISSAUGA SYSTEM OPERATIONS



Non Union 9  
 Inside 2  
 Outside 24  
 Vacancies 6

Total 41

# ENERSOURCE HYDRO MISSISSAUGA SYSTEM PLANNING



Active 5  
 Vacant 3  
 Total 8

- 1 **Financial Information**
- 2
- 3 Exhibit A/Sched12/Tabs 2-6 provide financial information about Enersource. Please note that
- 4 Enersource does not issue interim financial statements.



- 1 **Audited Financial Statements**
- 2
- 3 Enersource's audited 2006 financial statements are attached.

Financial Statements of

**ENERSOURCE HYDRO  
MISSISSAUGA INC.**

Year ended December 31, 2006



KPMG LLP  
Chartered Accountants  
Yonge Corporate Centre  
4100 Yonge Street Suite 200  
Toronto ON M2P 2H3  
Canada

Telephone (416) 228-7000  
Fax (416) 228-7123  
internet www.kpmg.ca

## AUDITORS' REPORT TO THE SHAREHOLDER

We have audited the balance sheet of Enersource Hydro Mississauga Inc. as at December 31, 2006 and the statements of income, retained earnings and cash flows for the year then ended. These financial statements are the responsibility of the Corporation's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Corporation as at December 31, 2006 and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

*KPMG LLP*

Chartered Accountants

Toronto, Canada

March 2, 2007

# ENERSOURCE HYDRO MISSISSAUGA INC.

Balance Sheet  
(In thousands of dollars)

December 31, 2006, with comparative figures for 2005

	2006	2005
<b>Assets</b>		
Current assets:		
Cash and cash equivalents	\$ 32,751	\$ 61,275
Accounts receivable	61,165	52,996
Unbilled revenue	51,311	64,478
Due from related party, without interest (note 12)	1,352	53
Inventory	5,394	4,845
Prepaid expenses and deposits	534	550
	<u>152,507</u>	<u>184,197</u>
Capital assets (note 3)	399,445	394,048
Other assets:		
Cash and cash equivalents held for consumer deposits	21,740	22,354
Deferred debt issue costs, net of accumulated amortization of \$2,458 (2005 - \$2,024)	1,878	2,312
Regulatory assets (note 4)	12,179	21,014
	<u>35,797</u>	<u>45,680</u>
	<u>\$ 587,749</u>	<u>\$ 623,925</u>
<b>Liabilities and Shareholder's Equity</b>		
Current liabilities:		
Accounts payable and accrued liabilities	\$ 77,369	\$ 114,318
Payments in lieu of corporate income taxes payable	3,933	6,398
Advance payments	1,704	486
Due to related parties, without interest (note 12)	2,372	1,187
Regulatory liabilities (note 4)	5,283	8,678
	<u>90,661</u>	<u>131,067</u>
Long-term liabilities:		
Bonds payable (note 5)	290,000	290,000
Consumer deposits	21,740	22,354
Employee retirement and post-retirement benefits (note 8)	2,583	2,140
	<u>314,323</u>	<u>314,494</u>
Shareholder's equity:		
Capital stock (note 6)	155,629	155,629
Retained earnings	27,136	22,735
	<u>182,765</u>	<u>178,364</u>
Contingencies (note 9)		
Commitments (note 10)		
	<u>\$ 587,749</u>	<u>\$ 623,925</u>

See accompanying notes to financial statements.

On behalf of the Board:

\_\_\_\_\_  
Director

\_\_\_\_\_  
Director

# ENERSOURCE HYDRO MISSISSAUGA INC.

Statement of Income  
(In thousands of dollars)

Year ended December 31, 2006, with comparative figures for 2005

	2006	2005
Revenue:		
Energy sales	\$ 557,271	\$ 672,412
Distribution	104,120	95,982
Recovery of regulatory assets	7,144	7,513
Other	2,862	6,455
	<u>671,397</u>	<u>782,362</u>
Operating expenses:		
Energy purchases	557,271	672,412
Operations, maintenance and administration	37,456	35,374
Amortization of capital assets	30,275	29,766
Amortization of regulatory assets	7,144	7,513
	<u>632,146</u>	<u>745,065</u>
Operating income	39,251	37,297
Interest:		
Income	2,764	1,718
Expense	(18,595)	(17,677)
	<u>(15,831)</u>	<u>(15,959)</u>
Income before payments in lieu of corporate income taxes	23,420	21,338
Payments in lieu of corporate income taxes (note 2)	10,119	8,559
Net income	<u>\$ 13,301</u>	<u>\$ 12,779</u>

Statement of Retained Earnings  
(In thousands of dollars)

Year ended December 31, 2006, with comparative figures for 2005

	2006	2005
Retained earnings, beginning of year	\$ 22,735	\$ 16,250
Net income	13,301	12,779
Dividends paid (note 6(b))	(8,900)	(6,294)
Retained earnings, end of year	<u>\$ 27,136</u>	<u>\$ 22,735</u>

See accompanying notes to financial statements.

# ENERSOURCE HYDRO MISSISSAUGA INC.

Statement of Cash Flows  
(In thousands of dollars)

Year ended December 31, 2006, with comparative figures for 2005

	2006	2005
Cash provided by (used in):		
Operating activities:		
Net income	\$ 13,301	\$ 12,779
Items not affecting cash:		
Amortization of debt issue costs	434	434
Amortization of capital assets	30,275	29,766
Amortization of regulatory assets	7,144	7,513
Loss on disposal of capital assets	3	189
Employee retirement and post-retirement benefits	443	91
	51,600	50,772
Change in non-cash operating working capital (note 7)	(37,240)	25,997
	14,360	76,769
Financing activities:		
Consumer deposits	(614)	(5,766)
Dividends paid	(8,900)	(6,294)
	(9,514)	(12,060)
Investing activities:		
Cash and cash equivalents held for consumer deposits	614	5,766
Additions to capital assets	(35,866)	(30,245)
Proceeds on disposal of capital assets	191	86
Decrease (increase) in regulatory assets	1,691	(4,162)
	(33,370)	(28,555)
Increase (decrease) in cash and cash equivalents	(28,524)	36,154
Cash and cash equivalents, beginning of year	61,275	25,121
Cash and cash equivalents, end of year	\$ 32,751	\$ 61,275
Supplemental cash flow information:		
Interest received	\$ 2,714	\$ 1,726
Interest paid	18,241	18,241
Payments in lieu of corporate income taxes paid	14,920	6,116

See accompanying notes to financial statements.

# ENERSOURCE HYDRO MISSISSAUGA INC.

Notes to Financial Statements  
(In thousands of dollars)

Year ended December 31, 2006

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Enersource Hydro Mississauga Inc. (the "Corporation") is the electric distribution utility for residents of the City of Mississauga (the "City").

## 1. Significant accounting policies:

### (a) Basis of accounting:

These financial statements have been prepared by management in accordance with generally accepted accounting principles ("GAAP").

### (b) Rate setting:

The Corporation is regulated by the Ontario Energy Board ("OEB") under authority of the Ontario Energy Board Act, 1998. The OEB is charged with the responsibility of approving or setting rates for the transmission and distribution of electricity and the responsibility for ensuring that distribution companies fulfill obligations to connect and service customers.

The OEB has the general power to include or exclude costs, revenue, losses or gains in the rates of a specific period, resulting in the change in the timing of accounting recognition from that which would have applied in an unregulated company. Specifically, the following accounting treatments have been applied:

- (i) Capital and operating costs incurred in respect of the transition to competitive markets have been deferred with amortization to commence at a date that a rate increase is implemented to offset the amortization of the transition costs. In November 2003, the Province of Ontario introduced the Ontario Energy Board Amendment Act (Electricity Pricing) 2003 (the "2003 Act"). The 2003 Act impacts both the distribution and energy rates charged to customers and includes a provision for the recovery of regulatory assets (note 1(k)). As of April 1, 2004, the Corporation commenced recovery of these deferred transition costs in accordance with the 2003 Act.
- (ii) An amount to represent the cost of funds used during construction and development has been applied based on the value of construction in progress.
- (iii) The Corporation does not record future income tax assets or liabilities for its business activities to the extent that it is expected that the recovery or realization of these amounts will be included in future distribution rates.

# ENERSOURCE HYDRO MISSISSAUGA INC.

Notes to Financial Statements (continued)  
(In thousands of dollars)

Year ended December 31, 2006

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## 1. Significant accounting policies (continued):

(iv) The Corporation has deferred certain pre-market opening cost of power variances and post-market opening retail settlement variances in accordance with Article 490 of the OEB's Accounting Procedures Handbook.

(v) The Corporation has deferred the recognition of the employer's share of contributions to the Ontario Municipal Employees Retirement System ("OMERS") from January 1, 2004 to April 30, 2006. As of May 1, 2006, the Corporation commenced recovery of the 2004 portion with the remainder expected to be recovered through future distribution rates.

### (c) Cash and cash equivalents:

Cash and cash equivalents are defined as cash and bank term deposits or equivalent financial instruments with original maturities upon issue of less than 90 days.

### (d) Revenue recognition:

Distribution revenue attributable to the delivery of electricity is based upon OEB-approved distribution tariff rates and is recognized as electricity is delivered to customers, which includes an estimate of unbilled revenue, which represents electricity consumed by customers since the date of each customer's last meter reading. Actual electricity usage could differ from estimates.

Other revenue is recognized as services are rendered or contract milestones are achieved.

### (e) Measurement uncertainty:

The preparation of the financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the year. Accounts receivable are reported based on amounts expected to be recovered less and appropriate allowance for unrecoverable amounts based on prior experience. Unbilled revenue and regulatory assets are reported based on amounts expected to be recovered. Inventories are recorded net of provisions for obsolescence. Amounts recorded for amortization of capital assets are based on estimates of useful life.



# ENERSOURCE HYDRO MISSISSAUGA INC.

Notes to Financial Statements (continued)  
(In thousands of dollars)

Year ended December 31, 2006

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## 1. Significant accounting policies (continued):

Due to the inherent uncertainty involved in making such estimates, actual results could differ from estimates recorded in preparing these financial statements, including changes as a result of future decisions of the OEB or the Minister of Energy.

### (f) Inventory:

Inventory, which consists of parts and supplies acquired for internal construction or consumption, is valued at the lower of cost and replacement cost. Cost is determined on a weighted moving average basis.

### (g) Capital assets:

Capital assets are recorded at cost and include contracted services, materials, labour, engineering costs, overheads and an allowance for the cost of funds used during construction when applied. Certain assets may be acquired or constructed with financial assistance in the form of contributions from developers or customers. The OEB requires that such contributions, whether in cash or in-kind, be offset against the related asset cost. Contributions in-kind are valued at their fair market value at the date of their contribution.

When assets are retired or otherwise disposed of, their original cost and accumulated amortization are removed from the accounts and the related gain or loss is included in the operating results for the related fiscal period. The cost and related accumulated amortization of grouped assets, such as transmission and distribution facilities, is removed from the accounts at the end of their estimated service lives.

In the event that facts and circumstances indicate that capital assets may be impaired, an evaluation and recoverability is performed. For purposes of such an evaluation, the estimated future undiscounted cash flows associated with the asset are compared to the carrying amount of the asset to determine if a write-down is required. The impairment loss is measured as the amount by which the carrying amount of the asset exceeds its fair value.

# ENERSOURCE HYDRO MISSISSAUGA INC.

Notes to Financial Statements (continued)  
(In thousands of dollars)

Year ended December 31, 2006

## 1. Significant accounting policies (continued):

Amortization of capital asset values is charged to operations on a straight-line basis over their estimated service lives as follows:

	Estimated service life	
	Range	Average
Buildings	25 - 60 years	54
Distribution station equipment	15 - 35 years	29
Transmission and distribution system	25 - 40 years	26
Equipment and furniture	4 - 10 years	8
Computer software	2 years	2

Amortization is recorded at one-half the usual annual rate for assets placed into service in the current fiscal period.

Construction in progress comprises capital assets under construction, assets not yet placed into service and pre-construction activities related to specific projects expected to be constructed.

An allowance for the cost of funds used during the construction period has been applied. The rate applied for the 2005 year and the period from January through April 2006 was 6.9% as allowed by the OEB. Effective May 1, 2006, the prescribed interest rate used during the period equals the Scotia Capital Inc. mid-term all corporate average weighted yield, as published on the Bank of Canada's website, updated quarterly. From May 1, 2006 to June 30, 2006, the rate used was 4.68%. From July 1, 2006 to September 30, 2006, the rate used was 5.05%. From October 1, 2006 to December 31, 2006, the rate used was 4.72%.

### (h) Deferred debt issue costs:

Deferred debt issue costs represent the cost of the issuance of the bonds. Amortization is provided on a straight-line basis over the term of the related bonds.

# ENERSOURCE HYDRO MISSISSAUGA INC.

Notes to Financial Statements (continued)  
(In thousands of dollars)

Year ended December 31, 2006

---

## 1. Significant accounting policies (continued):

### (i) Consumer deposits:

Customers may be required to post security to obtain electricity or other services. Where the security posted is in the form of cash or cash equivalents, these amounts are recorded in the accounts as cash and cash equivalents held for consumer deposits, which are reported separately from the Corporation's own cash and cash equivalents.

Interest rates paid on customer deposits are based on a variable rate of prime less 2.0%, updated quarterly.

### (j) Pension and other post-employment benefits:

The Corporation accounts for its participation in OMERS, a multi-employer public sector pension fund, as a defined contribution plan. The Corporation has obtained approval from the OEB to defer pension expenses incurred from January 1, 2004 to April 30, 2006. Effective May 1, 2006, the Corporation commenced recognition of expenses related to contributions to OMERS.

The Corporation actuarially determines the cost of other employment and post-employment benefits offered to employees using the projected benefit method, prorated on service and based on management's best estimate assumptions. Under this method, the projected post-retirement benefit is deemed to be earned on a pro rata basis over the years of service in the attribution period commencing at date of hire, and ending at the earliest age the employee could retire and qualify for benefits.

### (k) Regulatory assets and liabilities:

Regulatory assets primarily represent costs that have been deferred because they are expected to be recovered in rates. Similarly, regulatory liabilities can arise from differences in amounts billed to customers under the regulated pricing mechanism and the corresponding wholesale market cost of power incurred by the utility. The OEB directed the distribution utilities to recover these variance balances as at December 31, 2003 plus accrued interest in the rates over a four-year period beginning April 2004.

# ENERSOURCE HYDRO MISSISSAUGA INC.

Notes to Financial Statements (continued)  
(In thousands of dollars)

Year ended December 31, 2006

---

## 1. Significant accounting policies (continued):

Regulatory balances are comprised principally as follows:

- (i) Transition costs - represent costs related to the transition to a competitive electricity market, mandated by the Electricity Act, 1998. The OEB has established rules in respect of transition costs, to qualify amounts for deferral and amortization against future revenue. The Corporation's transition costs have been reviewed via an oral hearing and recovery has been decided upon by the OEB in its December 9, 2004 decision.
- (ii) Pre-market opening cost of power variances - represents amounts accumulated as a result of the excess of the cost of power purchased by the Corporation over the amount billed for this power prior to the market opening. The OEB directed utilities to accumulate such variances in the period leading up to market opening.
- (iii) Post-market opening retail settlement variances - are variances that have occurred since May 1, 2002 when the competitive electricity market was declared open and that have accumulated pursuant to direction from the OEB. Specifically, these amounts include variances between the amounts charged by the Independent Electricity System Operator ("IESO") for the operation of the markets and grid, as well as various wholesale market settlement charges and transmission charges as compared to the amount billed to consumers based on the OEB-approved rates.
- (iv) All revenue and associated costs for the smart meter program have been deferred as directed by the OEB in its April 12, 2006 rate decision.

In November 2003, the Province of Ontario introduced the 2003 Act, which implemented a new electricity pricing regime believed to better reflect the true cost of electricity.

# ENERSOURCE HYDRO MISSISSAUGA INC.

Notes to Financial Statements (continued)  
(In thousands of dollars)

Year ended December 31, 2006

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## 1. Significant accounting policies (continued):

The 2003 Act, which received Royal Assent in December 2003, removed the \$0.043/kWh electricity price freeze established under the Electricity Pricing, Conservation and Supply Act, 2002 and gives the OEB the power to establish the electricity commodity price for low volume consumers and designated consumers who do not choose an electricity retailer. On April 1, 2004, the government implemented an interim pricing plan under which the first 750 kWh consumed in any month by low volume and designated consumers was priced at \$0.047/kWh and consumption above that level for these consumers was priced at a higher rate of \$0.055/kWh. On April 1, 2005, electricity prices increased from \$0.047/kWh to \$0.050/kWh for the first 750 kWh consumed in a month, and from \$0.055/kWh to \$0.058/kWh for consumption in excess of that amount. In the event that these interim prices exceeded the costs paid by the Ontario Electricity Financial Corporation ("OEF"), the 2003 Act included a provision permitting the making of regulations requiring distributors, retailers or the IESO to credit consumers for the difference. Under the 2003 Act, regulations may also be made to compensate distributors, retailers and the IESO for making any such payments.

In November 2003, the Province of Ontario announced its intention to allow electricity distributors to recover deferred transition costs and energy variances over a four-year period commencing April 1, 2004. In January 2004, in compliance with regulatory direction, the Corporation submitted to the OEB an application to recover 25% of the December 31, 2002 balance of these regulatory assets. On December 9, 2004, the OEB awarded the Corporation \$26,700 for the recovery of regulatory balances as at December 31, 2003, plus interest, as determined by a Regulatory Hearing.

On April 1, 2006, the Corporation implemented the final rate increase, as permitted by the OEB, toward achieving a market-based rate of return. The initial twelve months of this incremental revenue will be fully invested in electricity conservation and demand management strategies by September 2007.

On April 12, 2006, the OEB announced further changes to electricity prices for regulated price plan customers to take effect May 1, 2006. Electricity prices increased effective May 1, 2006 from \$0.050/kWh to \$0.058/kWh for the first 600 kWh consumed in a month and from \$0.058/kWh to \$0.067/kWh for consumption in excess of that amount. The price threshold is 600 kWh from the May 1 through October 31 period and 1,000 kWh per month during the November 1 through April 30 period. The threshold for non-residential customers that are eligible for the regulated price plan will remain at 750 kWh per month throughout the year.

# ENERSOURCE HYDRO MISSISSAUGA INC.

Notes to Financial Statements (continued)  
(In thousands of dollars)

Year ended December 31, 2006

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## 1. Significant accounting policies (continued):

On October 11, 2006, the OEB announced further changes to electricity prices for regulated price plan customers to take effect November 1, 2006. Electricity prices decreased effective November 1, 2006 from \$0.058/kWh to \$0.055/kWh for the first 1,000 kWh consumed in a month and from \$0.067/kWh to \$0.064/kWh for consumption in excess of that amount. These prices will be adjusted every six months by the OEB as required.

In August 2005, the Corporation submitted a rate application to the OEB for the rate period beginning May 1, 2006 and ending on April 30, 2007. This rate application proposes the full re-basing of the Corporation's electricity distribution rates to more accurately reflect the Corporation's current rate base and cost structure. On April 12, 2006, the OEB released its decision and order regarding the Corporation's rate application. This decision allows for a distribution rate increase of approximately 2.3% on the total bill of an average residential customer using 1,000 kWh per month. The decision also allows for a newly introduced rate increase for smart meters.

On June 12, 2006, the Corporation submitted a review and vary motion to the OEB to revise its approved 2006 tariff of rates and charges. On October 3, 2006, the OEB released its final decision regarding this motion. The decision allows for additional expense recoveries of \$1,152 annually and a \$2,714 adjustment to dispose of the liability balances recorded in the Corporation's retail settlement variance accounts as of December 31, 2004 over a two-year period.

## 2. Payments in lieu of corporate income taxes:

Under the Electricity Act, 1998, the Corporation is required to make payments in lieu of corporate income taxes ("PILs") to OEFC. These payments are calculated in accordance with the rules for computing income and taxable capital and other relevant amounts contained in the Income Tax Act (Canada) and the Corporations Tax Act (Ontario), as modified by the Electricity Act, 1998, and related regulations.

The Corporation provides for PILs related to its operations using the taxes payable method as directed by the OEB. Under the taxes payable method, no provisions are made for future income taxes as a result of temporary differences between the tax basis of assets and liabilities and their carrying amounts for accounting purposes.

Management believes that when unrecorded future income taxes become payable, or the assets are realized, it is expected that they will be included in rates approved by the OEB and recovered from customers at that time.

# ENERSOURCE HYDRO MISSISSAUGA INC.

Notes to Financial Statements (continued)  
(In thousands of dollars)

Year ended December 31, 2006

## 2. Payments in lieu of corporate income taxes (continued):

Based on substantively enacted income tax rates, the potential benefit of unrecorded future income tax assets arising substantially from differences between accounting and tax values for capital assets is \$37,515 (2005 - \$43,923). Future income taxes have not been recorded in the accounts as they are expected to be recovered through future revenue.

## 3. Capital assets:

			2006	2005
	Cost	Accumulated amortization	Net book value	Net book value
Land	\$ 4,071	\$ -	\$ 4,071	\$ 4,071
Buildings	14,575	4,755	9,820	9,603
Distribution station equipment	78,153	32,018	46,135	44,198
Transmission and distribution system	591,568	274,117	317,451	317,463
Equipment and furniture	25,813	14,019	11,794	10,370
Computer software	2,910	1,200	1,710	1,030
Construction in progress:				
Equipment and furniture	89	-	89	
Electric distribution system	8,341	-	8,341	7,312
Buildings	34	-	34	1
	\$ 725,554	\$ 326,109	\$ 399,445	\$ 394,048

During the year, \$406 (2005 - \$438), representing an allowance for the cost of funds used during construction, was capitalized to construction in progress.

# ENERSOURCE HYDRO MISSISSAUGA INC.

Notes to Financial Statements (continued)  
(In thousands of dollars)

Year ended December 31, 2006

## 4. Regulatory assets and liabilities:

Regulatory assets and liabilities can arise as a result of the rate-making process. The following table demonstrates the impact on 2006 earnings, net of PILs, as a result of regulated accounting requirements.

	2006	2005	Estimated remaining settlement period (years)	2006 Impact on earnings net of PILs ((a)(i))
<b>Regulatory assets:</b>				
Deferred OMERS employer contributions ((a)(ii))	\$ 1,372	\$ 1,916	1 - 2	\$ (331)
Other regulatory assets ((a)(iii))	1,549	1,436	1 - 2	(702)
Smart meter revenue/expense ((a)(iv))	(268)	—	4	268
	2,653	3,352		(765)
Regulatory assets approved for recovery ((a)(v))	9,526	17,662	2 - 3	3,454
	\$ 12,179	\$ 21,014		\$ 2,689
<b>Regulatory liabilities:</b>				
Retail settlement variances ((a)(vi))	\$ 11,996	\$ 2,276	1	\$ 491
Global adjustment retail settlement variance ((a)(vii))	(6,713)	6,402	1	(174)
	\$ 5,283	\$ 8,678		\$ 317

### (a) Explanatory notes:

- (i) The 2006 impact on earnings net of PILs represents the effect on the net income as a result of the treatment under rate regulated accounting.
- (ii) The OEB had approved the deferral of the Corporation's employer portion of pension contributions to OMERS retirement fund. The deferred OMERS employer contributions amount reflects the Corporation's required contributions between January 1, 2004 and April 30, 2006 plus interest charged at an OEB approved rate less amounts recovered through distribution rates since May 1, 2006.



# ENERSOURCE HYDRO MISSISSAUGA INC.

Notes to Financial Statements  
(In thousands of dollars)

Year ended December 31, 2006

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Enersource Hydro Mississauga Inc. (the "Corporation") is the electric distribution utility for residents of the City of Mississauga (the "City").

## 1. Significant accounting policies:

### (a) Basis of accounting:

These financial statements have been prepared by management in accordance with generally accepted accounting principles ("GAAP").

### (b) Rate setting:

The Corporation is regulated by the Ontario Energy Board ("OEB") under authority of the Ontario Energy Board Act, 1998. The OEB is charged with the responsibility of approving or setting rates for the transmission and distribution of electricity and the responsibility for ensuring that distribution companies fulfill obligations to connect and service customers.

The OEB has the general power to include or exclude costs, revenue, losses or gains in the rates of a specific period, resulting in the change in the timing of accounting recognition from that which would have applied in an unregulated company. Specifically, the following accounting treatments have been applied:

- (i) Capital and operating costs incurred in respect of the transition to competitive markets have been deferred with amortization to commence at a date that a rate increase is implemented to offset the amortization of the transition costs. In November 2003, the Province of Ontario introduced the Ontario Energy Board Amendment Act (Electricity Pricing) 2003 (the "2003 Act"). The 2003 Act impacts both the distribution and energy rates charged to customers and includes a provision for the recovery of regulatory assets (note 1(k)). As of April 1, 2004, the Corporation commenced recovery of these deferred transition costs in accordance with the 2003 Act.
- (ii) An amount to represent the cost of funds used during construction and development has been applied based on the value of construction in progress.
- (iii) The Corporation does not record future income tax assets or liabilities for its business activities to the extent that it is expected that the recovery or realization of these amounts will be included in future distribution rates.

# ENERSOURCE HYDRO MISSISSAUGA INC.

Notes to Financial Statements (continued)  
(In thousands of dollars)

Year ended December 31, 2006

---

## 1. Significant accounting policies (continued):

(iv) The Corporation has deferred certain pre-market opening cost of power variances and post-market opening retail settlement variances in accordance with Article 490 of the OEB's Accounting Procedures Handbook.

(v) The Corporation has deferred the recognition of the employer's share of contributions to the Ontario Municipal Employees Retirement System ("OMERS") from January 1, 2004 to April 30, 2006. As of May 1, 2006, the Corporation commenced recovery of the 2004 portion with the remainder expected to be recovered through future distribution rates.

### (c) Cash and cash equivalents:

Cash and cash equivalents are defined as cash and bank term deposits or equivalent financial instruments with original maturities upon issue of less than 90 days.

### (d) Revenue recognition:

Distribution revenue attributable to the delivery of electricity is based upon OEB-approved distribution tariff rates and is recognized as electricity is delivered to customers, which includes an estimate of unbilled revenue, which represents electricity consumed by customers since the date of each customer's last meter reading. Actual electricity usage could differ from estimates.

Other revenue is recognized as services are rendered or contract milestones are achieved.

### (e) Measurement uncertainty:

The preparation of the financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the year. Accounts receivable are reported based on amounts expected to be recovered less and appropriate allowance for unrecoverable amounts based on prior experience. Unbilled revenue and regulatory assets are reported based on amounts expected to be recovered. Inventories are recorded net of provisions for obsolescence. Amounts recorded for amortization of capital assets are based on estimates of useful life.

# ENERSOURCE HYDRO MISSISSAUGA INC.

Notes to Financial Statements (continued)  
(In thousands of dollars)

Year ended December 31, 2006

---

## 1. Significant accounting policies (continued):

Due to the inherent uncertainty involved in making such estimates, actual results could differ from estimates recorded in preparing these financial statements, including changes as a result of future decisions of the OEB or the Minister of Energy.

### (f) Inventory:

Inventory, which consists of parts and supplies acquired for internal construction or consumption, is valued at the lower of cost and replacement cost. Cost is determined on a weighted moving average basis.

### (g) Capital assets:

Capital assets are recorded at cost and include contracted services, materials, labour, engineering costs, overheads and an allowance for the cost of funds used during construction when applied. Certain assets may be acquired or constructed with financial assistance in the form of contributions from developers or customers. The OEB requires that such contributions, whether in cash or in-kind, be offset against the related asset cost. Contributions in-kind are valued at their fair market value at the date of their contribution.

When assets are retired or otherwise disposed of, their original cost and accumulated amortization are removed from the accounts and the related gain or loss is included in the operating results for the related fiscal period. The cost and related accumulated amortization of grouped assets, such as transmission and distribution facilities, is removed from the accounts at the end of their estimated service lives.

In the event that facts and circumstances indicate that capital assets may be impaired, an evaluation and recoverability is performed. For purposes of such an evaluation, the estimated future undiscounted cash flows associated with the asset are compared to the carrying amount of the asset to determine if a write-down is required. The impairment loss is measured as the amount by which the carrying amount of the asset exceeds its fair value.

# ENERSOURCE HYDRO MISSISSAUGA INC.

Notes to Financial Statements (continued)  
(In thousands of dollars)

Year ended December 31, 2006

## 1. Significant accounting policies (continued):

Amortization of capital asset values is charged to operations on a straight-line basis over their estimated service lives as follows:

	Estimated service life	
	Range	Average
Buildings	25 - 60 years	54
Distribution station equipment	15 - 35 years	29
Transmission and distribution system	25 - 40 years	26
Equipment and furniture	4 - 10 years	8
Computer software	2 years	2

Amortization is recorded at one-half the usual annual rate for assets placed into service in the current fiscal period.

Construction in progress comprises capital assets under construction, assets not yet placed into service and pre-construction activities related to specific projects expected to be constructed.

An allowance for the cost of funds used during the construction period has been applied. The rate applied for the 2005 year and the period from January through April 2006 was 6.9% as allowed by the OEB. Effective May 1, 2006, the prescribed interest rate used during the period equals the Scotia Capital Inc. mid-term all corporate average weighted yield, as published on the Bank of Canada's website, updated quarterly. From May 1, 2006 to June 30, 2006, the rate used was 4.68%. From July 1, 2006 to September 30, 2006, the rate used was 5.05%. From October 1, 2006 to December 31, 2006, the rate used was 4.72%.

### (h) Deferred debt issue costs:

Deferred debt issue costs represent the cost of the issuance of the bonds. Amortization is provided on a straight-line basis over the term of the related bonds.

# ENERSOURCE HYDRO MISSISSAUGA INC.

Notes to Financial Statements (continued)  
(In thousands of dollars)

Year ended December 31, 2006

---

## 1. Significant accounting policies (continued):

### (i) Consumer deposits:

Customers may be required to post security to obtain electricity or other services. Where the security posted is in the form of cash or cash equivalents, these amounts are recorded in the accounts as cash and cash equivalents held for consumer deposits, which are reported separately from the Corporation's own cash and cash equivalents.

Interest rates paid on customer deposits are based on a variable rate of prime less 2.0%, updated quarterly.

### (j) Pension and other post-employment benefits:

The Corporation accounts for its participation in OMERS, a multi-employer public sector pension fund, as a defined contribution plan. The Corporation has obtained approval from the OEB to defer pension expenses incurred from January 1, 2004 to April 30, 2006. Effective May 1, 2006, the Corporation commenced recognition of expenses related to contributions to OMERS.

The Corporation actuarially determines the cost of other employment and post-employment benefits offered to employees using the projected benefit method, prorated on service and based on management's best estimate assumptions. Under this method, the projected post-retirement benefit is deemed to be earned on a pro rata basis over the years of service in the attribution period commencing at date of hire, and ending at the earliest age the employee could retire and qualify for benefits.

### (k) Regulatory assets and liabilities:

Regulatory assets primarily represent costs that have been deferred because they are expected to be recovered in rates. Similarly, regulatory liabilities can arise from differences in amounts billed to customers under the regulated pricing mechanism and the corresponding wholesale market cost of power incurred by the utility. The OEB directed the distribution utilities to recover these variance balances as at December 31, 2003 plus accrued interest in the rates over a four-year period beginning April 2004.

# ENERSOURCE HYDRO MISSISSAUGA INC.

Notes to Financial Statements (continued)  
(In thousands of dollars)

Year ended December 31, 2006

---

## 1. Significant accounting policies (continued):

Regulatory balances are comprised principally as follows:

- (i) Transition costs - represent costs related to the transition to a competitive electricity market, mandated by the Electricity Act, 1998. The OEB has established rules in respect of transition costs, to qualify amounts for deferral and amortization against future revenue. The Corporation's transition costs have been reviewed via an oral hearing and recovery has been decided upon by the OEB in its December 9, 2004 decision.
- (ii) Pre-market opening cost of power variances - represents amounts accumulated as a result of the excess of the cost of power purchased by the Corporation over the amount billed for this power prior to the market opening. The OEB directed utilities to accumulate such variances in the period leading up to market opening.
- (iii) Post-market opening retail settlement variances - are variances that have occurred since May 1, 2002 when the competitive electricity market was declared open and that have accumulated pursuant to direction from the OEB. Specifically, these amounts include variances between the amounts charged by the Independent Electricity System Operator ("IESO") for the operation of the markets and grid, as well as various wholesale market settlement charges and transmission charges as compared to the amount billed to consumers based on the OEB-approved rates.
- (iv) All revenue and associated costs for the smart meter program have been deferred as directed by the OEB in its April 12, 2006 rate decision.

In November 2003, the Province of Ontario introduced the 2003 Act, which implemented a new electricity pricing regime believed to better reflect the true cost of electricity.

# ENERSOURCE HYDRO MISSISSAUGA INC.

Notes to Financial Statements (continued)  
(In thousands of dollars)

Year ended December 31, 2006

---

## 1. Significant accounting policies (continued):

The 2003 Act, which received Royal Assent in December 2003, removed the \$0.043/kWh electricity price freeze established under the Electricity Pricing, Conservation and Supply Act, 2002 and gives the OEB the power to establish the electricity commodity price for low volume consumers and designated consumers who do not choose an electricity retailer. On April 1, 2004, the government implemented an interim pricing plan under which the first 750 kWh consumed in any month by low volume and designated consumers was priced at \$0.047/kWh and consumption above that level for these consumers was priced at a higher rate of \$0.055/kWh. On April 1, 2005, electricity prices increased from \$0.047/kWh to \$0.050/kWh for the first 750 kWh consumed in a month, and from \$0.055/kWh to \$0.058/kWh for consumption in excess of that amount. In the event that these interim prices exceeded the costs paid by the Ontario Electricity Financial Corporation ("OEF"), the 2003 Act included a provision permitting the making of regulations requiring distributors, retailers or the IESO to credit consumers for the difference. Under the 2003 Act, regulations may also be made to compensate distributors, retailers and the IESO for making any such payments.

In November 2003, the Province of Ontario announced its intention to allow electricity distributors to recover deferred transition costs and energy variances over a four-year period commencing April 1, 2004. In January 2004, in compliance with regulatory direction, the Corporation submitted to the OEB an application to recover 25% of the December 31, 2002 balance of these regulatory assets. On December 9, 2004, the OEB awarded the Corporation \$26,700 for the recovery of regulatory balances as at December 31, 2003, plus interest, as determined by a Regulatory Hearing.

On April 1, 2006, the Corporation implemented the final rate increase, as permitted by the OEB, toward achieving a market-based rate of return. The initial twelve months of this incremental revenue will be fully invested in electricity conservation and demand management strategies by September 2007.

On April 12, 2006, the OEB announced further changes to electricity prices for regulated price plan customers to take effect May 1, 2006. Electricity prices increased effective May 1, 2006 from \$0.050/kWh to \$0.058/kWh for the first 600 kWh consumed in a month and from \$0.058/kWh to \$0.067/kWh for consumption in excess of that amount. The price threshold is 600 kWh from the May 1 through October 31 period and 1,000 kWh per month during the November 1 through April 30 period. The threshold for non-residential customers that are eligible for the regulated price plan will remain at 750 kWh per month throughout the year.

# ENERSOURCE HYDRO MISSISSAUGA INC.

Notes to Financial Statements (continued)  
(In thousands of dollars)

Year ended December 31, 2006

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## 1. Significant accounting policies (continued):

On October 11, 2006, the OEB announced further changes to electricity prices for regulated price plan customers to take effect November 1, 2006. Electricity prices decreased effective November 1, 2006 from \$0.058/kWh to \$0.055/kWh for the first 1,000 kWh consumed in a month and from \$0.067/kWh to \$0.064/kWh for consumption in excess of that amount. These prices will be adjusted every six months by the OEB as required.

In August 2005, the Corporation submitted a rate application to the OEB for the rate period beginning May 1, 2006 and ending on April 30, 2007. This rate application proposes the full re-basing of the Corporation's electricity distribution rates to more accurately reflect the Corporation's current rate base and cost structure. On April 12, 2006, the OEB released its decision and order regarding the Corporation's rate application. This decision allows for a distribution rate increase of approximately 2.3% on the total bill of an average residential customer using 1,000 kWh per month. The decision also allows for a newly introduced rate increase for smart meters.

On June 12, 2006, the Corporation submitted a review and vary motion to the OEB to revise its approved 2006 tariff of rates and charges. On October 3, 2006, the OEB released its final decision regarding this motion. The decision allows for additional expense recoveries of \$1,152 annually and a \$2,714 adjustment to dispose of the liability balances recorded in the Corporation's retail settlement variance accounts as of December 31, 2004 over a two-year period.

## 2. Payments in lieu of corporate income taxes:

Under the Electricity Act, 1998, the Corporation is required to make payments in lieu of corporate income taxes ("PILs") to OEFC. These payments are calculated in accordance with the rules for computing income and taxable capital and other relevant amounts contained in the Income Tax Act (Canada) and the Corporations Tax Act (Ontario), as modified by the Electricity Act, 1998, and related regulations.

The Corporation provides for PILs related to its operations using the taxes payable method as directed by the OEB. Under the taxes payable method, no provisions are made for future income taxes as a result of temporary differences between the tax basis of assets and liabilities and their carrying amounts for accounting purposes.

Management believes that when unrecorded future income taxes become payable, or the assets are realized, it is expected that they will be included in rates approved by the OEB and recovered from customers at that time.



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**Accounting Policies**

Enersource's accounting policies are those described in the notes to its 2006 financial statements (ExA/Sched12/Tab2).

1        **Pro forma Financial Statements for the 2006, 2007 Bridge Year and 2008 Test Year**

2

3        Please see the attached.

## ENERSOURCE HYDRO MISSISSAUGA INC.

(in thousands of dollars)  
Balance Sheets

	Test 2008	Bridge 2007	Audited 2006
<b>Assets</b>			
Current assets:			
Cash and cash equivalents	\$ 38,267	\$ 37,063	\$ 32,751
Accounts receivable	55,613	54,034	62,517
Unbilled revenue	51,567	47,455	51,311
Inventory	5,500	5,250	5,394
Prepaid expenses and deposits	550	534	534
	151,497	144,336	152,507
Capital assets	421,296	410,924	399,445
Other assets:			
Deposits and prudentials	21,382	21,295	21,740
Deferred debt issue costs, net of amortization	1,010	1,444	1,878
Regulatory assets	-	6,050	12,179
	22,392	28,789	35,797
	\$ 595,185	\$ 584,049	\$ 587,749
Current liabilities:			
Accounts payable and accrued liabilities	\$ 75,075	\$ 76,105	\$ 83,674
Advance payments	2,500	2,500	1,704
Regulatory liabilities	9,304	7,000	5,283
	86,879	85,605	90,661
Long-term liabilities:			
Bonds payable	290,000	290,000	290,000
Deposits	21,382	21,295	21,740
Employee retirement and post-retirement benefits	3,534	3,054	2,583
	314,916	314,349	314,323
Shareholders' equity :			
Capital stock	155,629	155,629	155,629
Retained earnings	37,761	28,466	27,136
Equity	193,390	184,095	182,765
	\$ 595,185	\$ 584,049	\$ 587,749

## ENERSOURCE HYDRO MISSISSAUGA INC.

Statement of Income and Retained Earnings  
 (in thousands of dollars)

	Test 2008	Bridge 2007	Audited 2006
<b>Revenue:</b>			
Energy sales	\$ 601,101	\$ 564,470	\$ 557,271
Distribution	117,426	113,699	111,263
Other	2,814	2,816	2,863
	<u>721,341</u>	<u>680,985</u>	<u>671,397</u>
<b>Operating Expenses:</b>			
Energy purchases	601,101	564,470	557,271
Operations, maintenance and administration	43,558	43,339	37,456
Amortization of capital assets	34,357	32,007	30,275
Amortization of regulatory assets	(5,118)	6,129	7,144
	<u>673,898</u>	<u>645,945</u>	<u>632,146</u>
<b>Operating Income</b>	47,443	35,040	39,251
<b>Interest:</b>			
Income	2,049	2,507	2,764
Expense	(19,529)	(19,187)	(18,595)
	<u>(17,480)</u>	<u>(16,680)</u>	<u>(15,831)</u>
Income before amounts in lieu of corporate income taxes	29,963	18,360	23,420
Payments in lieu of corporate income taxes	11,768	8,130	10,119
Net income	18,195	10,230	13,301
Dividends paid	(8,900)	(8,900)	(8,900)
Retained earnings, beginning of period	28,466	27,136	22,735
<b>Retained earnings, end of period</b>	<u>\$ 37,761</u>	<u>\$ 28,466</u>	<u>\$ 27,136</u>

## ENERSOURCE HYDRO MISSISSAUGA INC.

Cashflow  
(in thousands of dollars)

	Test	Bridge	Audited
	2008	2007	2006
<b>Cash provided by (used in):</b>			
Operating activities:			
Net income	\$ 18,195	\$ 10,230	\$ 13,301
Items not affecting cash:			
Amortization of capital assets	34,357	32,007	30,275
Amortization of regulatory assets	(5,118)	6,129	7,144
Amortization of debt issue costs	434	434	434
Loss (gain) on disposal of capital assets	-	-	3
Employee retirement and post-retirement benefits	480	471	443
	48,348	49,271	51,600
Change in non-cash operating working capital	(4,683)	7,427	(37,240)
	43,665	56,698	14,360
Financing activities:			
Consumer deposits	87	(445)	(614)
Dividends Paid	(8,900)	(8,900)	(8,900)
Cash used in financing activities	(8,813)	(9,345)	(9,514)
Investing activities:			
Cash and cash equivalents held for consumer deposits	(87)	445	614
Net capital assets	(44,729)	(43,486)	(35,886)
Proceeds on disposal of capital assets	-	-	191
Regulatory assets	11,168	-	1,711
	(33,648)	(43,041)	(33,370)
Increase (decrease) in cash and cash equivalents	1,204	4,312	(28,524)
Cash and cash equivalents, beginning of year	37,063	32,751	61,275
Cash and cash equivalents, end of year	\$ 38,267	\$ 37,063	\$ 32,751

1 **Credit and Bond Rating Agency Reports**

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3 Attached are the most recent Standard and Poor's and Dominion Bond Rating Agency reports on  
4 Enersource Corporation, Enersource's corporate parent. Please note that Enersource is not  
5 separately rated.



*Insight beyond the rating.*

## Enersource Corporation

### RATING

<u>Rating</u>	<u>Trend</u>	<u>Rating Action</u>	<u>Debt Rated</u>
A	Stable	Confirmed	Issuer Rating

<u>RATING HISTORY</u>	<u>Current</u>	<u>2006</u>	<u>2005</u>	<u>2004</u>	<u>2003</u>	<u>2002</u>
Issuer Rating	A	A	A	A (low)	A (low)	A

### RATING UPDATE

DBRS has confirmed the rating of Enersource Corporation (Enersource or the Company) at “A” with a Stable trend. Enersource continues to benefit from a low level of business risk stemming from its regulated electricity distribution operations, its solid financial profile, and a strong franchise area with a favourable customer mix.

The confirmation is also supported by the improving regulatory outlook in Ontario. Since the last imposition of rate caps in Ontario in December 2002, there has not been any major political interference.

The Company’s financial metrics have steadily improved and continue to benefit from the growth in EBIT and earnings, which have trended upwards

since F2004 primarily due to distribution rate increases and a rise in electricity consumption, partially offset by higher operating costs. The Company has produced free cash flow surpluses since F2002, but will likely incur a very modest and manageable free cash flow deficit in the near-term due to an expected increase in capital expenditure.

The Ontario Energy Board’s (OEB) recent decision on the Cost of Capital and 2nd Generation Incentive Regulation for electricity distributors in Ontario is expected to be largely credit neutral for Enersource in the medium term as the regulation does not affect Enersource’s cash flow in any significant manner through April 2010. (Continued on page 2.)

### RATING CONSIDERATIONS

#### Strengths

- Low business risk owing to Enersource’s predominantly regulated electricity distribution operations
- Solid balance sheet and reasonable credit metrics
- Strong franchise area and favourable customer mix

#### Challenges

- Political risk and regulatory uncertainty
- Low regulatory returns
- Earnings are sensitive to the volume of electricity sold
- Refinancing risk

### FINANCIAL INFORMATION

For the year ended December 31

	<u>2006</u>	<u>2005</u>	<u>2004</u>	<u>2003</u>	<u>2002</u>
EBIT interest coverage (times)	2.04	2.13	1.86	1.69	1.72
Total debt-to-capital	58.0%	59.0%	59.6%	59.1%	60.4%
Cash flow/total debt (times)	17.6%	17.5%	15.5%	13.7%	13.1%
Cash flow/capital expenditures (times)	1.42	1.67	1.63	1.21	1.02
Reported Net income (\$ millions)	17.2	13.4	11.7	7.6	10.8
Cash flow from operations (\$ millions)	50.9	50.6	44.8	39.7	38.6
Return on average equity	8.4%	6.7%	5.9%	3.9%	5.7%
Electricity throughputs (millions kWh)	7,833	7,996	7,690	7,594	7,583

### THE COMPANY

Enersource Corporation is a holding company that owns Enersource Hydro Mississauga (EHM), a regulated electricity distribution company, and Enersource Services Inc., a non-regulated holding company. Enersource Services Inc. consists of two wholly owned subsidiaries: (1) Enersource Telecom, a dormant company that formerly operated a fibre-optic data networks and telecommunications company and (2) Enersource Hydro Mississauga Services, which provides engineering, design, construction and operations services, streetlight construction and maintenance services for the City of Mississauga. Enersource Corporation is 90% owned by the City of Mississauga, and 10% owned by BPC Energy Corporation, a subsidiary of Ontario Municipal Employees Retirement System.



#### RATING UPDATE (Continued from Page 1.)

Over the next three years, the OEB will be re-basing the rates with full-cost-of-service proceedings for all distributors in Ontario, and Enersource has been selected to be in the first group to go through the re-basing of rates for the 2008 rate year, with the 3rd Generation Incentive Rate Mechanism applied in succeeding years, up to the 2010 rate year. The regulatory framework beyond 2010 remains uncertain, but DBRS expects the OEB will maintain a reasonable regulatory framework that should likely include cost of service recovery, a market-based rate of return and a performance-based incentive mechanism.

EBIT is expected to increase moderately in F2007, primarily due to the OEB's two separate decisions in 2006. Cash flows for F2008 and beyond will depend largely on the 2008 re-basing of rates and

the 3rd Generation Incentive Rate Mechanism, but is generally expected to be sufficient to fully fund capital expenditures (estimated to be \$50 million, including the \$9 million allocated for Smart Meter installations) and dividends over the medium term. Political intervention still remains a risk, especially in light of rising electricity commodity prices and anticipated increases in transmission and distribution rates over the medium to longer term. Should the total cost of electricity to consumers rise too quickly, the government could interfere with the OEB's rate-making process or cap rates, as has happened in the past. However, DBRS notes the current government has made a strong commitment to passing on the full cost of electricity to consumers.

#### RATING CONSIDERATIONS

##### Strengths

(1) Almost 100% of Enersource's earnings and cash flows are generated from its low-risk, regulated distribution subsidiary, EHM. The Company's already limited exposure to non-regulated businesses was further reduced due to the divestiture of its non-regulated electric water-heater rental and certain specific telecom assets. Management has indicated that exposure to higher-risk, non-regulated businesses will continue to remain limited.

(2) The Company's balance sheet remains solid with leverage at 58%, EBIT interest coverage ratio at just over two times and cash flow-to-debt at almost 18%. These ratios are acceptable for the current rating category given the low business risk for the Company stemming from its regulated electricity distribution operations.

(3) Enersource's franchise area, the City of Mississauga, is the sixth-largest municipality in Canada. It has a population of approximately 700,000 with favourable annual population growth of approximately 2.5% over the past five years. Population growth is expected to continue to be solid over the medium term, providing a basis for continued stable earnings growth. Approximately 55% of Enersource's revenues are derived from commercial customers. Further, EHM's exposure to more-cyclical industrial customers is limited to less than 15% of total revenues. The Company's favourable customer mix, coupled with a strong, growth-oriented service area has provided Enersource with a relatively stable and predictable demand load year-over-year.

##### Challenges

(1) Political risk and regulatory uncertainty is a significant challenge for local distribution companies (LDCs) in Ontario. The most significant risk in the near term is the possibility of political intervention, such as the imposition of rate caps with the passing of Bill 210 in December 2002, should the cost of electricity to end-consumers rise too quickly. Higher prices will arise from (a) costs associated with new generation capacity being added within the province; (b) higher distribution costs following a re-basing during the 2008-2010 period; and (c) the recovery of approximately \$4 billion in transmission upgrades in the province during the next ten years. Should prices increase too quickly, especially around election time, there is a risk that the government would intervene in the rate-setting process. DBRS considers this risk to be reasonably low. Furthermore, there is regulatory uncertainty arising from the OEB's decision on December 20, 2006 concerning the Cost of Capital, and the 2nd Generation Incentive Regulation, which is effective only until 2010. The OEB has not indicated what the regulatory framework will resemble after 2010.

(2) The approved ROE of 9.0% for 2007 is low and has been in decline in recent years primarily due to the low-interest rate environment. Lower ROEs have a negative impact on earnings, but the impact has been largely offset by a larger rate base and stable amount of debt.

(3) Earnings and cash flow for electricity-distribution companies are partially dependent on the volume of electricity sold and, hence, revenue earned from electricity sales. Seasonality, economic cyclicality and year-over-year changes in weather patterns directly impact the volume of





electricity sold and revenue earned from electricity sales. In addition, economic growth impacts customer and load growth. However, Enersource's favourable customer mix and growing customer base helps mitigate these risks.

(4) Enersource's long-term debt currently consists entirely of a \$290 million private placement with

Borealis Infrastructure Trust, which matures in May 2011. Even though this bullet maturity poses a refinancing risk to Enersource, DBRS notes that the Company's credit profile, coupled with stable cash flows generated from strong franchise area with growing customer base, largely moderate this risk.

## REGULATION

### Regulatory Update

- Enersource's electricity distribution operations are regulated by the OEB under the Electricity Act, 1998 (the Electricity Act).
- Currently, EHM operates on a cost-of-service/rate-of-return basis. For 2007, ROE is set at 9.0% with a deemed capital structure of 60%/40%.
- On April 12, 2006, OEB released a decision that allowed a growth of \$23.4 million or 5.2% in EHM's rate base. Furthermore, on October 3, 2006, OEB revised its April 12, 2006 decision and allowed for the full recovery of additional expenses of approximately \$1.1 million annually, as well as the disposition of retail settlement-variance liabilities of approximately \$2.7 million over a two-year period.
- On December 20, 2006, OEB released its final decision on the Cost of Capital and the 2nd Generation Incentive Regulation for Ontario's Electricity Distributors. The decision included the following:
  - No major changes for the 2007 rate-setting period (May 2007 to April 2008), except for the implementation of the performance-based regulation (PBR) that will be in effect for the LDCs for a maximum of three years, until the 2010 rate year. This PBR, which became effective on May 1, 2007, comprises an Inflation factor minus a Productivity factor of about 1%, as well as an additional adjustment for the recovery of one-time costs. No major financial impact for the distributors is expected, apart from a marginal increase in revenues due to the inflation factor generally being slightly higher than the productivity factor. ROE was set at 9%, the same as in 2006.
  - For the next three years, OEB will be re-basing the rates with a full cost-of-service proceeding for all LDCs. The roughly 90 LDCs will be divided into three groups. The first group will be re-based in 2008 with the 3<sup>rd</sup> Generation Incentive Rate mechanism applied in succeeding years, up to the 2010 rate year. The 3<sup>rd</sup> Generation Incentive Mechanism is expected to be materially similar to the 2<sup>nd</sup> Generation Incentive Mechanism. By 2010, all electricity distributors in Ontario will have undergone a re-basing of rates with a full cost-of-service proceeding.
  - Enersource has been selected by the OEB to be in the first group of distributors to go through re-basing, in 2008.
  - Starting May 1, 2008, all distributors will be required to transition to a single deemed capital structure (60%/40%) over a three-year period. This will have no impact on EHM as its capital structure is already set at 60%/40%.
- EHM is part of a coalition of six, large, electricity distributors within the province that are launching a significant Smart-Meter initiative to fulfill the provincial government's plan for the installation of 800,000 Smart Meters throughout the Province by the end of 2007. The costs associated with the implementation will be recovered through the imposition of a rate adder and the maintenance of a capital-variance account that will incorporate return-on-investment and amortization components, as well as an Operations Maintenance & Administration (OM&A) variance account that will reflect actual amounts spent plus carrying costs.



## EARNINGS AND OUTLOOK

(\$ millions)	For the year ended December 31				
	<u>2006</u>	<u>2005</u>	<u>2004</u>	<u>2003</u>	<u>2002</u>
Net operating revenues	122.4	117.8	101.6	103.7	97.5
Operating costs	84.4	80.1	73.3	72.3	65.9
EBITDA	75.5	75.0	62.8	61.4	59.0
EBIT	38.0	37.7	28.2	31.3	31.7
Net Interest expense	15.4	15.8	13.3	16.6	17.6
Net income (before discont. operations)	12.6	12.8	9.8	7.1	12.2
Discontinued operations	3.9	0.7	1.9	0.5	(1.4)
Reported Net income	17.2	13.4	11.7	7.6	10.8

**Summary**

- Overall, EBIT and earnings have trended upwards since F2004, primarily due to distribution rate increases and a rise in electricity consumption. The financial impact of the increased rates and consumption was partially offset by higher operating costs.
  - Earnings are almost entirely derived from regulated electricity-distribution activities.
- For F2006, the increase in distribution revenue resulting from the increase in distribution rates was partially offset by a 5% decline in electricity consumption due to a 29% reduction of cooling degree days during the summer months and an 11% reduction of heating degree days during the winter months, relative to F2005.
- Interest expense has remained relatively stable on a constant amount of debt.
- Electricity prices do not directly impact on earnings since the costs are passed through to customers.

**Outlook**

- EBIT is expected to increase moderately in F2007 as this will be Enersource's first rate year under the PBR. The moderate growth in

EBIT will be primarily due the OEB's two decisions made in 2006.

- The earnings will also grow at a pace that follows the growth rate in Enersource's service area.
- EBIT for F2008 and beyond will depend largely on the 2008 re-basing of rates and the 3rd Generation Incentive Mechanism. However, the Company's regulated electricity distribution operations at EHM, together with its strong franchise area, are expected to provide a high degree of certainty to revenues and stability to consolidated earnings and cash flow over the longer term.
  - Regulated distribution operations are expected to comprise over 95% of consolidated EBIT going forward.
  - Future earnings contribution from its non-regulated subsidiary, Enersource Services, is less certain than from regulated distribution at EHM. However, it is expected that the contributions from non-regulated operations to earnings will continue to be minimal.



## FINANCIAL PROFILE

**Statement of Changes in Cash Flow**

(CAD millions)	For the year ended December 31				
	<u>2006</u>	<u>2005</u>	<u>2004</u>	<u>2003</u>	<u>2002</u>
Net income (before discount ops.)	12.6	12.8	9.8	7.1	12.2
Depreciation	37.9	37.7	34.6	30.1	27.3
Other non-cash items	0.5	0.1	0.5	2.5	(0.9)
<b>Cash Flow From Operations</b>	<b>50.9</b>	<b>50.6</b>	<b>44.8</b>	<b>39.7</b>	<b>38.6</b>
Common dividends	(8.9)	(8.9)	(15.7)	-	-
Capital expenditures (net of contrib.)	(35.9)	(30.2)	(27.5)	(32.9)	(37.9)
<b>Free Cash Flow Bef. Work. Cap. Changes</b>	<b>6.1</b>	<b>11.5</b>	<b>1.5</b>	<b>6.8</b>	<b>0.8</b>
Changes in working capital	(38.1)	26.6	(12.2)	38.7	(28.4)
<b>Net Free Cash Flow</b>	<b>(32.0)</b>	<b>38.1</b>	<b>(10.7)</b>	<b>45.5</b>	<b>(27.7)</b>
Acquisitions/divestitures	25.1	0.1	0.3	0.0	0.1
Additions to regulatory assets	1.7	(4.2)	(8.2)	4.8	(17.2)
Deposits and prudentials	0.6	5.8	2.6	2.3	5.3
Cash flow before financing	(4.5)	39.8	(16.1)	52.7	(39.6)
Customer Deposits	(0.6)	(5.8)	(2.6)	(2.3)	(5.3)
Net debt financing	-	-	-	-	-
Net equity financing	-	-	-	-	-
<b>Net Change in Cash Bef. Disc. Ops.</b>	<b>(5.1)</b>	<b>34.0</b>	<b>(18.6)</b>	<b>50.3</b>	<b>(44.8)</b>
Discontinued Operations	1.2	0.1	0.4	-	-
Other	-	0.1	-	-	-
<b>Net Change in Cash</b>	<b>(3.8)</b>	<b>34.2</b>	<b>(18.2)</b>	<b>50.3</b>	<b>(44.8)</b>

**Key Financial Ratios**

Total debt-to-capital	58.0%	59.0%	59.6%	59.1%	60.4%
EBITDA interest coverage (times)	4.06	4.24	4.15	3.31	3.20
EBIT interest coverage (times)	2.04	2.13	1.86	1.69	1.72
Cash flow/total debt	17.6%	17.5%	15.5%	13.7%	13.1%
Dividend Payout	51.8%	66.4%	135.1%	0.0%	0.0%

**Summary**

- Enersource has maintained a strong financial profile, reflecting its solid balance sheet and credit metrics, without needing equity support from its owners.
  - Cash flow from operations has remained more than sufficient to fully fund capital expenditures and dividends since F2002.
- Cash-flow-to-debt and interest coverage ratios have improved from 2004 levels and continue to support the “A” rating.
- The large swings in working capital are mainly due to changes in the balance of unbilled revenue and accounts receivable.
- A reduced dividend-payout ratio is primarily responsible for the moderately improved debt-to-capital ratio of 58%.

- Asset sale proceeds of \$25 million in F2006 stemmed from the sale of water heating and telecom assets.

**Outlook**

- Cash flow from operations is expected to increase moderately, along with earnings in 2007.
- The Company will likely incur a very modest free cash flow deficit due to a heightened capital expenditure program.
  - Capital expenditures are expected to be in the \$50 million range going forward.
  - The OEB has identified LDCs as the source of funding for the supply and installation of the Smart Meters across Ontario. The first phase requires 800,000 Smart Meters to be installed throughout the province by December 31, 2007. The company expects to recover the costs



associated with the implementation via the imposition of a Smart Meter rate adder, maintenance of a capital-variance account that incorporates return on investment and amortization components and an OM&A variance account that will reflect actual amounts spent plus carrying costs. However, the timing on cash flows of Enersource is uncertain at this time. Enersource is expected to spend

approximately \$9 million on Smart Meters in 2007.

- Regulatory asset recovery is expected to generate an additional \$6 million in cash for F2007 and F2008.
- DBRS expects total debt-to-capital to remain near 60% over the medium to longer term.
  - Hence, cash flow-to-debt and interest coverage ratios are expected to remain at a level appropriate to support the “A” rating.

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## LONG-TERM DEBT MATURITIES AND BANK LINES

### Summary

- Enersource’s long-term debt currently consists entirely of a \$290 million private placement with Borealis Infrastructure Trust. In the event of default, Borealis Infrastructure Trust has a first-ranking security interest on Enersource’s equity interest in EHM.
  - Interest rate: 6.29%
  - Maturity: May 2011
- Enersource currently has access to the following unsecured bank-credit facilities:
  - \$50 million revolving demand facility
  - \$20 million non-revolving demand facility
  - \$5 million revolving lease line of credit
- The \$50 million revolving demand facility and the \$5 million revolving lease line of credit were fully available as at December 31, 2006.
- Of the \$20 million non-revolving demand facility, \$16.6 was used for prudential postings with the Independent Electricity System Operator (IESO) as at December 31, 2006.

### Outlook

- The Company’s liquidity position is strong, reflecting the unutilized credit facility, stable cash flow from operations, zero short-term obligations, and a significant cash position.
- No new long-term debt requirements are expected over the medium term.
- Working capital requirements would be funded with the Company’s operating line.



## **Enersource Corporation**

For the year ended December 31

Income Statement (CAD millions)	<u>2006</u>	<u>2005</u>	<u>2004</u>	<u>2003</u>	<u>2002</u>
Residential	150.0	144.9	121.5	119.4	143.6
Commercial	371.1	435.6	358.3	357.2	412.1
Large users	66.5	84.1	68.4	71.5	68.2
Street lighting	1.1	2.2	3.2	2.8	2.7
Retailer Energy Billing	79.9	109.1	73.4	63.2	18.7
Gross electricity revenues	668.6	775.9	624.9	614.2	645.3
Power purchases	557.3	672.4	534.0	525.7	560.7
Net distribution revenues	111.3	103.5	90.8	88.5	84.6
Ancillary revenues	8.8	11.8	8.3	13.0	10.4
Other revenues	2.2	2.5	2.4	2.2	2.5
Net operating revenues	122.4	117.8	101.6	103.7	97.5
<b>Expenses</b>					
Operating + maintenance	40.4	34.1	32.4	42.2	38.6
Allocated costs	6.6	8.7	6.4	-	-
Depreciation	37.4	37.3	34.6	30.1	27.3
Total operating expenses	84.4	80.1	73.3	72.3	65.9
Operating income	38.0	37.7	28.2	31.3	31.7
Interest expense	18.6	17.7	15.2	18.6	18.5
Non-cash financial charges	-	-	-	-	-
Interest income	(3.2)	(1.9)	(1.8)	(1.9)	(0.8)
Net interest expense	15.4	15.8	13.3	16.6	17.6
Pre-tax income from Cont. ops	22.5	21.9	14.9	14.7	14.0
Income taxes	9.9	9.1	5.1	7.6	1.9
Net income before minority	12.6	12.8	9.8	7.1	12.2
Gain (loss) on disposal of assets	0.7	(0.1)	-	-	-
Minority interest/Discont. ops.	3.9	0.7	1.9	0.5	(1.4)
Net income	17.2	13.4	11.7	7.6	10.8

**Balance Sheet** (\$ millions)

	As at December 31				As at December 31		
	2006	2005	2004		2006	2005	2004
<b>Assets</b>				<b>Liabilities &amp; Equity</b>			
Cash	56.9	60.7	26.5	Short-term debt	-	-	-
A/R + unbilled revenue	116.2	122.0	102.1	A/P + accruals	88.5	130.3	88.6
Inventories	5.6	5.0	4.3	Taxes payable	3.1	6.7	1.4
Other	1.7	2.9	0.9	<b>Current Liabilities</b>	91.5	137.0	90.0
<b>Current Assets</b>	180.4	190.6	133.9	Customer deposits	21.7	22.4	28.1
Net fixed assets	399.5	416.6	417.9	Long-term debt	290.0	290.0	290.0
Regulatory assets	12.2	21.0	24.4	Other	2.7	2.1	2.0
Deferred charges	1.9	2.3	2.7	Minority interest	0.2	0.2	0.2
Customer deposits	21.7	22.4	28.1	Shareholders' equity	209.5	201.2	196.7
<b>Total</b>	615.7	652.9	607.0	<b>Total</b>	615.7	652.9	607.0

**Ratio Analysis****Liquidity Ratios**

	For the year ended December 31				
	2006	2005	2004	2003	2002
Current ratio	1.97	1.39	1.49	1.52	1.41
Accumulated depreciation/fixed assets	44.9%	43.7%	41.2%	38.9%	36.9%
Total debt-to-capital	58.0%	59.0%	59.6%	59.1%	60.4%
Net debt-to-capital	52.6%	53.2%	57.2%	54.9%	60.4%
Cash flow/total debt	17.6%	17.5%	15.5%	13.7%	13.1%
Cash flow/net debt	21.8%	22.1%	17.0%	16.2%	13.1%
Cash flow/capital expenditures (1)	1.42	1.67	1.63	1.21	1.02
Average coupon on long-term debt	6.29%	6.29%	6.29%	6.29%	6.29%
Common dividend payout	51.8%	66.4%	135.1%	0.0%	0.0%
Deemed equity in the capital structure	40.0%	40.0%	40.0%	40.0%	40.0%

**Coverage Ratios**

EBIT interest coverage	2.04	2.13	1.86	1.69	1.72
EBITDA interest coverage	4.06	4.24	4.15	3.31	3.20
Fixed-charges coverage	2.04	2.13	1.86	1.69	1.72

**Profitability/Operating Efficiency**

Operating margin	31.1%	32.0%	27.8%	30.2%	32.5%
Net margin (before extras.)	14.0%	11.4%	11.5%	7.4%	11.1%
Return on avg. common equity	8.4%	6.7%	5.9%	3.9%	5.7%
GWh sold/employee (2)	22.8	23.4	23.7	23.2	22.4
Customers/employee (2)	529	522	546	530	502
OM&A/avg. customer (\$)	260.8	241.2	221.0	246.0	231.4
Rate base	474.4	451.0	451.0	451.0	451.0

**Electricity Throughputs**

Residential	1,539.2	1,639.0	1,485.9	1,522.2	1,584.8
Commercial	5,289.6	5,356.6	5,175.4	5,037.7	5,006.2
Large users	966.1	961.5	990.4	996.5	952.1
Street lighting	38.4	39.3	37.9	37.2	39.4
<b>Total (millions kWh)</b>	<b>7,833.3</b>	<b>7,996.4</b>	<b>7,689.6</b>	<b>7,593.6</b>	<b>7,582.5</b>
Growth in electricity throughputs	-2.0%	4.0%	1.3%	0.1%	4.6%

**Number of Customers**

Residential	161,165	157,903	156,410	153,733	149,822
Commercial	20,699	20,235	20,453	20,120	19,829
Large users	9	8	8	10	10
Street lighting	1	1	1	1	1
<b>Total</b>	<b>181,874</b>	<b>178,147</b>	<b>176,872</b>	<b>173,864</b>	<b>169,662</b>
Growth in customer base	2.1%	0.7%	1.7%	2.5%	3.7%

**Unit Revenues & Costs**

	(cents per kWh throughputs)				
Average gross revenues	8.54	9.70	8.13	8.09	8.51
Power costs	7.11	8.41	6.95	6.92	7.39
Average net revenues	1.42	1.29	1.18	1.17	1.12
Variable costs (OM&A)	0.73	0.65	0.57	0.66	0.53
Fixed costs (deprec., interest, gov't levies)	0.67	0.66	0.62	0.62	0.59
<b>Total costs (excl. power costs)</b>	<b>1.40</b>	<b>1.31</b>	<b>1.19</b>	<b>1.27</b>	<b>1.13</b>
<b>Net margin (excl. interest income, ancillary revenues)</b>	<b>0.16</b>	<b>0.16</b>	<b>0.13</b>	<b>0.09</b>	<b>0.16</b>

(1) Net of customer contributions.

(2) # of employees for F2006 is as at Sep 30, 2006.



Note:

All figures are in Canadian dollars unless otherwise noted.

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June 28, 2007

## Borealis Infrastructure Trust

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# Borealis Infrastructure Trust

## Major Rating Factors

### Strengths:

- Monopoly electricity distribution network
- Low-risk network operations
- High-growth service territory
- Regulated cash flows
- Supportive owners

### Weaknesses:

- Moderate financial profile
- Some exposure to unregulated operations
- Limited access to equity markets

Corporate Credit Rating
None

## Rationale

The senior unsecured debt rating on the Borealis-Enersource series bonds issued by Borealis Infrastructure Trust (Enersource Mississauga tranche) reflects Enersource Corp.'s strong business risk profile, which is supported by its relatively low-risk monopoly electricity distribution business, regulated cash flows, and growing customer base. Enersource's intermediate financial profile and, to a lesser extent, the company's appetite for growth in higher risk unregulated business activities offset its credit strengths.

Borealis Infrastructure Trust, based in Ontario, is a special-purpose vehicle established to invest in, and facilitate the financing of infrastructure projects. Borealis-Enersource series bonds that Borealis Infrastructure Trust issues are on-lent to Enersource (not rated) in return for a promissory note, with the bonds indirectly serviced from Enersource's cash flow. As of Dec. 31, 2006, the promissory note made up Enersource's total debt outstanding of C\$290 million. Enersource's regulated local electricity distribution company (LDC) based in Mississauga, Ont., generates more than 90% of consolidated cash flow.

Enersource's strong business risk profile benefits from its LDC's monopoly position in its service franchise that limits competitive risk. The asset-intensive nature of the business and regulatory support mitigate the risks of bypass. Furthermore, Enersource's residential and commercial distribution rates are among the lowest in the province. The electricity distribution business also carries relatively low operating risk, exhibiting good operational efficiency and reliability.

The Ontario Energy Board's regulatory framework provides for the recovery of all the LDC's prudent costs and an ability to earn a return on capital employed. Furthermore, the company faces limited risk related to commodity price and volume variability. Although the LDC bills electricity customers for the cost of the commodity delivered, the company has no obligation to ensure an adequate supply of electricity for its customers. Distribution revenues, however, face some volumetric risk.

Enersource's service franchise is defined by the boundaries of the City of Mississauga (AAA/Stable/--), which continues to demonstrate solid economic growth. Real GDP growth averaged more than 2% per year since 1997,

and related growth in electricity throughput and customer numbers ranged from 2%-3% in each of the past five years. The diversity of Enersource's 180,000 customers and limited customer concentration exposure shield the company from the full effects of any potential downturn in economic growth or loss of a major customer.

Enersource maintains an intermediate financial profile. Standard & Poor's Ratings Services excludes the positive cash impact of recovery of regulated assets in its calculation of sustainable credit metrics. In 2006, adjusted funds from operations (AFFO) interest coverage and AFFO-to-total debt, were 3.4x and 16%, respectively. Adjusted interest and debt cash flow coverages could improve marginally in 2007 to about 3.7x and 17%, respectively, as a result of a full-year implementation of the rate increase approved in May 2006. Enersource's actual total debt-to-total capital was 58.6% at year end 2006 and should remain steady at about 60%.

Enersource's higher risk and competitive-based unregulated businesses modestly weaken an otherwise excellent business risk profile. Standard & Poor's expects Enersource to focus on replacing cash flow from its recently sold telecom business by investing equity in small, contracted, generation projects. Enersource could also expand its engineering technologies operations. Nevertheless, risk exposure related to unregulated activities and the impact on credit strength is limited by the small size of the nonregulated ventures that, in the long term, could contribute up to 10% of FFO.

### **Liquidity**

Enersource's strong liquidity comes from forecast FFO of about C\$50 million, sustainable cash on hand of C\$15 million-C\$20 million, and a C\$50 million evergreen operating line of credit that remains unused since second-quarter 2003. The company's liquidity is more than sufficient to meet its forecast capital expenditure (including expected investment in smart meters) and dividend commitments in 2007. Furthermore, Enersource faces no immediate debt maturities, its only long-term debt obligation being a C\$290 million, 6.27% debenture due 2011.

In addition to its operating line of credit, Enersource has an LOC under a separate bank line for C\$17 million that was also unused as of March 31, 2007. The bank line is for general corporate purposes, while the utility requires the LOC to satisfy prudential requirements with the Independent Electricity System Operator.

### **Accounting**

Enersource's financial statements, year ended Dec. 31, 2006, were prepared in accordance with Canadian GAAP. We do not expect that the Canadian adoption of International Financial Reporting Standards will materially influence our analysis of Enersource or our perception of its creditworthiness. Table 3 reconciles the company's reported amounts with Standard & Poor's adjusted amounts for the purpose of calculating key credit metrics. No material adjustments have been made.

For analytical purposes, Standard & Poor's focuses on the company's sustainable cash flows and associated credit metrics. We recognize the cash flow benefit from the recovery of regulatory assets as a temporary enhancement of the company's liquidity and financial flexibility. Nevertheless, we base our ratings assessment on what we consider to be the company's sustainable credit metrics. In 2006, as per the company's statements, the net impact of regulatory assets and liabilities on earnings net of payments in lieu of taxes of about C\$2.3 million was not material.

### **Outlook**

The positive outlook reflects a modest-but-steady improvement in the LDC's business risk profile, as well as a stable consolidated financial risk profile. The improvement is largely a result of steadily increasing clarity and stability with

regards to regulatory methodology and timetables. Continued improvement in Enersource's business risk profile could result in a positive rating action but more than a single-notch improvement is highly unlikely. Any move by Enersource to materially increase the size of its unregulated operations as a proportion of its consolidated operations and or to aggressively capitalize its unregulated operations without appropriate risk-mitigating features could increase its risk profile and weaken the rating.

**Table 1**

<b>Enersource Corp.--Peer Comparison*</b>				
<b>--Average of past three fiscal years--</b>				
<b>(Mil. C\$)</b>	<b>Enersource Corp.¶</b>	<b>Hamilton Utilities Corp.</b>	<b>Toronto Hydro Corp.</b>	<b>Hydro Ottawa Holding Inc.</b>
Rating as of June 14, 2007	A-/Positive	A/Positive/--	A-/Positive/--	A-/Positive/--
Revenues	705.8	499.4	2,361.9	667.9
Net income from continuing operations	12.6	12.5	92.9	26.2
Funds from operations (FFO)	48.8	33.6	232.6	62.1
Capital expenditures	31.8	24.6	165.8	70.8
Cash and investments	48.0	48.3	387.5	0.1
Debt	291.8	105.0	1,327.0	237.6
Common equity	200.7	181.7	832.7	253.0
Total capital	492.8	309.4	2,159.8	490.8
<b>Adjusted ratios</b>				
EBIT interest coverage (x)	2.1	3.4	2.7	3.5
FFO interest coverage (x)	3.8	4.7	3.4	5.5
FFO/debt (%)	16.7	32.0	17.5	26.1
Discretionary cash flow/debt (%)	(1.0)	2.9	(0.1)	(7.2)
Net cash flow/capex (%)	118.4	82.3	107.4	82.1
Debt/total capital (%)	59.2	33.9	61.4	48.4
Return on common equity (%)	6.0	7.5	11.2	10.7
Common dividend payout ratio (unadjusted; %)	88.9	82.7	58.6	0.0

\*Fully adjusted (including post-retirement obligations). ¶Rating reflects debt rating on Borealis-Enersource series bonds issued by Borealis Infrastructure Trust (Enersource Mississauga tranche).

**Table 2**

<b>Enersource Corp.--Financial Summary*</b>					
<b>--Fiscal year ended Dec. 31--</b>					
<b>(Mil. C\$)</b>	<b>2006</b>	<b>2005</b>	<b>2004</b>	<b>2003</b>	<b>2002</b>
Rating history¶	A-	A-	A-	A-	A+
Revenues	680.3	793.1	644.0	629.4	695.9
Net income from continuing operations	13.3	12.7	11.7	7.1	10.8
Funds from operations (FFO)	46.8	55.5	44.2	42.8	38.8
Capital expenditures	35.5	29.8	30.1	32.0	37.2
Cash and investments	56.9	60.7	26.5	44.7	0.0
Debt	292.7	291.4	291.3	291.3	296.9
Common equity	207.0	199.8	195.4	199.5	192.0

Table 2

Enersource Corp.--Financial Summary* (cont.)					
Total capital	500.0	491.4	486.9	491.2	489.6
<b>Adjusted ratios</b>					
EBIT interest coverage (x)	2.2	2.2	2.0	1.7	1.6
FFO interest coverage (x)	3.4	4.1	3.9	3.2	3.0
FFO/debt (%)	16.0	19.1	15.2	14.7	13.1
Discretionary cash flow/debt (%)	(11.0)	13.1	(5.1)	15.0	(9.1)
Net cash flow/capex (%)	106.8	156.4	94.5	133.6	104.2
Debt/total capital (%)	58.6	59.3	59.8	59.3	60.6
Return on common equity (%)	6.3	6.2	5.6	3.2	5.3
Common dividend payout ratio (unadjusted; %)	66.9	70.1	134.2	0.0	0.0

\*Fully adjusted (including post-retirement obligations). †Rating reflects debt rating on Borealis-Enersource series bonds issued by Borealis Infrastructure Trust (Enersource Mississauga tranche).

Table 3

Reconciliation Of Enersource Corp. Reported Amounts With Standard & Poor's Adjusted Amounts*							
--Fiscal year ended Dec. 31, 2006--							
Enersource Corp. reported amounts (mil. C\$)	Debt	Shareholders' equity	Operating income (after D&A)	Interest expense	Cash flow from operations	Cash flow from operations	Capital expenditures
Reported	290.0	209.5	38.7	18.6	12.9	12.9	35.9
<b>Standard &amp; Poor's adjustments</b>							
Postretirement benefit obligations	2.7	(2.50)	0.4	0.2	(0.2)	(0.2)	N/A
Capitalized interest	N/A	N/A	N/A	0.4	(0.4)	(0.4)	(0.4)
Reclassification of nonoperating income (expenses)	N/A	N/A	3.2	N/A	N/A	N/A	N/A
Reclassification of working-capital cash flow changes	N/A	N/A	N/A	N/A	N/A	34.6	N/A
Minority interest	N/A	0.2	N/A	N/A	N/A	N/A	N/A
Total adjustments	2.7	(2.3)	3.5	0.6	(0.6)	34.0	(0.4)
<b>Standard &amp; Poor's adjusted amounts</b>	<b>Debt</b>	<b>Equity</b>	<b>EBIT</b>	<b>Interest expense</b>	<b>Cash flow from operations</b>	<b>Funds from operations</b>	<b>Capital expenditures</b>
Adjusted	292.7	207.2	42.2	19.2	12.2	46.8	35.5

\*Enersource Corp. reported amounts shown are taken from the company's financial statements but might include adjustments made by data providers or reclassifications made by Standard & Poor's analysts. Please note that two reported amounts (operating income before D&A and cash flow from operations) are used to derive more than one Standard & Poor's-adjusted amount (operating income before D&A and EBITDA, and cash flow from operations and funds from operations, respectively). Consequently, the first section in some tables may feature duplicate descriptions and amounts. N/A--Not applicable.

### Ratings Detail (As Of June 28, 2007)\*

#### Borealis Infrastructure Trust

#### Financial Risk Profile

Intermediate

\*Unless otherwise noted, all ratings in this report are global scale ratings. Standard & Poor's credit ratings on the global scale are comparable across countries. Standard & Poor's credit ratings on a national scale are relative to obligors or obligations within that specific country.

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1 **Presentation of Financial Information**

2  
3 ExA/Sched12/Tab2 provides Enersource's audited 2006 financial statements.

4  
5 For the 2006 Historic Year, Enersource has relied on the data filed with the Board in fulfillment  
6 of the Board's Reporting and Record-keeping Requirements for the purposes of this application.  
7 This data is consistent with Enersource's audited financial statements.

8  
9 Enersource has presented financial data for the 2007 Bridge Year and the 2008 Test Year in  
10 Uniform System of Accounts ("USoA") format (ExA/Sched12/Tab7). The presentation of this  
11 data is consistent with the presentation of the 2006 Historic Year. Please note that Enersource's  
12 variance analysis of its Operating, Maintenance and Administration expense is formatted  
13 consistent with the presentation of Enersource's financial statements.

14  
15 There were no changes in Enersource's accounting policies for any period under review and  
16 Enersource did not restate any reported balances.

**RATE BASE (000's)**

<b>Property, Plant &amp; Equipment</b>	<b>Test</b>	<b>Bridge</b>	<b>Actual</b>
<b>DISTRIBUTION ASSETS:</b>	<b>2008</b>	<b>2007</b>	<b>2006</b>
Land and Buildings	\$ 19,882	\$ 18,639	\$ 18,392
TS Primary Above 50	\$ -	\$ -	\$ -
DS	\$ 67,941	\$ 65,898	\$ 63,673
Poles, Wires	\$ 593,896	\$ 565,674	\$ 539,021
Line Transformers	\$ 67,654	\$ 68,539	\$ 69,342
Services and Meters	\$ 36,762	\$ 34,731	\$ 32,976
General Plant	\$ -	\$ -	\$ -
Equipment	\$ 27,269	\$ 23,233	\$ 20,511
IT Assets	\$ 13,208	\$ 8,442	\$ 6,726
CDM Assets	\$ -	\$ -	\$ -
Other Distribution Assets	\$ 14,852	\$ 14,112	\$ 14,488
Contributions and Grants	\$ (53,858)	\$ (52,760)	\$ (51,926)
Construction Work In Progress	\$ 5,182	\$ 9,182	\$ 8,464
<b>TOTAL DISTRIBUTION ASSETS</b>	<b>\$ 792,787</b>	<b>\$ 755,691</b>	<b>\$ 721,665</b>

Note 1

Total Distribution Assets (as above) - LESS:

Construction Work In Progress	\$ (5,182)	\$ (9,182)	\$ (8,464)
Accumulated Amortization	\$ (378,678)	\$ (350,221)	\$ (324,439)
<b>NET FIXED DISTRIBUTION ASSETS</b>	<b>\$ 408,928</b>	<b>\$ 396,287</b>	<b>\$ 388,762</b>

Note 1

**Allowance for Working Capital**

<b>TOTAL COST OF POWER</b>	<b>601,101</b>	<b>564,470</b>	<b>557,590</b>
Operation (Working Capital)	17,279	16,468	14,395
Maintenance (Working Capital)	2,557	2,530	2,630
Billing and Collection (Working Capital)	5,286	5,103	4,311
Community Relations (Working Capital)	0	0	0
Community Relations - CDM (Working Capital)	0	2,600	1,906
Administrative and General Expenses (Working Capital)	14,431	12,394	9,001
Insurance Expense (Working Capital)	0	0	0
Bad Debt Expense (Working Capital)	1,575	1,875	2,580
Advertising Expenses	0	0	0
Charitable Contributions	0	0	0
Other Distribution Expenses	949	918	639
<b>TOTAL EXPENSES</b>	<b>42,076</b>	<b>41,889</b>	<b>35,461</b>
<b>Total for consideration of Working Cash Allowance</b>	<b>\$ 643,178</b>	<b>\$ 606,359</b>	<b>\$ 593,051</b>
<b>Working Cash Allowance (15% COP &amp; Expenses)</b>	<b>\$ 96,477</b>	<b>\$ 90,954</b>	<b>\$ 88,958</b>
<b>RATE BASE</b>	<b>\$ 505,404</b>	<b>\$ 487,241</b>	<b>\$ 477,720</b>

Note 2

Note 1: Total Distribution Assets and Net Fixed Assets are referenced in ExC/Sched3/Tab2

Note 2: Total Expenses are referenced in ExD/Sched2/Tab1

1 **Budget Process**

2  
3 Enersource compiles budget information by forecasting the following:

- 4  
5 • operating and maintenance expenses;  
6 • capital expenditures; and  
7 • revenues.  
8

9 Business units are organized based on type of business function or service provided. Each  
10 business unit is assigned to a manager who is responsible and held accountable for the actual  
11 expenditures made as compared to their original budget.  
12

13 **Operating and Maintenance Expenses**

14  
15 The Operating and Maintenance budget for the 2007 Bridge Year and the 2008 Test Year have  
16 been forecasted utilizing a bottom-up or zero-based approach. These forecasts are compared to  
17 prior year experience for reasonableness. Each business unit is reviewed by the responsible  
18 manager, finance and divisional lead to ensure financial projections are sufficient for known and  
19 expected activities. After every business unit is forecasted, the budget is consolidated. The  
20 consolidated budget is reviewed and adjusted if necessary by the Chief Operating Officer.  
21

22 **Other Expenses**

23  
24 The Other Expenses budget for the 2007 Bridge Year and the 2008 Test Year has also been  
25 forecasted using a bottom-up approach. Significant line items within this budget include the  
26 annual Accounts Receivable Bad Debt provision, the Ontario Energy Board's annual fixed costs  
27 apportionment, and the Retail Transaction Hub software service costs.  
28



1 Capital Expenditures

2

3 The capital budgeting process begins with the completion of a System Capacity Report. In this  
4 report, Enersource determines the areas of the City where the distribution system infrastructure  
5 must be replaced and the areas where additional capacity will be required based on past  
6 reliability and expected throughput volumes. All other capital expenditures are budgeted on a  
7 business unit basis and evaluated based on expected need (i.e. number of additional computers  
8 for new hires) and forecasted business requirements (i.e. new Customer Information System).

9

10 Revenue Forecast

11

12 The revenue budget or forecast is comprised of three separate components:

- 13 • Energy Revenue;
- 14 • Distribution Revenue; and
- 15 • Other Revenue.

16

17 Energy Revenue

18 2008 energy revenue was forecast using Enersource's Short Term load forecast and a commodity  
19 price based on the three year actual weighted average price of 5.8 cents/kWh for the years 2004-  
20 2006. Enersource has elected to rely on the three year actual weighted average monthly price  
21 for 2004-2006 to forecast the Cost of Power. This is consistent with the Navigant forecast which  
22 was used to support the Board's work in setting the Regulated Price Plan. This commodity price  
23 was applied to the forecasted throughput volume.

24

25 Distribution Revenue

26 Distribution revenue is forecasted utilizing the same forecasted throughput volume as those used  
27 to determine energy revenue. Formulaic adjustments are made to calculate peak consumption for

1 larger customers. These volumes and peak consumption are multiplied by currently approved  
2 distribution rates to yield the distribution revenue forecast for the period.

3

4 Other Revenue

5 Other revenue is comprised of two main components:

- 6
- Interest revenue; and
  - Revenues recovered through Specific Service Charges and other regulated rates and  
8 charges.
- 9

10 Interest revenue was forecasted based on an estimated average monthly cash balance multiplied  
11 by the same interest rate as that used in the formula for determining the allowed ROE.

12

13 Specific service revenue captures all other OEB approved revenue sources such as late payment,  
14 pole rental fees, etc. based on past experience with those services

15

16 Revenues recovered through other regulated rates and charges are developed in a similar manner.

17

18 Major Budget Assumptions

19

20 Enersource's load forecast (ExB/Sched3/Tab2) provides the current forecast of:

- 21
- the number of new customers and the total number of customer additions;
  - energy deliveries;
- 22

23

24 It assumes normal weather conditions will be experienced.

1 **Services Provided to or by Affiliates**

2  
3 Services between affiliated companies are provided pursuant to Service Agreements; these are  
4 attached at ExA/Sched14/Tabs2-6.

5  
6 Enersource provides distribution services to the building that accommodates both regulated and  
7 unregulated Enersource companies. In this regard, unregulated affiliates do not have preferential  
8 access to distribution services. Enersource makes its trucks and other vehicles available for use  
9 by its affiliates. The affiliates are charged a cost based rate for the use of these assets.

10  
11 Enersource provides general Information Technology services to affiliates (e.g., use of  
12 computers, access to mainframe time, telecommunications, and software) except for the  
13 Customer Information System (“CIS”). The CIS is used exclusively by Enersource.

14  
15 Enersource Corporation provides a number of corporate services to Enersource including:

- 16
- 17 • Emergency and safety expertise;
  - 18 • Executive management;
  - 19 • Finance;
  - 20 • Human Resources; and
  - 21 • Legal.

22  
23 These services are provided at cost.

24  
25 Enersource Hydro Mississauga Services Inc. does not provide services to Enersource.

**ENERSOURCE CORPORATION,**

**and**

**ENERSOURCE SERVICES INC.**

**and**

**ENERSOURCE TELECOM INC.**

**and**

**ENERSOURCE HYDRO MISSISSAUGA SERVICES INC.**

**and**

**ENERSOURCE HYDRO MISSISSAUGA INC.**

---

**SERVICES AGREEMENT**

---

**Effective as of**

**January 1, 2002**

## SERVICES AGREEMENT

THIS SERVICES AGREEMENT is made this 30<sup>th</sup> day of November, 2005, and effective as of the 1<sup>st</sup> day of January, 2002 (the "Effective Date").

B E T W E E N:

**ENERSOURCE CORPORATION,**

-and-

**ENERSOURCE SERVICES INC.**

-and-

**ENERSOURCE TELECOM INC.**

-and-

**ENERSOURCE HYDRO MISSISSAUGA SERVICES INC.**

(hereinafter collectively referred to as (the "**Non-Regulated Affiliates**" and, individually referred to as a "**Service Affiliate**")

- and -

**ENERSOURCE HYDRO MISSISSAUGA INC.**

(hereinafter referred to as "**WIRESKO**")

**The Non-Regulated Affiliates and WIRESKO may hereinafter be collectively referred to as Parties and individually as a "Party".**

**WHEREAS:**

1. Each of the Parties to this Agreement is a corporation incorporated under the *Business Corporations Act* (Ontario);
2. WIRESKO agrees to provide certain services to the Non-Regulated Affiliates on the terms as set forth in this Agreement;
3. WIRESKO carries on the business of distributing electricity within the City of Mississauga;

4. WIRESO shall provide services to the Non-Regulated Affiliates only to the extent requested by the Non-Regulated Affiliates;

**NOW THEREFORE** in consideration of the mutual covenants contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

## **ARTICLE 1 INTERPRETATION**

### **1.1 Definitions**

Unless the context otherwise specifies or requires, for the purposes of this Agreement all capitalized terms herein shall have the meanings set forth below

- (a) **"Agreement", "hereto", "hereof", "herein", "hereby", "hereunder"** and similar expressions mean this Services Agreement together with all Schedules attached hereto, as they may be amended from time to time;
- (b) **"Business Day"** means any day other than a Saturday, Sunday, statutory or bank holiday in the Province of Ontario;
- (c) **"Claim"** has the meaning ascribed to such term in **Section 4.4**;
- (d) **"Confidential Information"** means information WIRESO has obtained relating to a specific consumer, retailer or generator in the process of providing current or prospective service;
- (e) **"Default"** means in respect of Defaulting Party, an event set out in **Section 8.1**;
- (f) **"Defaulting Party"** has the meaning ascribed to such term in **Section 8.1**;
- (g) **"Effective Date"** means the date first written above;
- (h) **"Event of Default"** means a Default, the notice and cure periods (if any) respecting which have expired;
- (i) **"Force Majeure Event"** has the meaning ascribed to such term in **Section 11.1**;
- (j) **"IMO"** means the Independent Electricity Market Operator, or its successor;
- (k) **"Law"** means any law, rule, regulation, code, order, writ, judgement, decree or other legal or regulatory determination by a court, regulatory agency, including the IMO, or governmental authority of competent jurisdiction;
- (l) **"Party"** means a party to this Agreement and "Parties" means every party;
- (m) **"Person"** means an individual, corporation, partnership, joint venture, association, trust, pension fund, union, governmental agency, official, board, tribunal, ministry, commission or department;

- (n) **"Personnel"** means employees, agents, professional advisors, contractors and subcontractors;
- (o) **"Services"** are Services that are provided under **Section 3.1** of this Agreement;
- (p) **"Term"** has the meaning ascribed thereto in **Section 2.1** of this Agreement; and

## **1.2 Construction of Agreement**

In this Agreement:

- (a) words denoting the singular include the plural and vice versa and words denoting any gender include all genders;
- (b) all usage of the word "including" or the phrase "e.g.," in this Agreement shall mean "including, without limitation," throughout this Agreement;
- (c) any reference to a statute shall mean the statute in force as at the date hereof, together with all regulations promulgated thereunder, as the same may be amended, re-enacted, consolidated and/or replaced, from time to time, and any successor statute thereto, unless otherwise expressly provided;
- (d) any reference to a specific executive position or an internal division or department of a Party shall include any successor positions, divisions or departments having substantially the same responsibilities or performing substantially the same functions;
- (e) when calculating the period of time within which or following which any act is to be done or step taken, the date which is the reference day in calculating such period shall be excluded, and if the last day of such period is not a Business Day, the period shall end on the next Business Day;
- (f) all dollar amounts are expressed in Canadian dollars;
- (g) the division of this Agreement into separate Articles, Sections, subsections and Schedules and the insertion of headings is for convenience of reference only and shall not affect the construction or interpretation of this Agreement;
- (h) words or abbreviations which have well known or trade meanings are used herein in accordance with their recognized meanings;
- (i) the terms and conditions hereof are the result of negotiations between the Parties and the Parties therefore agree that this Agreement shall not be construed in favour of or against any Party by reason of the extent to which any Party or its professional advisors participated in the preparation of this Agreement.

**ARTICLE 2  
TERM**

**2.1 Term**

Unless terminated in accordance with **Section 10.1** of this Agreement, this Agreement shall come into force on the Effective Date and shall continue in full force and effect for a period of ten (10) years and the term shall be automatically extended for a further period of one (1) year unless either Party gives notice in writing that the Agreement is not to be extended on the date which is ninety (90) days prior to the end of the term, or the end of renewal as the case may be.

**ARTICLE 3  
WIRESKO SERVICES AND COVENANTS**

**3.1 Services**

Subject to the terms, covenants and conditions contained in this Agreement, WIRESKO will provide, or cause to be provided, to the Non-Regulated Affiliates the services set out in **Schedule "A"** (the "**Services**") and such other services as the Non-Regulated Affiliates may request and WIRESKO may agree to provide from time to time in writing.

**3.2 Performance Standards**

- (a) WIRESKO shall perform the Services in a good and workmanlike manner and to a standard of performance that a competent professional and diligent independent provider of the services in the same circumstances would reasonably be expected to provide.
- (b) All WIRESKO personnel with responsibility for carrying out WIRESKO's responsibilities hereunder shall be familiar with the Non-Regulated Affiliate's Facilities, computer hardware & software, and fleet requirements. Where appropriate, utilizing its in-depth local knowledge and information sources, WIRESKO will provide the maintenance services contemplated hereunder with a view to minimizing costs and maximizing efficiency for all parties.

**3.3 Changes**

The Non-Regulated Affiliates and WIRESKO may, from time to time, agree to modifications to a Service agreed to be provided hereunder by negotiating appropriate changes to the descriptions of the service and the consideration in connection with such changes and shall initial and attach amended schedules hereto.

**3.4 General WIRESKO Covenants**

- (a) WIRESKO shall be responsible for obtaining all necessary licences and permits and for complying with all applicable federal, provincial and municipal laws, codes and regulations in connection with the provision of the Services and WIRESKO shall, when requested, provide the Non-Regulated Affiliates with adequate evidence of its compliance with this **Section 3.4**.



- (b) WIRESO shall pay for and maintain for the benefit of WIRESO appropriate insurance concerning the operations and liabilities of WIRESO relevant to this Agreement including, without limiting the generality of the foregoing, workers' compensation and employment insurance in conformity with applicable statutory requirements in respect of any remuneration payable by WIRESO to any employees of WIRESO and public liability and property damage insurance.
- (c) WIRESO shall not engage in the Services ordered by the Non-Regulated Affiliates if WIRESO's ability to meet its regulated obligations is jeopardized. In other words, the Non-Regulated Affiliate's requirements shall take a lower priority than WIRESO's regulatory requirements.

### **3.5 Regulatory Change**

If any change of Law after the date of this Agreement renders this Agreement illegal or unenforceable, then the Parties shall be required to renegotiate in good faith for thirty (30) days with a goal of developing a substitute agreement with such amendments as are necessary to comply with such change of Law. To the extent that such change of Law makes the provision of services from WIRESO to the Non-Regulated Affiliates illegal or inconsistent with regulation, WIRESO shall take all reasonable measures to establish a suitable transition of services for the Non-Regulated Affiliates.

## **ARTICLE 4 MUTUAL COVENANTS**

### **4.1 Confidentiality of Information**

No Personnel of WIRESO shall use any Confidential Information pertaining to WIRESO, except when in compliance with the Affiliate Relationships Code for Electricity Distributors and Transmitters.

### **4.2 Maintain Records**

The Non-Regulated Affiliates and WIRESO will maintain such records as may be necessary in connection with this Agreement and as are agreed upon by the Parties acting reasonably.

### **4.3 Notification of Changes of Circumstances**

The Non-Regulated Affiliates shall promptly give written notice to WIRESO of any changes or prospective changes in circumstances that would materially affect the resources required for the performance of the Services, including any anticipated material change in the nature or level of business of the Non-Regulated Affiliates, the number of employees of the Non-Regulated Affiliates, or any efforts relating to the organization of the Non-Regulated Affiliates, or any efforts relating to the organization of or collective bargaining by employees of the Non-Regulated Affiliates or any lease or service arrangements related to the services set out in Schedule "A" and Schedule "B", contemplated with any third parties.

#### **4.4 Notice of Claims, Etc.**

The Non-Regulated Affiliates shall promptly give written notice to WIRESCO, and WIRESCO shall promptly give notice to the Non-Regulated Affiliates, of all material claims, proceedings, notice of regulatory non-compliance from any regulatory authority, disputes (including labour disputes) or litigation (collectively, "**Claims**") which it reasonably believes could have a material adverse effect on the fulfillment of any of the material terms hereof by the Non-Regulated Affiliates or WIRESCO (whether or not any such Claim is covered by insurance) in respect of its own operations of which any of them is aware. Each Party shall provide the other Party with all information reasonably requested from time to time concerning the status of such Claims and any developments relating thereto.

### **ARTICLE 5 FEES AND COSTS**

#### **5.1 Fees**

The Non-Regulated Affiliates shall pay to WIRESCO the fees and charges set out in **Schedule "B"** which fees and charges have, where applicable, been calculated so as to allow WIRESCO a rate of return that is the higher of the bank prime rate and the regulated rate of return set for WIRESCO by the Ontario Energy Board.

#### **5.2 Taxes**

In addition to the fees described in Section 5.1, the Non-Regulated Affiliates shall pay to WIRESCO an amount equal to any and all goods and services taxes, sales taxes, value-added taxes or any other taxes (excluding income taxes) properly eligible on the supply of services provided by a third party under this Agreement.

#### **5.3 Late Payment**

If the Non-Regulated Affiliates fails to pay any amounts payable hereunder when due, such unpaid amounts shall bear interest from the due date thereof to the date of payment at the rate of one and one half percent (1 ½ %) per month.

### **ARTICLE 6 REPRESENTATIONS AND WARRANTIES**

#### **6.1 Representations and Warranties of WIRESCO**

WIRESCO represents and warrants to the Non-Regulated Affiliates as follows and acknowledges that the Non-Regulated Affiliates is relying on such representations and warranties in connection herewith:

- (a) WIRESCO is a corporation, duly incorporated, validly existing and in good standing under the laws of the Province of Ontario and it has the rights, powers and privileges to execute and deliver this Agreement and to perform its obligations hereunder;

- (b) the execution, delivery and performance of this Agreement has been duly authorized by all necessary corporate action;
- (c) this Agreement constitutes a legal, valid and binding obligation of WIRESCO, enforceable against WIRESCO by the Non-Regulated Affiliates in accordance with its terms; and
- (d) WIRESCO acting reasonably and based on its understanding of the Non-Regulated Affiliates's expectations, believes it has the necessary resources and expertise to acquire or perform the Services.

## **6.2 Representations and Warranties of the Non-Regulated Affiliates**

Each Service Affiliate represents and warrants to WIRESCO as follows and acknowledges that WIRESCO is relying on such representations and warranties in connection herewith:

- (a) the Service Affiliate is a company, duly organized, validly existing and in good standing under the laws of the Province of Ontario and it has the rights, powers and privileges to execute and deliver this Agreement and to perform its obligations hereunder;
- (b) the execution, delivery and performance of this Agreement has been duly authorized by all necessary corporate actions; and
- (c) this Agreement constitutes a legal, valid and binding obligation of the Services Affiliate enforceable against such Services Affiliate by WIRESCO in accordance with its terms.

## **ARTICLE 7 INDEMNIFICATION**

### **7.1 Indemnification**

- (a) The Non-Regulated Affiliates shall indemnify, defend and hold harmless WIRESCO, its officers, directors, and employees (each a "**Indemnitee**") from and against any and all claims, demands, suits, losses, liabilities, damages, obligations, payments, costs and expenses and accrued interest thereon (including the costs and expenses of, and accrued interest in respect of, any and all actions, suits, proceedings, assessments, judgements, awards, settlements and compromises relating thereto and reasonable lawyers' fees and reasonable disbursements in connection therewith) (each an "**Indemnifiable Loss**"), asserted against or suffered by any WIRESCO Indemnitee relating to, or in connection with, or resulting from or arising out of the provision of the Services under this Agreement.
- (b) WIRESCO shall be deemed to hold the provisions of **Section 7.1(a)** that are for the benefit of the WIRESCO Indemnitees that are not party to this Agreement in trust for such persons as third party beneficiaries under this Agreement.

## 7.2 Limit of Liability

- (a) The Non-Regulated Affiliates agrees that WIRESCO liability, if any, to the Non-Regulated Affiliates or any third party in connection with or arising under this Agreement, including without limitation, any liability arising from any act or omission of WIRESCO in the provision of the Services, whether arising in contract, tort, equity or otherwise, shall be limited to actions or liabilities resulting solely from the fraud or willful misconduct of WIRESCO in the provision of the Services and shall not exceed an amount equal to the total amount paid by the Non-Regulated Affiliates to WIRESCO under this Agreement for Services over the twelve month period preceding the date that the cause of action or claim giving rise to the liability first arose.
- (b) WIRESCO shall not be liable for any damages caused by delay in delivering or furnishing any Services referred to in this Agreement.

7.3 Notwithstanding anything else to the contrary in this Agreement, the Parties agree that WIRESCO shall not be responsible for any sanctions, fines, penalties, or similar obligations imposed on the Non-Regulated Affiliates, and the Non-Regulated Affiliates agree to indemnify and hold harmless WIRESCO from any such sanctions fines, penalties or similar obligations.

## ARTICLE 8 DEFAULT

### 8.1 Events of Default

The occurrence of any one or more of the following events shall constitute a Default by a Party (the “Defaulting Party”) under this Agreement and shall constitute an Event of Default if such Default is not remedied prior to the expiry of the relevant notice period (if any) and the relevant cure period (if any) applicable to such Default as hereinafter set out:

- (a) if the Defaulting Party defaults in the payment of any amount due to the other Party under this Agreement and such default shall continue un-remedied for sixty (60) days following notice in writing thereof to the Defaulting Party by the other Party; and
- (b) if the Defaulting Party fails in any material respect to perform or observe any of its other material obligations under this Agreement and such failure shall continue un-remedied for a period of sixty ( 60) days following notice in writing thereof (giving particulars of the failure in reasonable detail) from the other Party to the Defaulting Party or such longer period as may be reasonably necessary to cure such failure (if such failure is capable of being cured), provided that the Defaulting Party:
  - (i) proceeds with all due diligence to cure or cause to be cured such failure; and
  - (ii) its proceedings can be reasonably expected to cure or cause to be cured such failure within a reasonable time frame acceptable to the other Party acting reasonably.

## **ARTICLE 9 REMEDIES**

### **9.1 Default Remedies**

- (a) Unless otherwise agreed to in writing, in the event of an Event of Default the non-defaulting Party may terminate this Agreement and all amounts payable by the defaulting Party hereunder shall become due and payable forthwith;
- (b) The remedies in this section are expressly in lieu of any or all of the remedies, which may be available to each of the Non-Regulated Affiliates and WIRESKO in respect of or under this Agreement resulting from the furnishing, the failure to furnish or the quality of any Services.

## **ARTICLE 10 TERMINATION**

### **10.1 Termination**

This Agreement shall terminate:

- (a) in accordance with the provisions of **Section 9.1**; or
- (b) in accordance with **Section 2.1** upon issuance of the notice of non-renewal as provided therein.

### **10.2 Notice of Termination**

Any termination hereof pursuant to **Section 10.1** shall be by written notice of the terminating Party.

## **ARTICLE 11 GENERAL**

### **11.1 Force Majeure**

No Party shall be liable for a failure or delay in the performance of its obligations, except for any payment obligations, pursuant to this Agreement:

- (a) provided that such failure or delay could not have been prevented by reasonable precautions;
- (b) provided that such failure or delay cannot reasonably be circumvented by the non-performing Party through the use of alternate sources, work around plans or other means; and

- (c) if and to the extent such failure or delay is caused, directly or indirectly, by fire, flood, earthquake, elements of nature or acts of God, acts of war, terrorism, riots, civil disorders, rebellions, strikes, lock outs or labour disruptions or revolutions in Canada, or any other similar causes beyond the reasonable control of such Party, (each a "**Force Majeure Event**").

Upon the occurrence of a Force Majeure Event, the non-performing Party shall be excused from any further performance of those of its obligations pursuant to this Agreement affected by the Force Majeure Event only for so long as:

- (a) such Force Majeure Event continues; and
- (b) such Party continues to use commercially reasonable efforts to recommence performance whenever and to whatever extent possible without delay.

The Party delayed by a Force Majeure Event shall:

- (a) immediately notify the other Parties by telephone (to be confirmed in writing within five (5) days of the inception of such delay) of the occurrence of a Force Majeure Event; and
- (b) describe in reasonable detail the circumstances causing the Force Majeure Event.

## **11.2 Dispute Resolution**

If any dispute arising in relation to an event of default under **Section 8.1(b)** or its implementation of **Section 8.1(b)** cannot be resolved by negotiation between the Parties, then the dispute shall be referred to one arbitrator agreeable to and appointed by both Parties. If the Parties cannot agree on one arbitrator, the matter in dispute shall be referred to a panel of three arbitrators, one of which shall be appointed by the Non-Regulated Affiliates, one appointed by WIRESCO, and the third appointed by the two arbitrators selected by the two Parties. The arbitrator or arbitrators shall receive such oral and written evidence as may be required to investigate the matter in dispute and to render a decision. The arbitrators shall be guided by this Agreement and the intent of this Agreement. The decision of the arbitrator or arbitrators shall be provided in writing to all of the Parties no later than thirty (30) days after the sole arbitrator or the third arbitrator has been appointed. The decision of the arbitrator or arbitrators shall be final and binding on the Parties.

## **11.3 Assignment**

Neither Party shall, without the written approval of the other Party hereto, which may be arbitrarily withheld in the sole discretion of either of them, assign or transfer its interest in this Agreement. This Agreement shall be binding on the Parties and their respective successors and permitted assigns. Any purported assignment in contravention of this Agreement shall be void.

#### 11.4 Notices

All notices, requests, approvals, consents and other communications required or permitted under this Agreement shall be in writing and addressed as follows:

- (a) if to WIRESCO:

Enersource Hydro Mississauga Inc.  
3240 Mavis Road  
Mississauga, Ontario  
L5C 3K1

Attn: Chief Operating Officer  
Fax: (905) 566-2737

- (b) if to the Non-Regulated Affiliates:

Enersource Corporation  
3240 Mavis Road  
Mississauga, Ontario  
L5C 3K1

Attn: President  
Fax: (905) 566-2737

and shall be sent by fax and the Party sending such notice shall telephone to confirm receipt. A copy of any such notice shall also be sent on the date such notice is transmitted by fax by registered express mail or courier with the capacity to verify receipt of delivery. Any Party may change its address or fax number for notification purposes by giving the other Party notice of the new address or fax number and the date upon which it will become effective in accordance with the terms of this Agreement. A notice shall be deemed to have been received as of the next Business Day following its transmission by fax.

#### 11.5 Severability

If any provision of this Agreement is held by a court of competent jurisdiction to be unenforceable or contrary to law, then the remaining provisions of this Agreement, or the application of such provisions to persons or circumstances other than those as to which it is invalid or unenforceable shall not be affected thereby, and each such provision of this Agreement shall be valid and enforceable to the extent granted by law. If any clause is deemed unenforceable or contrary to law, the parties shall alter the said clause and this agreement to produce enforceability or compliance with law such that the intent of the original clause is maintained and such change or alteration may be established through the dispute resolution clause in this agreement.

## **11.6 Waiver**

No delay or omission by a Party to exercise any right or power it has under this Agreement or to object to the failure of any covenant of any other Party to be performed in a timely and complete manner, shall impair any such right or power or be construed as a waiver of any succeeding breach or any other covenant. All waivers must be in writing and signed by the Party waiving its rights.

## **11.7 Entire Agreement**

This Agreement supersedes any prior agreement between the parties, and constitutes the entire Agreement between the Parties with respect to the Services and there are no other representations, understandings or agreements, either oral or written, between the Parties other than as herein set forth.

## **11.8 Amendments**

No amendment to, or change, waiver or discharge of, any provision of this Agreement shall be valid unless in writing and signed by authorized representatives of each Party.

## **11.9 Governing Law**

This Agreement shall be governed by the laws of the Province of Ontario and the laws of Canada applicable therein. The Parties hereby agree that the courts of the Province of Ontario shall have exclusive jurisdiction over disputes under this Agreement, and the Parties agree that jurisdiction and venue in such courts is appropriate and irrevocably attach to the jurisdiction of such courts.

## **11.10 Survival**

The terms of **Article 7**, **Article 9** and **Article 11** shall survive the expiration of this Agreement or termination of this Agreement for any reason.

## **11.11 Third Party Beneficiaries**

Each Party intends that this Agreement shall not benefit or create any right or cause of action in or on behalf of any person or entity other than the Parties.


## **11.12 Covenant of Further Assurances**


The Parties agree that, subsequent to the execution and delivery of this Agreement and without any additional consideration, the Parties shall execute and deliver or cause to be executed and delivered any further legal instruments and perform any acts which are or may become necessary to effectuate the purposes of this Agreement and to complete the transactions contemplated hereunder.



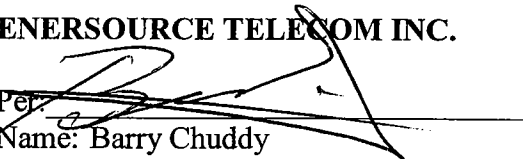
IN WITNESS WHEREOF this Agreement has been executed by the duly authorized signatories of the parties hereto as of the date first written above.


**ENERSOURCE CORPORATION**

Per:   
Name: Gunars Ceksters  
Title: President and Chief Executive Officer  
I have authority to bind Enersource Corporation

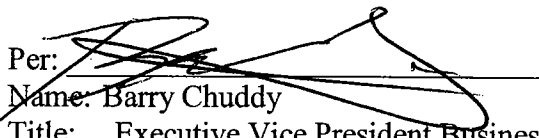
Per:   
Name: Bernadette Corpuz  
Title: General Counsel & Secretary  
I have authority to bind Enersource Corporation

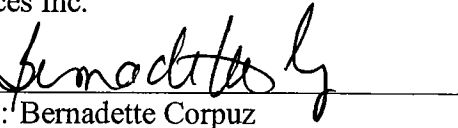
**ENERSOURCE TELECOM INC.**

Per:   
Name: Barry Chuddy  
Title: Executive Vice President Business Development and Marketing  
I have authority to bind Enersource Telecom Inc.

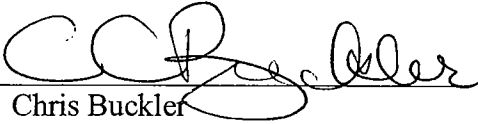
Per:   
Name: Bernadette Corpuz  
Title: General Counsel & Secretary  
I have authority to bind Enersource Telecom Inc.

**ENERSOURCE HYDRO MISSISSAUGA SERVICES INC.**


Per:   
Name: Barry Chuddy  
Title: Executive Vice President Business Development and Marketing  
I have authority to bind Enersource Hydro Mississauga Services Inc.

Per:   
Name: Bernadette Corpuz  
Title: General Counsel & Secretary  
I have authority to bind Enersource Hydro Mississauga Services Inc.


**ENERSOURCE HYDRO MISSISSAGUA INC.**

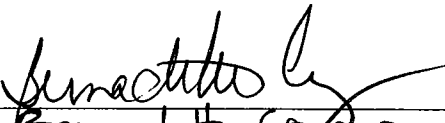
Per:   
Name: Chris Buckler  
Title: Vice President Customer Service & Regulatory Affairs

I have authority to bind Enersource Hydro Mississauga Inc.

Per:   
Name: Bernadette Corpuz  
Title: General Counsel + Secretary  
I have authority to bind Enersource Hydro Mississauga Inc.

**ENERSOURCE SERVICES INC.**

Per:   
Name: Barry Chudalay  
Title: EVP Business Development + Marketing  
I have authority to bind Enersource Services Inc.

Per:   
Name: Bernadette Corpuz  
Title: General Counsel + Secretary  
I have authority to bind Enersource Services Inc.

ENERSOURCE  
LEGAL  
Approved:   
Date: 11/23/05

## Schedule "A"

### Description of Services

1. **"Fleet"** includes the use of executive vehicles and service vehicles that are owned by WIRESCO, such as:

<b>Fleet</b>	RBD's (Auger Trucks) Aerial Buckets Vans, Pickups, Trailers, Tension Machine, Backhoe
--------------	--

2. **"Engineering, Construction and Operations Services"** includes design, construction or operational services performed by WIRESCO staff in response to a request by the Non-Regulated Affiliates, such WIRESCO staff may include the following:

<b>Inside Staff</b>	Senior Managers Project Managers Other Managers Supervisors Engineers Design Technicians Administrative Staff
---------------------	---

<b>Outside Staff</b>	Construction Supervisors Leadhands Journeyman Inspection Equipment Operator Laborers Cable Locator Mechanics Tree Trimming
----------------------	--

3. **"Other"** includes services other than those specifically enumerated above and that are requested and provided from time to time under Section 3.1.

## Schedule "B"

### Fees for Services

	SERVICES	FEES
1.	<b>Fleet</b>	Fees shall be calculated and charged in accordance with the fleet rates in effect for WIRESKO at any given time.
2.	<b>Engineering, Operations and Construction Services</b>	Fees shall be calculated and charged in accordance with the principles set out below in Note 1.
3.	<b>Other</b>	Fees shall be calculated and charged on a Cost basis.

**NOTES:**

1. Staff Rates – the following principles apply to the charging of rates for WIRESKO staff that perform Engineering, Operations and Construction Services for a Service Affiliate:

Rates for Unionized employees: Rates for unionized employees of WIRESKO will be charged at the rates set out in the current collective agreement applicable to WIRESKO (the "Collective Agreement"), plus an applicable benefit rate, which will be determined on an annual basis to reflect changes in benefits cost.

Rates for Non-union employees: Rates for non-unionized employees will be charged at rates calculated based on average wages for employee groups including benefits which are determined on an annual basis to reflect changes in wages and benefits cost.

2. "**Cost**" means a Service Affiliate's proportionate share of the actual amounts incurred by WIRESKO in respect of the Services, being reflective of the Service Affiliate's proportionate use of Services.
3. Fees that are calculated and charged on a Cost basis are estimated for the financial year based on HOLDCO's estimated budget. The amounts of such annual estimates are pro-rated and paid monthly. Adjustments to fees payable by WIRESKO are made in accordance with actual costs incurred by HOLDCO.



**ENERSOURCE HYDRO MISSISSAUGA INC.**

**.and .**

**ENERSOURCE CORPORATION**

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**SERVICES AGREEMENT**

---

**Effective as of**

**January 1, 2002**

## SERVICES AGREEMENT

THIS SERVICES AGREEMENT is made this 30<sup>th</sup> day of November, 2005, and effective as of the 1<sup>st</sup> day of January, 2002 (the "Effective Date").

BETWEEN:

**ENERSOURCE HYDRO MISSISSAUGA INC.**, a  
corporation incorporated pursuant to the laws of the Province of  
Ontario

(hereinafter referred to as "**WIRESKO**")

and -

**ENERSOURCE CORPORATION**, a corporation  
incorporated pursuant to the laws of the Province of Ontario

(hereinafter referred to as "**HOLDCO**")

### WHEREAS:

1. Each of the Parties to this Agreement are corporations incorporated under the *Business Corporations Act* (Ontario);
2. WIRESKO carries on the business of distributing electricity within the City of Mississauga;
3. HOLDCO agrees to provide certain services to WIRESKO on the terms as set forth in this Agreement;
4. WIRESKO and HOLDCO entered into a Services Agreement dated as of January 7, 2002 and the parties wish to clarify and set out more particularly the terms and conditions relating to the provision of services;

**NOW THEREFORE** in consideration of the mutual covenants contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

**ARTICLE 1  
INTERPRETATION**

**1.1 Definitions**

Unless the context otherwise specifies or requires, for the purposes of this Agreement all capitalized terms herein shall have the meanings set forth below

- (a) **“Agreement”**, **“hereto”**, **“hereof”**, **“herein”**, **“hereby”**, **“hereunder”** and similar expressions mean this Services Agreement together with all Schedules attached hereto, as they may be amended from time to time;
- (b) **“Business Day”** means any day other than a Saturday, Sunday, statutory or bank holiday in the Province of Ontario;
- (c) **“Claim”** has the meaning ascribed to such term in **Section 4.4**;
- (d) **“Confidential Information”** means information WIRESCO has obtained relating to a specific consumer, retailer or generator in the process of providing current or prospective distribution service;
- (e) **“Default”** means in respect of Defaulting Party, an event set out in **Section 8.1**;
- (f) **“Defaulting Party”** has the meaning ascribed to such term in **Section 8.1**;
- (g) **“Direct Costs”** means costs incurred directly by WIRESCO for its own operations including all income, property and land taxes of WIRESCO, payments-in-lieu of taxes, fees and expenses in respect of directors of WIRESCO, insurance in respect of WIRESCO, its assets, employees, directors and agents, including, where insurance is jointly held with HOLDCO, WIRESCO’s pro rata share of the premiums in respect of such insurance, regulatory, legal and accounting costs, fees and expenses of WIRESCO, electricity charges for Standard Supply Service, IMO costs, retail and wholesale settlement costs, and costs of membership in industry organizations;
- (h) **“Effective Date”** means the date first written above;
- (i) **“Event of Default”** means a Default, the notice and cure periods (if any) respecting which have expired;
- (j) **“Force Majeure Event”** has the meaning ascribed to such term in **Section 11.1**;
- (k) **“IMO”** means the Independent Electricity Market Operator, or its successor;
- (l) **“Law”** means any law, rule, regulation, code, order, writ, judgement, decree or other legal or regulatory determination by a court, regulatory agency, including the IMO, or governmental authority of competent jurisdiction;



- (m) **“Party”** means a party to this Agreement and **“Parties”** means every party;
- (n) **“Person”** means an individual, corporation, partnership, joint venture, association, trust, pension fund, union, governmental agency, official, board, tribunal, ministry, commission or department;
- (o) **“Personnel”** means employees, agents, professional advisors, contractors and subcontractors;
- (p) **“Services”** are Services that are provided under **Section 3.1** of this Agreement;
- (q) **“Term”** has the meaning ascribed thereto in **Section 2.1** of this Agreement; and
- (r) **“Third Party Expenses”** means all fees, costs and charges paid to third parties by HOLDCO on behalf of WIRESCO in connection with providing the Services or incurred by WIRESCO’s employees while providing Services under this Agreement paid by HOLDCO.

## 1.2 Construction of Agreement

In this Agreement:

- (a) words denoting the singular include the plural and vice versa and words denoting any gender include all genders;
- (b) all usage of the word “including” or the phrase “e.g.,” in this Agreement shall mean “including, without limitation,” throughout this Agreement;
- (c) any reference to a statute shall mean the statute in force as at the date hereof, together with all regulations promulgated thereunder, as the same may be amended, re-enacted, consolidated and/or replaced, from time to time, and any successor statute thereto, unless otherwise expressly provided;
- (d) any reference to a specific executive position or an internal division or department of a Party shall include any successor positions, divisions or departments having substantially the same responsibilities or performing substantially the same functions;
- (e) when calculating the period of time within which or following which any act is to be done or step taken, the date which is the reference day in calculating such period shall be excluded, and if the last day of such period is not a Business Day, the period shall end on the next Business Day;
- (f) all dollar amounts are expressed in Canadian dollars;
- (g) the division of this Agreement into separate Articles, Sections, subsections and Schedules and the insertion of headings is for convenience of reference only and

shall not affect the construction or interpretation of this Agreement;

- (h) words or abbreviations which have well known or trade meanings are used herein in accordance with their recognized meanings;
- (i) the terms and conditions hereof are the result of negotiations between the Parties and the Parties therefore agree that this Agreement shall not be construed in favour of or against any Party by reason of the extent to which any Party or its professional advisors participated in the preparation of this Agreement.

## **ARTICLE 2**

### **TERM**

#### **2.1 Term**

Unless terminated in accordance with **Section 10.1** of this Agreement, this Agreement shall come into force on the Effective Date and shall continue in full force and effect for a period of five (5) years and the term shall be automatically extended for a further period of one (1) year unless either Party gives notice in writing that the Agreement is not to be extended on the date which is ninety (90) days prior to the end of the term, or the end of renewal as the case may be.

## **ARTICLE 3**

### **HOLDCO SERVICES AND COVENANTS**

#### **3.1 Services**

Subject to the terms, covenants and conditions contained in this Agreement, HOLDCO will provide, or cause to be provided, to WIRESCO the services set out in **Schedule "A"** (collectively the "**Services**") and at the rates set out in **Schedule "B"**, and such other services as WIRESCO may request and HOLDCO may agree to provide from time to time.

#### **3.2 Performance Standards**

- (a) HOLDCO will endeavour to perform in the top quartile of industry standards, based on standards set by the Electricity Distributors Association, Electric Utility Safety Association, and Occupational Health & Safety Standards as applicable and in any case shall perform the Services in a good and workmanlike manner and to a standard of performance that a competent professional and diligent independent provider of the services in the same circumstances would reasonably be expected to provide.
- (b) HOLDCO will make all reasonable efforts to meet or exceed performance measures established by the Ontario Energy Board.
- (c) All HOLDCO personnel with responsibility for carrying out HOLDCO's responsibilities hereunder shall be familiar with WIRESCO's electricity service area and local needs. All customer, billing, accounting and other records kept in connection with this Agreement shall be readily available to WIRESCO in an office within the WIRESCO service area. All call centre and phone-answering services shall

be performed by persons who have sufficient knowledge of local developments, government and geography in the WIRESCO service area so as to appropriately represent WIRESCO's role as a local municipally owned provider of electricity distribution services. Where appropriate, utilizing its in-depth local knowledge and information sources, HOLDCO will provide the maintenance services contemplated hereunder in a manner co-ordinated and integrated with municipal infrastructure projects and other utilities operating in the WIRESCO service area with a view to minimizing costs and maximizing efficiency for all parties.

### **3.3 Changes**

WIRESCO and HOLDCO may, from time to time, agree to modifications to a service agreed to be provided hereunder by negotiating appropriate changes to the descriptions of the service and the consideration in connection with such changes and shall initial and attach amended schedules hereto.

### **3.4 General HOLDCO Covenants**

- (a) HOLDCO shall be responsible for obtaining all necessary licences and permits and for complying with all applicable federal, provincial and municipal laws, codes and regulations in connection with the provision of the Services and HOLDCO shall, when requested, provide WIRESCO with adequate evidence of its compliance with this **Section 3.4**;
- (b) HOLDCO shall comply, while on the premises used by WIRESCO, with all the rules and regulations of WIRESCO from time to time in force, which are brought to its notice or of which it could reasonably be aware;
- (c) HOLDCO shall pay for and maintain for the benefit of HOLDCO appropriate insurance concerning the operations and liabilities of HOLDCO relevant to this Agreement including, without limiting the generality of the foregoing, workers' compensation and employment insurance in conformity with applicable statutory requirements in respect of any remuneration payable by HOLDCO to any employees of HOLDCO and public liability and property damage insurance;
- (d) All HOLDCO Personnel with responsibility for the provision of Services shall be familiar with the WIRESCO electricity service area.

### **3.5 Regulatory Change**

If any change of Law after the date of this Agreement renders this Agreement illegal or unenforceable, then the Parties shall be required to renegotiate in good faith for thirty (30) days with a goal of developing a substitute agreement with such amendments as are necessary to comply with such change of Law.

## ARTICLE 4

### MUTUAL COVENANTS

#### 4.1 Confidentiality of Confidential Information

No Personnel of HOLDCO shall have access to any Confidential Information in the possession of WIRESCO, except for purposes related to the Services and in compliance with the Affiliate Relationship Code for Electricity Distributors and Transmitters prescribed by the Ontario Energy Board.

#### 4.2 Maintain Records

WIRESCO and HOLDCO will maintain such records as may be necessary in connection with this Agreement and as are agreed upon by the Parties acting reasonably.

#### 4.3 Notification of Changes of Circumstances

WIRESCO shall promptly give written notice to HOLDCO of any changes or prospective changes in circumstances that would materially affect the resources required for the performance of the Services, including any anticipated material change in the nature or level of business of WIRESCO, the number of employees of WIRESCO, or any efforts relating to the organization of or collective bargaining by employees of WIRESCO, or any lease or service arrangements contemplated with any third parties.

#### 4.4 Notice of Claims, Etc.

WIRESCO shall promptly give written notice to HOLDCO, and HOLDCO shall promptly give notice to WIRESCO, of all material claims, proceedings, notice of regulatory non-compliance from any regulatory authority, disputes (including labour disputes) or litigation (collectively, “Claims”) which it reasonably believes could have a material adverse effect on the fulfillment of any of the material terms hereof by WIRESCO or HOLDCO (whether or not any such Claim is covered by insurance) in respect of its own operations of which any of them is aware. Each Party shall provide the other Party with all information reasonably requested from time to time concerning the status of such Claims and any developments relating thereto.

## ARTICLE 5

### FEES AND COSTS

#### 5.1 Fees

- (a) WIRESCO shall pay to HOLDCO the fees and charges set out in **Schedule “B”**.
- (b) Excluding non-regulated activity, WIRESCO shall bear and assume all Direct Costs.

## **5.2 Taxes**

In addition to the fees, WIRESCO shall pay to HOLDCO an amount equal to any and all goods and services taxes, sales taxes, value-added taxes or any other taxes (excluding income taxes) properly eligible on the supply of services provided by a third party under this Agreement.

## **5.3 Late Payment**

If WIRESCO fails to pay any amounts payable hereunder when due, such unpaid amounts shall bear interest from the due date thereof to the date of payment at the rate of one and one half percent (1 ½ %) per month.

## **5.4 Protection against financial losses**

With respect to Standard Supply Service, WIRESCO agrees to indemnify HOLDCO from all financial losses in the administration of Standard Supply Service. Any such losses will be due and payable when an invoice is rendered and shall not constitute a default under this Agreement.

# **ARTICLE 6 REPRESENTATIONS AND WARRANTIES**

## **6.1 Representations and Warranties of HOLDCO**

HOLDCO represents and warrants to WIRESCO as follows and acknowledges that WIRESCO is relying on such representations and warranties in connection herewith:

- (a) HOLDCO is a corporation, duly incorporated, validly existing and in good standing under the laws of the Province of Ontario and it has the rights, powers and privileges to execute and deliver this Agreement and to perform its obligations hereunder;
- (b) the execution, delivery and performance of this Agreement has been duly authorized by all necessary corporate action;
- (c) this Agreement constitutes a legal, valid and binding obligation of HOLDCO, enforceable against HOLDCO by WIRESCO in accordance with its terms; and
- (d) HOLDCO has the necessary resources and expertise to acquire or perform the Services.

## **6.2 Representations and Warranties of WIRESCO**

WIRESCO represents and warrants to HOLDCO as follows and acknowledges that HOLDCO is relying on such representations and warranties in connection herewith:

- (a) WIRESCO is a company, duly organized, validly existing and in good standing under

the laws of the Province of Ontario and it has the rights, powers and privileges to execute and deliver this Agreement and to perform its obligations hereunder;

- (b) the execution, delivery and performance of this Agreement has been duly authorized by all necessary corporate actions; and
- (c) this Agreement constitutes a legal, valid and binding obligation of WIRESCO, enforceable against WIRESCO by HOLDCO in accordance with its terms.

## **ARTICLE 7 INDEMNIFICATION**

### **7.1 Indemnification**

- (a) WIRESCO shall indemnify, defend and hold harmless HOLDCO, its' officers, directors, and employees (each a "**HOLDCO Indemnitee**") from and against any and all claims, demands, suits, losses, liabilities, damages, obligations, payments, costs and expenses and accrued interest thereon (including the costs and expenses of, and accrued interest in respect of, any and all actions, suits, proceedings, assessments, judgements, awards, settlements and compromises relating thereto and reasonable lawyers' fees and reasonable disbursements in connection therewith) (each an "**Indemnifiable Loss**"), asserted against or suffered by any HOLDCO Indemnitee relating to, or in connection with, or resulting from or arising out of the provision of the Services under this Agreement.
- (b) HOLDCO shall be deemed to hold the provisions of **Section 7.1(a)** that are for the benefit of the HOLDCO Indemnitees that are not party to this Agreement in trust for such persons as third party beneficiaries under this Agreement.

### **7.2 Limit of Liability**

- (a) WIRESCO agrees that HOLDCO's liability, if any, to WIRESCO or any third party in connection with or arising under this Agreement, including without limitation, any liability arising from any act or omission of HOLDCO in the provision of the Services, whether arising in contract, tort, equity or otherwise, shall be limited to actions or liabilities resulting solely from the fraud or willful misconduct of HOLDCO in the provision of the Services and shall not exceed an amount equal to the total amount paid by WIRESCO to HOLDCO under this Agreement for Services over the twelve month period preceding the date that the cause of action or claim giving rise to the liability first arose.
- (b) HOLDCO shall not be liable for any damages caused by delay in delivering or furnishing any Services referred to in this Agreement.

**7.3** Notwithstanding anything else to the contrary in this Agreement, the Parties agree that HOLDCO shall not be responsible for any sanctions, fines, penalties, or similar obligations imposed on WIRESCO, and WIRESCO agrees to indemnify and hold

harmless HOLDCO from any such sanctions fines, penalties or similar obligations.

## **ARTICLE 8 DEFAULT**

### **8.1 Events of Default**

The occurrence of any one or more of the following events shall constitute a Default by a Party (the “**Defaulting Party**”) under this Agreement and shall constitute an Event of Default if such Default is not remedied prior to the expiry of the relevant notice period (if any) and the relevant cure period (if any) applicable to such Default as hereinafter set out:

- (a) if the Defaulting Party defaults in the payment of any amount due to the other Party under this Agreement and such default shall continue unremedied for sixty (60) days following notice in writing thereof to the Defaulting Party by the other Party; and
- (b) if the Defaulting Party fails in any material respect to perform or observe any of its other material obligations under this Agreement and such failure shall continue unremedied for a period of sixty (60) days following notice in writing thereof (giving particulars of the failure in reasonable detail) from the other Party to the Defaulting Party or such longer period as may be reasonably necessary to cure such failure (if such failure is capable of being cured), provided that the Defaulting Party:
  - (i) proceeds with all due diligence to cure or cause to be cured such failure; and
  - (ii) its proceedings can be reasonably expected to cure or cause to be cured such failure within a reasonable time frame acceptable to the other Party acting reasonably.

## **ARTICLE 9 REMEDIES**

### **9.1 Default Remedies**

- (a) Unless otherwise agreed to in writing, in the event of an Event of Default the non-defaulting Party may terminate this Agreement and all amounts payable by the defaulting Party hereunder shall become due and payable forthwith;
- (b) The remedies in this section are expressly in lieu of any or all of the remedies which may be available to each of WIRESCO and HOLDCO in respect of or under this Agreement resulting from the furnishing, the failure to furnish or the quality of any Services.

**ARTICLE 10  
TERMINATION**

**10.1 Termination**

This Agreement shall terminate:

- (a) in accordance with the provisions of **Section 9.1**; or
- (b) in accordance with **Section 2.1** upon issuance of the notice of non-renewal as provided therein.

**10.2 Notice of Termination**

Any termination hereof pursuant to **Section 10.1** shall be by written notice of the terminating Party.

**ARTICLE 11  
GENERAL**

**11.1 Force Majeure**

No Party shall be liable for a failure or delay in the performance of its obligations pursuant to this Agreement:

- (a) provided that such failure or delay could not have been prevented by reasonable precautions;
- (b) provided that such failure or delay cannot reasonably be circumvented by the non-performing Party through the use of alternate sources, work around plans or other means; and
- (c) if and to the extent such failure or delay is caused, directly or indirectly, by fire, flood, earthquake, elements of nature or acts of God, acts of war, terrorism, riots, civil disorders, rebellions, strikes, lock outs or labour disruptions or revolutions in Canada, or any other similar causes beyond the reasonable control of such Party, (each a **"Force Majeure Event"**).

Upon the occurrence of a Force Majeure Event, the non-performing Party shall be excused from any further performance of those of its obligations pursuant to this Agreement affected by the Force Majeure Event only for so long as:

- (a) such Force Majeure Event continues; and
- (b) such Party continues to use commercially reasonable efforts to recommence performance whenever and to whatever extent possible without delay.



The Party delayed by a Force Majeure Event shall:

- (a) immediately notify the other Parties by telephone (to be confirmed in writing within five (5) days of the inception of such delay) of the occurrence of a Force Majeure Event; and
- (b) describe in reasonable detail the circumstances causing the Force Majeure Event.

## **11.2 Dispute Resolution**

If any dispute arising in relation to an event of default under **Section 8.1(b)** or its implementation of **Section 8.1(b)** cannot be resolved by negotiation between the Parties, then the dispute shall be referred to one arbitrator agreeable to and appointed by both Parties. If the Parties cannot agree on one arbitrator, the matter in dispute shall be referred to a panel of three arbitrators, one of which shall be appointed by WIRESCO, one appointed by HOLDCO, and the third appointed by the two arbitrators selected by the two Parties. The arbitrator or arbitrators shall receive such oral and written evidence as may be required to investigate the matter in dispute and to render a decision. The arbitrators shall be guided by this Agreement and the intent of this Agreement. The decision of the arbitrator or arbitrators shall be provided in writing to all of the Parties no later than thirty (30) days after the sole arbitrator or the third arbitrator has been appointed. The decision of the arbitrator or arbitrators shall be final and binding on the Parties.

## **11.3 Assignment**

Neither Party shall, without the written approval of the other Party hereto, which may be arbitrarily withheld in the sole discretion of either of them, assign or transfer its interest in this Agreement. This Agreement shall be binding on the Parties and their respective successors and permitted assigns. Any purported assignment in contravention of this Agreement shall be void.

## **11.4 Notices**

All notices, requests, approvals, consents and other communications required or permitted under this Agreement shall be in writing and addressed as follows:

- (a) if to HOLDCO,

Enersource Corporation  
3240 Mavis Road  
Mississauga, Ontario  
L5C 3K1

Attn: President  
Fax: (905) 566-2737

(b) if to WIRESCO,

Enersource Hydro Mississauga Inc.  
3240 Mavis Road  
Mississauga, Ontario  
L5C 3K1

Attn: Chief Operating Officer  
Fax: (905) 566-2737

and shall be sent by fax and the Party sending such notice shall telephone to confirm receipt. A copy of any such notice shall also be sent on the date such notice is transmitted by fax by registered express mail or courier with the capacity to verify receipt of delivery. Any Party may change its address or fax number for notification purposes by giving the other Party notice of the new address or fax number and the date upon which it will become effective in accordance with the terms of this Agreement. A notice shall be deemed to have been received as of the next Business Day following its transmission by fax.

#### **11.5 Severability**

If any provision of this Agreement is held by a court of competent jurisdiction to be unenforceable or contrary to law, then the remaining provisions of this Agreement, or the application of such provisions to persons or circumstances other than those as to which it is invalid or unenforceable shall not be affected thereby, and each such provision of this Agreement shall be valid and enforceable to the extent granted by law. If any clause is deemed unenforceable or contrary to law, the parties shall alter the said clause and this agreement to produce enforceability or compliance with law such that the intent of the original clause is maintained and such change or alteration may be established through the dispute resolution clause in this agreement.

#### **11.6 Waiver**

No delay or omission by a Party to exercise any right or power it has under this Agreement or to object to the failure of any covenant of any other Party to be performed in a timely and complete manner, shall impair any such right or power or be construed as a waiver of any succeeding breach or any other covenant. All waivers must be in writing and signed by the Party waiving its rights.

#### **11.7 Entire Agreement**

This Agreement supersedes any prior agreement between the parties, and constitutes the entire Agreement between the Parties with respect to the Services and there are no other representations, understandings or agreements, either oral or written, between the Parties other

than as herein set forth.

### **11.8 Amendments**

No amendment to, or change, waiver or discharge of, any provision of this Agreement shall be valid unless in writing and signed by authorized representatives of each Party.

### **11.9 Governing Law**

This Agreement shall be governed by the laws of the Province of Ontario and the laws of Canada applicable therein. The Parties hereby agree that the courts of the Province of Ontario shall have exclusive jurisdiction over disputes under this Agreement, and the Parties agree that jurisdiction and venue in such courts is appropriate and irrevocably attach to the jurisdiction of such courts.

### **11.10 Survival**

The terms of **Article 7**, **Article 9** and **Article 11** shall survive the expiration of this Agreement or termination of this Agreement for any reason.

### **11.11 Third Party Beneficiaries**

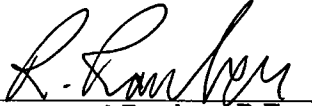
Each Party intends that this Agreement shall not benefit or create any right or cause of action in or on behalf of any person or entity other than the Parties.

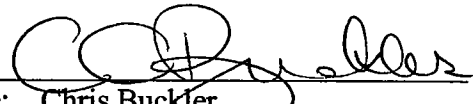
### **11.12 Covenant of Further Assurances**

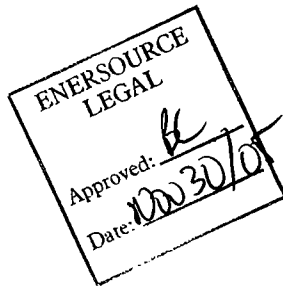
The Parties agree that, subsequent to the execution and delivery of this Agreement and without any additional consideration, the Parties shall execute and deliver or cause to be executed and delivered any further legal instruments and perform any acts which are or may become necessary to effectuate the purposes of this Agreement and to complete the transactions contemplated hereunder.

IN WITNESS WHEREOF this Agreement has been executed by the duly authorized signatories of the parties hereto as of the date first written above.


**ENERSOURCE HYDRO MISSISSAGUA INC.**


Per:   
Name: **Raymond Rauber, P.Eng.**  
Title: Vice President  
Engineering & Operations  
I have authority to bind Enersource Hydro  
Mississauga Inc.

Per:   
Name: **Chris Buckler**  
Title: Vice President Customer Service &  
Regulatory Affairs  
I have authority to bind Enersource Hydro  
Mississauga Inc.



**ENERSOURCE CORPORATION**

Per:   
Name: **Gunars Ceksters**  
Title: **President and Chief Executive Officer**  
I have authority to bind Enersource Corporation

Per:   
Name: **Bernadette Corpuz**  
Title: **General Counsel & Secretary**  
I have authority to bind Enersource Corporation

## SCHEDULE "A"

### Description of Services

1. **"Finance Services"** include treasury services, controllership services and audit services.
  - (a) Treasury services include financing, ie: bond issue, operating line of credit, cash flow management and investment of funds, banking, financial guarantees, ie: letters of credit, bonds, prudentials, payroll services, accounts payable services, office services, obtaining and maintaining credit ratings, Securities Commission reporting, management of customer deposits, interest and T5 reporting, taxation (PIL' s), GST and PST remittances and corporate VISA card.
  - (b) Controllership services include financial systems, financial processes, policies and procedures, financial controls and compliance, financial reporting and analysis, annual budgets, financial operations, billing, collecting, capitalization and depreciation, WIP and inventory, labour charging, allocations and burdens, managing external audit, risk and contract management, insurance programs, liability, D&O, fleet, facilities, OEB reporting, incentive plan reporting, billing system quality control.
  - (c) Audit services include risk management audit reports to Audit Committee and Board of Directors.
  
2. **"Customer Accounts Services"** include the following call centre, billing, collections and support services:
  - (a) Call centre services include call answering services, switchboard services, activation, transfer and closing of accounts, management of budget billing process, management of pre-authorized payment process, processing of incoming correspondence including letters, faxes, e-mails, assessment and billing of security deposits, prepare, reconcile, analyze and resolve billing errors or discrepancies, schedule field service calls, analyze new customer pre-sign up review with credit agency interface, management of liability claims, and respond to lawyer's inquiries regarding agreements / easements / compliances.
  - (b) Billing services include meter reading, validation, editing and estimating process for meter reading, billing of interval accounts, billing of non-interval accounts, back billing of stopped meter, billing errors, metering errors and errors detected by billing verification program, monitoring and analysis of unbilled accounts, bill delivery, and electronic bill presentment.
  - (c) Collections services include collection of delinquent active and closed accounts collection of security deposits, collection call answering services, management of third party collection agency, credit scoring, administration of bankruptcies,

Small Claims Court Services, field collection services, disconnection and reconnection of services, payment terms management, maintenance of letters of credit, and collection of miscellaneous accounts receivable.

- (d) Support services include payment processing, cashier services, reception services, training services, and application guidance and support services related to the Orcom customer information system.
3. **“Settlement Services”** include wholesale settlement, retail settlement for MIST customers and key account relations with large users (i.e. 500 KW and above) and retailers. Key account relations includes providing meter data reports, responding to customer questions and concerns, taking a proactive approach to keeping the customer informed of changes and options available in the deregulated electricity market.
  4. **“Rates and Regulatory Services”** include providing analytical services and recommendations in regards to rate development and the preparation of regulatory filings, submissions and attendance at hearings as necessary.
  5. **“Human Resources Services”** include programming and consulting including recruitment, compensation and benefits, employee relations, labour relations, training and development, policy development, and performance management and organization development.
  6. **“Information Technology Services”** include comprehensive information technology services such as data base development and support, network development and support, personal computer systems support and communications support.
  7. **“Safety Services”** include safety program development, training and health promotion, monitoring, reporting, implementation and support.
  8. **“Purchasing”** includes the preparation of tender documents and organization of the tendering process; obtain quotes for purchases and sourcing suppliers, processing of internal requisitions and preparation of purchase orders. Purchasing will also provide internal services such as, stock inventory for planned and unplanned service orders and the determination of inventory levels.
  9. **“Stores”** includes the use of any of the following services: shipping and receiving, warehousing, picking or work order materials, weekly cycle counts of inventory items, monitoring of inventory stock-outs ordering of tools, off-site storage of poles, transformer evaluations testing and repairs, scrapping of materials, monitoring transformer PCB contamination, testing of high voltage rubber gloves and covers, ordering of safety wear, tool monitoring, evaluation & repairs, site delivery & pick up, control of reel returns, garbage & cardboard management.
  10. **“Facilities Operations”** includes the operational services associated with the use of the head office building, any other real estate, furniture and computers, such services being directly or indirectly provided by HOLDCO.

11. **“Communications and Public Relations”** includes the preparation and delivery of broad-based and strategic communications to the general public and specific target audiences, including written publications such as media releases and annual reports and community relations activities and events.
12. **“Corporate Governance”** includes services associated with the governance of a company’s activities, such as activities to support its board of directors, board committees and executive management, and legal services.
13. **“Other”** includes services other than those specifically enumerated above and that are requested and provided from time to time under Section 3.1.

## **SCHEDULE "B"**

### **Fees for Services**

<b>SERVICES</b>	<b>FEES</b>
1. <b>Finance Services</b>	Fees shall be calculated and charged on a Cost basis.
2. <b>Customer Accounts Services</b>	Fees shall be calculated and charged on a Cost basis.
3. <b>Settlement Services</b>	Fees shall be calculated and charged on a Cost basis.
4. <b>Rates and Regulatory Services</b>	Fees shall be calculated and charged on a Cost basis.
5. <b>Human Resources Services</b>	Fees shall be calculated and charged on a Cost basis.
6. <b>Information Technology Services</b>	Fees shall be calculated and charged on a Cost basis.
7. <b>Safety Services</b>	Fees shall be calculated and charged on a Cost basis.
8. <b>Purchasing</b>	Fees shall be calculated and charged on a Cost basis.
9. <b>Stores</b>	Fees shall be calculated and charged on a Cost basis.
10. <b>Facilities Operations</b>	Fees shall be calculated and charged on a Cost basis.
11. <b>Communications and Public Relations</b>	Fees shall be calculated and charged on a Cost basis.
12. <b>Corporate Governance</b>	Fees shall be calculated and charged on a Cost basis.
13. <b>Other</b>	Fees shall be calculated and charged on a Cost basis.

#### NOTES:

1. "Cost" means WIRESCO's proportionate share of the actual amounts incurred by HOLDCO in respect of the Services, being reflective of WIRESCO's proportionate use of Services.
2. Fees that are calculated and charged on a Cost basis are estimated for the financial year based on HOLDCO's estimated budget. The amounts of such annual estimates are pro-rated and paid monthly. Adjustments to fees payable by WIRESCO are made in accordance with actual costs incurred by HOLDCO.





**ENERSOURCE CORPORATION**

**and**

**ENERSOURCE SERVICES INC.**

**and**

**ENERSOURCE TELECOM INC.**

**and**

**ENERSOURCE HYDRO MISSISSAUGA SERVICES INC.**

**and**

**ENERSOURCE HYDRO MISSISSAUGA INC.**

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**FIRST AMENDING AGREEMENT**

**to the Services Agreement dated as of January 1, 2002**

---

**Effective as of**

**January 1, 2004**

## SERVICES AGREEMENT

THIS FIRST AMENDING AGREEMENT is made this 30<sup>th</sup> day of November, 2005, and effective as of the 1<sup>st</sup> day of January, 2005 (the "Effective Date").

B E T W E E N:

**ENERSOURCE CORPORATION,**

-and-

**ENERSOURCE SERVICES INC.**

-and-

**ENERSOURCE TELECOM INC.**

-and-

**ENERSOURCE HYDRO MISSISSAUGA SERVICES INC.**

(hereinafter collectively referred to as (the "**Non-Regulated Affiliates**" and, individually referred to as a "**Service Affiliate**")

- and -

**ENERSOURCE HYDRO MISSISSAUGA INC.**

(hereinafter referred to as "**WIRESKO**")

**The Non-Regulated Affiliates and WIRESKO may hereinafter be collectively referred to as Parties and individually as a "Party".**

**WHEREAS:**

1. Each of the Parties entered into a services agreement ("**Services Agreement**") effective as of January 1, 2002;
2. Under Section 3.3 of the Services Agreement, the Parties may agree to modifications to the services to be provided under the Services Agreement and the consideration in respect thereof;

**NOW THEREFORE** in consideration of the mutual covenants contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

**ARTICLE 1  
INTERPRETATION**

1.1 In this Agreement, unless otherwise defined herein, all capitalized terms used herein have the respective meanings specified in the Services Agreement.

**ARTICLE 2  
AMENDMENTS TO SCHEDULES**


2.1 Schedule "A" and Schedule "B" to the Services Agreement are replaced in each of their entirety by the Schedule "A" and Schedule "B" attached hereto.


**ARTICLE 3  
GENERAL**

- 3.1 Save and except as expressly amended by this Agreement, all of the terms and conditions of the Services Agreement shall remain in full force and effect and it is understood that time is to continue to be of the essence.
- 3.2 This Agreement may be executed and delivered in any number of counterparts, each of which when executed and delivered is an original but all of which taken together constitute one and the same instrument. This Agreement may be executed by facsimile and the facsimile execution pages will be binding upon the executing Party to the same extent as the original executed pages.

IN WITNESS WHEREOF this Agreement has been executed by the duly authorized signatories of the parties hereto as of the date first written above.

**ENERSOURCE CORPORATION**

Per:   
Name: Gunars Ceksters  
Title: President and Chief Executive Officer  
I have authority to bind Enersource Corporation

Per:   
Name: Bernadette Corpuz  
Title: General Counsel & Secretary  
I have authority to bind Enersource Corporation

**ENERSOURCE TELECOM INC.**

Per: 

Name: Barry Chuddy

Title: Executive Vice President Business Development and Marketing

I have authority to bind Enersource Telecom Inc.

Per: 

Name: Bernadette Corpuz

Title: General Counsel & Secretary

I have authority to bind Enersource Telecom Inc.

**ENERSOURCE HYDRO MISSISSAUGA SERVICES INC.**

Per: 

Name: Barry Chuddy

Title: Executive Vice President Business Development and Marketing

I have authority to bind Enersource Hydro Mississauga Services Inc.

Per: 

Name: Bernadette Corpuz

Title: General Counsel & Secretary

I have authority to bind Enersource Hydro Mississauga Services Inc.

**ENERSOURCE HYDRO MISSISSAGUA INC.**

Per: 

Name: Chris Buckler

Title: Vice President Customer Service & Regulatory Affairs

I have authority to bind Enersource Hydro Mississauga Inc.

Per: 

Name: Bernadette Corpuz

Title: General Counsel & Secretary

I have authority to bind Enersource Hydro Mississauga Inc.

**ENERSOURCE SERVICES INC.**

Per: [Signature]  
Name: Barry Chudley  
Title: EVP Business Development & Marketing  
I have authority to bind Enersource Services Inc.

Per: [Signature]  
Name: Bernadette Corpuz  
Title: General Counsel & Secretary  
I have authority to bind Enersource Services Inc.

ENERSOURCE  
LEGAL  
Approved: [Signature]  
Date: NOV 30/05

## Schedule "A"

### Description of Services

1. **"Fleet"** includes the use of executive vehicles and service vehicles that are owned by WIRESCO, such as:

<b>Fleet</b>	RBD's (Auger Trucks) Aerial Buckets Vans, Pickups, Trailers, Tension Machine, Backhoe
--------------	--

2. **"Engineering, Construction and Operations Services"** includes design, construction or operational services performed by WIRESCO staff in response to a request by the Non-Regulated Affiliates, such WIRESCO staff may include the following:

<b>Inside Staff</b>	Senior Managers Project Managers Other Managers Supervisors Engineers Design Technicians Administrative Staff
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<b>Outside Staff</b>	Construction Supervisors Leadhands Journeyman Inspection Equipment Operator Laborers Cable Locator Mechanics Tree Trimming
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3. **"Facilities Property and Usage"** includes the use and occupancy, as applicable, of the head office building, any other real estate, furniture, computers and other property owned by WIRESCO.
4. **"Facilities Operations"** includes the operational services associated with the use of the head office building, any other real estate, furniture and computers, such services being directly or indirectly provided by WIRESCO.
5. **"Other"** includes services other than those specifically enumerated above and that are requested and provided from time to time under Section 3.1.

**Schedule “B”**  
**Fees for Services**

	<b>SERVICES</b>	<b>FEES</b>
1.	<b>Fleet</b>	Fees shall be calculated and charged in accordance with the fleet rates in effect for WIRESKO at any given time.
2.	<b>Engineering, Operations and Construction Services</b>	Fees shall be calculated and charged in accordance with the principles set out below in Note 1.
3.	<b>Facilities and Property Usage</b>	Fees shall be calculated and charged on a Cost plus Mark-Up basis.
4.	<b>Facilities Operations</b>	Fees shall be calculated and charged on a Cost basis.
5.	<b>Other</b>	Fees shall be calculated and charged on a Cost basis.

NOTES:

1. Staff Rates – the following principles apply to the charging of rates for WIRESKO staff that perform Engineering, Operations and Construction Services for a Service Affiliate:

Rates for Unionized employees: Rates for unionized employees of WIRESKO will be charged at the rates set out in the current collective agreement applicable to WIRESKO (the “Collective Agreement”), plus an applicable benefit rate, which will be determined on an annual basis to reflect changes in benefits cost.

Rates for Non-union employees: Rates for non-unionized employees will be charged at rates calculated based on average wages for employee groups including benefits which are determined on an annual basis to reflect changes in wages and benefits cost.

2. “Cost” means a Service Affiliate’s proportionate share of the actual amounts incurred by WIRESKO in respect of the Services, being reflective of the Service Affiliate’s proportionate use of Services.
3. “Mark-Up” means a return on invested capital, as permitted under the *Ontario Energy Board Act, 1998* and applicable regulations, including the Distribution System Code.



4. Fees that are calculated and charged on a Cost basis are estimated for the financial year based on HOLDCO's estimated budget. The amounts of such annual estimates are pro-rated and paid monthly. Adjustments to fees payable by WIRESCO are made in accordance with actual costs incurred by HOLDCO.

**ENERSOURCE HYDRO MISSISSAUGA INC.**

**.and .**

**ENERSOURCE CORPORATION**

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**FIRST AMENDING AGREEMENT**

**to the Services Agreement dated as of January 1, 2002**

---

**Effective as of**

**January 1, 2005**

## SERVICES AGREEMENT

THIS FIRST AMENDING AGREEMENT is made this 30<sup>th</sup> day of November, 2005, and effective as of the 1<sup>st</sup> day of January, 2005 (the "Effective Date").

B E T W E E N:

**ENERSOURCE CORPORATION,**

(hereinafter referred to as "HOLDCO")

-and-

**ENERSOURCE HYDRO MISSISSAUGA INC.**

(hereinafter referred to as "WIRESKO")

**HOLDCO and WIRESKO may hereinafter be collectively referred to as Parties and individually as a "Party".**

**WHEREAS:**

1. Each of the Parties entered into a services agreement ("Services Agreement") effective as of January 1, 2002;
2. Under Section 3.3 of the Services Agreement, the Parties may agree to modifications to the services to be provided under the Services Agreement and the consideration in respect thereof;

**NOW THEREFORE** in consideration of the mutual covenants contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

### **ARTICLE 1 INTERPRETATION**

- 1.1 Definitions. In this Agreement, unless otherwise defined herein, all capitalized terms used herein have the respective meanings specified in the Services Agreement.

### **ARTICLE 2 AMENDMENTS TO SCHEDULES**


- 2.1 Schedule "A" and Schedule "B" to the Services Agreement are replaced in each of their entirety by the Schedule "A" and Schedule "B" attached hereto.

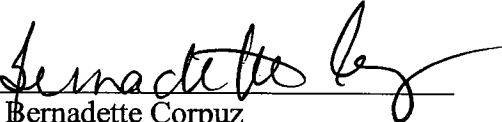
**ARTICLE 3  
GENERAL**

- 3.1 Save and except as expressly amended by this Agreement, all of the terms and conditions of the Services Agreement shall remain in full force and effect and it is understood that time is to continue to be of the essence.
- 3.2 This Agreement may be executed and delivered in any number of counterparts, each of which when executed and delivered is an original but all of which taken together constitute one and the same instrument. This Agreement may be executed by facsimile and the facsimile execution pages will be binding upon the executing Party to the same extent as the original executed pages.


IN WITNESS WHEREOF this Agreement has been executed by the duly authorized signatories of the parties hereto as of the date first written above.


**ENERSOURCE CORPORATION**

Per:   
Name: Gunars Ceksters  
Title: President and Chief Executive Officer  
I have authority to bind Enersource Corporation

Per:   
Name: Bernadette Corpuz  
Title: General Counsel & Secretary  
I have authority to bind Enersource Corporation

**ENERSOURCE HYDRO MISSISSAGUA INC.**

Per:   
Name: **Raymond Rauber, P.Eng.**  
Title: Vice President  
I have authority to bind ~~Engineering & Operations~~ Hydro Mississauga Inc.

Per:   
Name: Chris Buckler  
Title: Vice President Customer Service & Regulatory Affairs  
I have authority to bind Enersource Hydro Mississauga Inc.



## SCHEDULE "A"

### Description of Services

1. **"Finance Services"** include treasury services, controllership services and audit services.
  - (a) Treasury services include financing, ie: bond issue, operating line of credit, cash flow management and investment of funds, banking, financial guarantees, ie: letters of credit, bonds, prudentials, payroll services, accounts payable services, office services, obtaining and maintaining credit ratings, Securities Commission reporting, management of customer deposits, interest and T5 reporting, taxation (PIL' s), GST and PST remittances and corporate VISA card.
  - (b) Controllership services include financial systems, financial processes, policies and procedures, financial controls and compliance, financial reporting and analysis, annual budgets, financial operations, billing, collecting, capitalization and depreciation, WIP and inventory, labour charging, allocations and burdens, managing external audit, risk and contract management, insurance programs, liability, D&O, fleet, facilities, OEB reporting, incentive plan reporting, billing system quality control.
  - (c) Audit services include risk management audit reports to Audit Committee and Board of Directors.
2. **"Human Resources Services"** include programming and consulting including recruitment, compensation and benefits, employee relations, labour relations, training and development, policy development, and performance management and organization development.
3. **"Safety Services"** include safety program development, training and health promotion, monitoring, reporting, implementation and support.
4. **"Purchasing"** includes the preparation of tender documents and organization of the tendering process; obtain quotes for purchases and sourcing suppliers, processing of internal requisitions and preparation of purchase orders. Purchasing will also provide internal services such as, stock inventory for planned and unplanned service orders and the determination of inventory levels.
5. **"Communications and Public Relations"** includes the preparation and delivery of broad-based and strategic communications to the general public and specific target audiences, including written publications such as media releases and annual reports, community relations activities and events.
6. **"Corporate Governance"** includes services associated with the governance of a company's activities, such as activities to support its board of directors, board committees

and executive management, and legal services.

7. **“Other”** includes services other than those specifically enumerated above and that are requested and provided from time to time under Section 3.1.

## SCHEDULE "B"

### Fees for Services

<b>SERVICES</b>	<b>FEES</b>
1. <b>Finance Services</b>	Fees shall be calculated and charged on a Cost basis.
2. <b>Human Resources Services</b>	Fees shall be calculated and charged on a Cost basis.
3. <b>Safety Services</b>	Fees shall be calculated and charged on a Cost basis.
4. <b>Purchasing</b>	Fees shall be calculated and charged on a Cost basis.
5. <b>Communications and Public Relations</b>	Fees shall be calculated and charged on a Cost basis.
6. <b>Corporate Governance</b>	Fees shall be calculated and charged on a Cost basis.
7. <b>Other</b>	Fees shall be calculated and charged on a Cost basis.

#### NOTES:

1. "Cost" means WIRESCO's proportionate share of the actual amounts incurred by HOLDCO in respect of the Services, being reflective of WIRESCO's proportionate use of Services.
2. Fees that are calculated and charged on a Cost basis are estimated for the financial year based on HOLDCO's estimated budget. The amounts of such annual estimates are pro-rated and paid monthly. Adjustments to fees payable by WIRESCO are made in accordance with actual costs incurred by HOLDCO.

**ENERSOURCE CORPORATION**

**and**

**ENERSOURCE SERVICES INC.**

**and**

**ENERSOURCE TELECOM INC.**

**and**

**ENERSOURCE HYDRO MISSISSAUGA SERVICES INC.**

**and**

**ENERSOURCE HYDRO MISSISSAUGA INC.**

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**SECOND AMENDING AGREEMENT**

**to the Services Agreement dated as of January 1, 2002**

---

**Effective as of**

**January 1, 2005**



## SERVICES AGREEMENT

THIS SECOND AMENDING AGREEMENT is made this 30<sup>th</sup> day of November, 2005, and effective as of the 1<sup>st</sup> day of January, 2005 (the "Effective Date").

B E T W E E N:

**ENERSOURCE CORPORATION,**

-and-

**ENERSOURCE SERVICES INC.**

-and-

**ENERSOURCE TELECOM INC.**

-and-

**ENERSOURCE HYDRO MISSISSAUGA SERVICES INC.**

(hereinafter collectively referred to as (the "**Non-Regulated Affiliates**" and, individually referred to as a "**Service Affiliate**")

- and -

**ENERSOURCE HYDRO MISSISSAUGA INC.**

(hereinafter referred to as "**WIRESKO**")

**The Non-Regulated Affiliates and WIRESKO may hereinafter be collectively referred to as Parties and individually as a "Party".**

### **WHEREAS:**

1. Each of the Parties entered into a services agreement effective as of January 1, 2002 and first amended effective as of January 1, 2004 ("**Services Agreement**");
2. Under Section 3.3 of the Services Agreement, the Parties may agree to modifications to the services to be provided under the Services Agreement and the consideration in respect thereof;

**NOW THEREFORE** in consideration of the mutual covenants contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

**ARTICLE 1  
INTERPRETATION**

- 1.1 In this Agreement, unless otherwise defined herein, all capitalized terms used herein have the respective meanings specified in the Services Agreement.

**ARTICLE 2  
AMENDMENTS TO SCHEDULES**

- 2.1 Schedule "A" and Schedule "B" to the Services Agreement are replaced in each of their entirety by the Schedule "A" and Schedule "B" attached hereto.

**ARTICLE 3  
GENERAL**

- 3.1 Save and except as expressly amended by this Agreement, all of the terms and conditions of the Services Agreement shall remain in full force and effect and it is understood that time is to continue to be of the essence.
- 3.2 This Agreement may be executed and delivered in any number of counterparts, each of which when executed and delivered is an original but all of which taken together constitute one and the same instrument. This Agreement may be executed by facsimile and the facsimile execution pages will be binding upon the executing Party to the same extent as the original executed pages.

IN WITNESS WHEREOF this Agreement has been executed by the duly authorized signatories of the parties hereto as of the date first written above.

**ENERSOURCE CORPORATION**

Per: \_\_\_\_\_

Name: Gunars Ceksters

Title: President and Chief Executive Officer

I have authority to bind Enersource Corporation

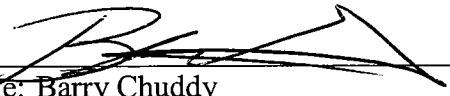
Per: \_\_\_\_\_

Name: Bernadette Corpuz

Title: General Counsel & Secretary

I have authority to bind Enersource Corporation

**ENERSOURCE TELECOM INC.**

Per: 

Name: Barry Chuddy

Title: Executive Vice President Business Development and Marketing

I have authority to bind Enersource Telecom Inc.

Per: 

Name: Bernadette Corpuz

Title: General Counsel & Secretary

I have authority to bind Enersource Telecom Inc.

**ENERSOURCE HYDRO MISSISSAUGA SERVICES INC.**

Per: 

Name: Barry Chuddy

Title: Executive Vice President Business Development and Marketing

I have authority to bind Enersource Hydro Mississauga Services Inc.

Per: 

Name: Bernadette Corpuz

Title: General Counsel & Secretary

I have authority to bind Enersource Hydro Mississauga Services Inc.

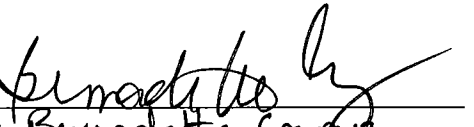
**ENERSOURCE HYDRO MISSISSAGUA INC.**

Per: 

Name: Chris Buckler

Title: Vice President Customer Service & Regulatory Affairs

I have authority to bind Enersource Hydro Mississauga Inc.


Per: 

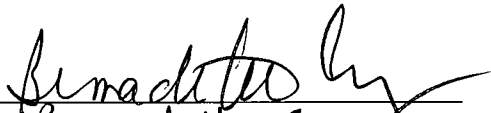
Name: Bernadette Corpuz


Title: General Counsel & Secretary

I have authority to bind Enersource Hydro Mississauga Inc.

**ENERSOURCE SERVICES INC.**

Per:   
Name: Barry Cluddy  
Title: EVP Business Development + Marketing  
I have authority to bind Enersource Services Inc.

Per:   
Name: Bernadette Conroy  
Title: General Counsel + Secretary  
I have authority to bind Enersource Services Inc.

ENERSOURCE  
LEGAL  
Approved:   
Date: 11/03/05

## Schedule "A"

### Description of Services

1. **"Fleet"** includes the use of executive vehicles and service vehicles that are owned by WIRESCO, such as:

<b>Fleet</b>	RBD's (Auger Trucks) Aerial Buckets Vans, Pickups, Trailers, Tension Machine, Backhoe
--------------	--

2. **"Engineering, Construction and Operations Services"** includes design, construction or operational services performed by WIRESCO staff in response to a request by the Non-Regulated Affiliates, such WIRESCO staff may include the following:

<b>Inside Staff</b>	Senior Managers Project Managers Other Managers Supervisors Engineers Design Technicians Administrative Staff
---------------------	---

<b>Outside Staff</b>	Construction Supervisors Leadhands Journeyman Inspection Equipment Operator Laborers Cable Locator Mechanics Tree Trimming
----------------------	--

3. **"Facilities and Property Usage"** includes the use and occupancy, as applicable, of the head office building, any other real estate, furniture, computers and other property owned by WIRESCO.
4. **"Facilities Operations"** includes the operational services associated with the use of the head office building, any other real estate, furniture and computers, such services being directly or indirectly provided by WIRESCO.
5. **"Stores"** includes the use of any of the following services: shipping and receiving, warehousing, picking or work order materials, weekly cycle counts of inventory items, monitoring of inventory stock-outs ordering of tools, off-site storage of poles, transformer evaluations testing and repairs, scrapping of materials, monitoring transformer PCB contamination, testing of high voltage rubber gloves and covers, ordering of safety wear,

tool monitoring, evaluation & repairs, site delivery & pick up, control of reel returns, garbage & cardboard management.

6. **“Customer Account Services”** include the following call centre, billing, collections and support services:
  - (a) Call centre services include call answering services, switchboard services, activation, transfer and closing of accounts, management of budget billing process, management of pre-authorized payment process, processing of incoming correspondence including letters, faxes, e-mails, assessment and billing of security deposits, prepare, reconcile, analyze and resolve billing errors or discrepancies, schedule field service calls, analyze new customer pre-sign up review with credit agency interface, management of liability claims, and respond to lawyer’s inquiries regarding agreements / easements / compliances.
  - (b) Billing services include meter reading, validation, editing and estimating process for meter reading, billing of interval accounts, billing of non-interval accounts, back billing of stopped meter, billing errors, metering errors and errors detected by billing verification program, monitoring and analysis of unbilled accounts, bill delivery, and electronic bill presentment.
  - (c) Collections services include collection of delinquent active and closed accounts collection of security deposits, collection call answering services, management of third party collection agency, credit scoring, administration of bankruptcies, Small Claims Court Services, field collection services, disconnection and reconnection of services, payment terms management, maintenance of letters of credit, and collection of miscellaneous accounts receivable.
  - (d) Support services include payment processing, cashier services, reception services, training services, and application guidance and support services related to the Orcom customer information system.
7. **“Information Technology Services”** include comprehensive information technology services such as data base development and support, network development and support, personal computer systems support and communications support.
8. **“Other”** includes services other than those specifically enumerated above and that are requested and provided from time to time under Section 3.1.

## Schedule “B”

### Fees for Services

	SERVICES	FEES
1.	<b>Fleet</b>	Fees shall be calculated and charged in accordance with the fleet rates in effect for WIRESCO at any given time.
2.	<b>Engineering, Operations and Construction Services</b>	Fees shall be calculated and charged in accordance with the principles set out below in Note 1.
3.	<b>Facilities and Property Usage</b>	Fees shall be calculated and charged on a Cost plus Mark-Up basis.
4.	<b>Facilities Operations</b>	Fees shall be calculated and charged on a Cost basis.
5.	<b>Stores</b>	Fees shall be calculated and charged on a Cost basis.
6.	<b>Customer Account Services</b>	Fees shall be calculated and charged on a Cost basis.
7.	<b>Information Technology Services</b>	Fees shall be calculated and charged on a Cost basis.
8.	<b>Other</b>	Fees shall be calculated and charged on a Cost basis.

NOTES:

- Staff Rates – the following principles apply to the charging of rates for WIRESCO staff that perform Engineering, Operations and Construction Services for a Service Affiliate:

Rates for Unionized employees: Rates for unionized employees of WIRESCO will be charged at the rates set out in the current collective agreement applicable to WIRESCO (the “Collective Agreement”), plus an applicable benefit rate, which will be determined on an annual basis to reflect changes in benefits cost.

Rates for Non-union employees: Rates for non-unionized employees will be charged at rates calculated based on average wages for employee groups including benefits which are determined on an annual basis to reflect changes in wages and benefits cost.

2. “**Cost**” means a Service Affiliate’s proportionate share of the actual amounts incurred by WIRESCO in respect of the Services, being reflective of the Service Affiliate’s proportionate use of Services.
3. “**Mark-Up**” means a return on invested capital, as permitted under the *Ontario Energy Board Act, 1998* and applicable regulations, including the Distribution System Code.
4. Fees that are calculated and charged on a Cost basis are estimated for the financial year based on HOLDCO’s estimated budget. The amounts of such annual estimates are pro-rated and paid monthly. Adjustments to fees payable by WIRESCO are made in accordance with actual costs incurred by HOLDCO.



1

**Current Rate Order**

2

3 A copy of Enersource's current rate order (EB-2007-0523, dated April 12, 2007) is attached.



EB-2007-0523

**IN THE MATTER OF** the *Ontario Energy Board Act*,  
1998, S.O. 1998, c.15 (Schedule B);

**AND IN THE MATTER OF** an application by Enersource  
Hydro Mississauga Inc. for an order or orders approving  
or fixing just and reasonable distribution rates and other  
charges, to be effective May 1, 2007.

**BEFORE:** Paul Sommerville  
Presiding Member

Paul Vlahos  
Member

Ken Quesnelle  
Member

## DECISION AND ORDER

Enersource Hydro Mississauga Inc. (“Enersource”) is a licensed distributor providing electrical service to consumers within its licensed service area. Enersource filed an application with the Ontario Energy Board (the “Board”) for an order or orders approving or fixing just and reasonable rates for the distribution of electricity and other charges, to be effective May 1, 2007.

Enersource is one of 85 electricity distributors in Ontario that are regulated by the Board. To streamline the process for the approval of distribution rates and charges for these distributors, the Board issued its *Report of the Board on Cost of Capital and 2<sup>nd</sup> Generation Incentive Regulation for Ontario’s Electricity Distributors* (the “Report”) on December 20, 2006. The Report contained the relevant guidelines for 2007 rate adjustments (“the guidelines”) for distributors applying for rates only on the basis of the cost of capital and 2<sup>nd</sup> generation incentive regulation mechanism policies set out in the Report.

Public notice of Enersource's rate application was given through newspaper publication in Enersource's service area. The evidence filed as part of the rate application was made available to the public. Both Enersource and interested parties had the opportunity to file written submissions in relation to the rate application. The Board received a submission from Board staff and a reply submission from Enersource. While the Board has considered the entire record in this rate application, it has made reference only to such evidence and submissions as is necessary to provide context to its findings.

Enersource's rate application was filed on the basis of the guidelines. In fixing new rates and charges for Enersource, the Board has applied the policies described in the Report.

After confirming the accuracy of the 2006 rate tariff and accompanying materials submitted in the rate application, the Board applied its approved price cap index adjustment to distribution rates (fixed and variable) uniformly across all customer classes. The price cap index is calculated as a price escalator less an X-factor of 1.0%, intended to represent input price and productivity trends. Based on the final 2006 data published by Statistics Canada, the Board has established the price escalator to be 1.9%. The resulting price cap index adjustment is therefore 0.9%.

The following components that were included in 2006 rates were removed prior to the application of the price cap index adjustment:

- the large corporation tax allowance;
- the 2006-approved Conservation and Demand Management funding.

The price cap index adjustment was not applied to the following components of the rates:

- the specific service charges;
- the regulatory asset recovery rate rider; and
- the smart meter rate adder (an amount in the fixed components of the rates associated with smart meter cost recovery).

## Smart Meter Cost Recovery

Enersource requested an amount for recovery through a rate adder for smart meter costs of \$2.60 per metered customer per month. This amount was reaffirmed in its February 9, 2007 smart meter rate adder filing. Enersource's reply submission of March 21, 2007 revised this number downward to \$2.57 per metered customer per month.

Enersource's original proposal of a smart meter recovery amount of \$2.60 per metered customer per month contained three amounts which the Board staff submission of March 14, 2007 argued appeared not to be allowable recoveries in this proceeding. Staff stated that this conclusion was based upon an examination of the guidelines in the Board Report and the Addendum for Smart Metering Rates of January 29, 2007 (the "Addendum") to the Report, as well as relevant legislation.

The three amounts questioned in the staff submission were: (1) \$0.03 per metered customer per month for costs associated with the change out of Murray Jensen meters; (2) \$0.04 per metered customer per month for costs associated with capital spending on smart meters for General Service greater than 50 kW customers, and (3) \$1.25 per metered customer per month for costs associated with the disposition of 65,000 conventional meters

Enersource, in its reply submission, stated it could accept that the costs associated with the change out of Murray Jensen meters would be properly recoverable through distribution rates rather than through the 2007 smart meter rate adder. Enersource, therefore, revised downward its proposed 2007 smart meter rate adder by \$0.03 to \$2.57 per metered customer per month. The Board accepts Enersource's removal of this amount.

The second of the amounts in question is for capital spending on smart meters for General Service greater than 50 kW customers. The Board staff submission stated that Enersource's request for capital spending on smart meters for General Service greater than 50 kW customers was outside both the guidelines contained in the Addendum and the criteria and requirements for meters and metering equipment, systems and technology contained in Ontario Regulation 426/06 under the *Ontario Energy Board Act, 1998*.

Enersource, in its reply submission, stated that in its view, the regulations did not appear to bar distributors from providing smart meter or smart metering services to consumers, other than residential and small general service, as long as Board approval of the costs related to the provision of such services had been received.

The Board finds that the policy outlined in the Addendum establishes that costs for General Service greater than 50 kW customers are not eligible for recovery in this proceeding. Accordingly, the Board denies Enersource's request for recovery of these costs.

The third of the amounts in question relates to the disposition costs of conventional meters. The staff submission stated that in staff's view, the recovery of costs related to the disposition of existing meters was not one that was included in the Board's smart meter model, nor was it one for which the Board has, as yet, determined a policy. The staff submission also noted that the issue of what the approach should be for recovery of the disposition costs of existing meters was one that would be considered for all distributors as part of the combined proceeding by the Board, as outlined in the Addendum.

Enersource, in its reply submission, stated that, in its view, the Board had considered the treatment of disposition costs and concluded that they are eligible to be recorded in the smart meter variance account, as discussed in the Board's January 16, 2007 letter to electricity distributors on stranded meter costs. Enersource further stated that any adjudication by the Board of this issue in this proceeding would not bind the Board panel in the combined proceeding. Enersource also expressed the concern that if the 2007 smart meter rate adder does not provide for the recovery of disposition costs, Enersource would lack access to an appropriate funding mechanism. In addition, Enersource stated that not only would the balances in its variance accounts be higher than they ought to be, they would also be unfavourable to rate payers.

While the Board is mindful of Enersource's concerns, the Board has not as yet determined a policy for the recovery of the disposition costs of conventional meters. The Board's letter of January 16, 2007, referenced by Enersource, stated that disposition of these costs would be determined in a future proceeding of the Board. As this is an issue common to all distributors, the Board will deal with this matter in the combined proceeding. Accordingly, the Board denies Enersource's request for the recovery of these costs in this proceeding.

The effect of the Board's denial of Enersource's request for recovery of the costs associated with capital spending on smart meters for General Service greater than 50 kW customers and conventional meter disposition is to reduce Enersource's required smart meter rate adder by an amount of \$1.29 per metered customer per month from the amount of \$2.57 per metered customer per month, as proposed in Enersource's reply submission. The Board therefore approves an amount for recovery of \$1.28 per metered customer per month, which is consistent with Board policy.

Enersource's variance accounts for smart meter program implementation costs, previously authorized by the Board, are continued. As the notice of this application indicated, the Board will be holding a combined proceeding to consider, among other things, appropriate recovery of smart meter costs.

### **Standby Rates**

Enersource's standby rates were approved as interim by the Board in its 2006 distribution rates order. The Board is still examining the issues related to standby rates, and is not in a position to make a final order for these rates at this time. The standby rates will be adjusted by the price cap index but remain interim.

The Board has made the necessary adjustments to Enersource's filed 2006 Tariff of Rates and Charges to produce a new Tariff of Rates and Charges to be effective May 1, 2007. The Board finds the rates and charges in the Tariff of Rates and Charges attached as Appendix A to this decision to be just and reasonable.

### **THE BOARD ORDERS THAT:**

1. The Tariff of Rates and Charges set out in Appendix A of this order is approved, effective May 1, 2007, for electricity consumed or estimated to have been consumed on and after May 1, 2007.
2. The Tariff of Rates and Charges set out in Appendix A of this order supersedes all previous distribution rate schedules approved by the Ontario Energy Board for Enersource, and is final in all respects, except for the standby rates which are approved as interim.

3. Enersource shall notify its customers of the rate changes no later than with the first bill reflecting the new rates.

**DATED** at Toronto, April 12, 2007.

**ONTARIO ENERGY BOARD**

Original Signed By

Peter H. O'Dell  
Assistant Board Secretary

Appendix A

EB-2007-0523

April 12, 2007

ONTARIO ENERGY BOARD



# Enersource Hydro Mississauga Inc.

## TARIFF OF RATES AND CHARGES

### Effective May 1, 2007

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

EB-2007-0523

#### APPLICATION

- The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Codes, Guidelines or Orders of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.
- No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code, Guideline or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.
- This schedule does not contain any rates and charges relating to the electricity commodity (e.g. the Regulated Price Plan).

#### EFFECTIVE DATES

- DISTRIBUTION RATES – May 1, 2007 for all consumption or deemed consumption services used on or after that date.  
 SPECIFIC SERVICE CHARGES – May 1, 2007 for all charges incurred by customers on or after that date.  
 LOSS FACTOR ADJUSTMENT – May 1, 2007 unless the distributor is not capable of prorating changed loss factors jointly with distribution rates. In that case, the revised loss factors will be implemented upon the first subsequent billing for each billing cycle.

#### SERVICE CLASSIFICATIONS

##### **Residential**

This classification refers to all residential services including, without limitation, single family or single unit dwellings, multi-family dwellings, row-type dwellings and subdivision developments. Energy is supplied in single phase, 3-wire, or three phase, 4-wire, having a nominal voltage of 120/240 Volts. There shall be only one delivery point to a dwelling.

##### **General Service Less Than 50 kW**

This classification refers to a non-residential account whose monthly average peak demand is less than, or is forecast to be less than, 50 kW.

##### **Small Commercial and Unmetered Scattered Load**

This classification applies to an account taking electricity at 750 volts or less whose average monthly maximum demand is less than, or is forecast to be less than, 50 kW and the consumption is either metered or unmetered. While this customer class includes existing metered customers, metered customers are no longer added to this customer class. The unmetered connections include cable TV power packs, bus shelters, telephone booths, traffic lights, railway crossings, etc. The level of the consumption will be agreed to by the distributor and the customer, based on detailed manufacturer information/documentation with regard to electrical consumption of the unmetered load or periodic monitoring of actual consumption.

##### **General Service 50 to 499 kW**

This classification refers to a non-residential account whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than, 50 kW but less than 500 kW.

##### **General Service 500 to 4,999 kW**

This classification refers to a non-residential account whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than, 500 kW but less than 5,000 kW.

##### **Large Use**

This classification refers to an account whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than, 5,000 kW.

##### **Standby Power**

This classification refers to an account that has load displacement generation and requires Enersource Hydro Mississauga to provide back-up service.

# Enersource Hydro Mississauga Inc.

## TARIFF OF RATES AND CHARGES

### Effective May 1, 2007

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

EB-2007-0523

#### Street Lighting

This classification refers to an account for roadway lighting with a Municipality. Street lighting equipment in the City of Mississauga is owned by the City of Mississauga. All street lighting will be non-metered with energy consumption based on the connected wattage and calculated hours of use using the approved methods and rates established by the OEB. Street lighting plant, facilities, or equipment owned by the Customer is subject to the Ontario Electrical Safety Code (latest edition) and the Electrical Safety Authority requirements.

### MONTHLY RATES AND CHARGES

#### Residential

Service Charge	\$	12.33
Distribution Volumetric Rate	\$/kWh	0.0111
Regulatory Asset Recovery	\$/kWh	0.0028
Retail Transmission Rate – Network Service Rate	\$/kWh	0.0059
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kWh	0.0051
Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

#### General Service Less Than 50 kW

Service Charge	\$	29.93
Distribution Volumetric Rate	\$/kWh	0.0149
Regulatory Asset Recovery	\$/kWh	0.0011
Retail Transmission Rate – Network Service Rate	\$/kWh	0.0053
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kWh	0.0046
Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

#### Small Commercial and Unmetered Scattered Load

Service Charge for metered account	\$	15.32
Service Charge for Unmetered Scattered Load account (per connection)	\$	14.04
Distribution Volumetric Rate	\$/kWh	0.0257
Regulatory Asset Recovery	\$/kWh	0.0008
Retail Transmission Rate – Network Service Rate	\$/kWh	0.0053
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kWh	0.0046
Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

# Enersource Hydro Mississauga Inc.

## TARIFF OF RATES AND CHARGES

### Effective May 1, 2007

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

EB-2007-0523

**General Service 50 to 499 kW**

Service Charge	\$	74.24
Distribution Volumetric Rate	\$/kW	4.3900
Regulatory Asset Recovery	\$/kW	0.3293
Retail Transmission Rate – Network Service Rate	\$/kW	2.1136
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.8109
Retail Transmission Rate – Network Service Rate – Interval Metered	\$/kW	2.1136
Retail Transmission Rate – Line and Transformation Connection Service Rate – Interval Metered	\$/kW	1.8109
Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

**General Service 500 to 4,999 kW**

Service Charge	\$	1,240.76
Distribution Volumetric Rate	\$/kW	1.6906
Regulatory Asset Recovery	\$/kW	(0.0222)
Retail Transmission Rate – Network Service Rate – Interval Metered	\$/kW	2.0449
Retail Transmission Rate – Line and Transformation Connection Service Rate – Interval Metered	\$/kW	1.7719
Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

**Large Use**

Service Charge	\$	13,247.54
Distribution Volumetric Rate	\$/kW	2.7937
Regulatory Asset Recovery	\$/kW	0.0143
Retail Transmission Rate – Network Service Rate – Interval Metered	\$/kW	2.1820
Retail Transmission Rate – Line and Transformation Connection Service Rate – Interval Metered	\$/kW	1.8924
Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

**Standby Power – APPROVED ON AN INTERIM BASIS**

Except for the Integrated Gas Recovery Services' Britannia Sanitary Landfill and the Greater Toronto Airport Authority that are identified separately, the Standby Charge will be applied for a month where standby power is not provided. The charge is applied to the contracted amount (e.g. nameplate rating of generation facility). Further servicing details are available in Enersource Hydro's Conditions of Service.

\$/kW	2.61
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The Integrated Gas Recovery Services' ("IGRS") Britannia Sanitary Landfill generating facility ("BSL"):

In addition to its regular account's monthly Service Charge, Enersource Hydro will charge IGRS the General Service 50 to 499 kW Distribution Volumetric Charge applied to the monthly contract demand quantity, initially set at 400 kW. A variable overrun distribution rate equal to the General Service 50 to 499 kW Distribution Volumetric Charge is applied to each kilowatt of demand delivered by Enersource Hydro to IGRS's BSL generating facility in the current month that exceeds the contract demand quantity. Demand is measured by Enersource Hydro's meter at the interconnection of IGRS' BSL generating facility and Enersource Hydro's distribution system. A monthly administration charge of \$200 is applied to IGRS' account for the manual intervention by settlement staff in the billing process. Further servicing details are available in Enersource Hydro's Conditions of Service.

# Enersource Hydro Mississauga Inc.

## TARIFF OF RATES AND CHARGES

### Effective May 1, 2007

**This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors**

EB-2007-0523

The Greater Toronto Airport Authority ("GTAA"):

In addition to its regular account's monthly Service Charge, Enersource Hydro will charge GTAA the Large Use Distribution Volumetric Charge applied to the monthly gross metered load. A monthly administration charge of \$500 is applied to the GTAA's account for the manual intervention by settlement staff in the billing process. Further servicing details are available in Enersource Hydro's Conditions of Service.

#### Street Lighting

Service Charge (per connection)	\$	0.36
Distribution Volumetric Rate	\$/kW	2.7462
Regulatory Asset Recovery	\$/kW	0.2304
Retail Transmission Rate – Network Service Rate	\$/kW	1.4637
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.3094
Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0010
Standard Supply Service – Administrative Charge (if applicable)	\$	0.25

#### Specific Service Charges

Customer Administration		
Arrears Certificate	\$	15.00
Request for other billing information	\$	15.00
Credit reference/credit check (plus credit agency costs)	\$	15.00
Credit reference/credit check (plus credit agency costs – General Service)	\$	25.00
Income tax letter	\$	15.00
Returned cheque (plus bank charges)	\$	12.50
Account set up charge/change of occupancy charge (plus credit agency costs if applicable)	\$	30.00
Account set up charge/change of occupancy charge (plus credit agency costs if applicable – Residential)	\$	20.00
Meter dispute charge plus Measurement Canada fees (if meter found correct)	\$	10.00
Special meter reads	\$	30.00
Interval meter request change	\$	40.00
Non-Payment of Account		
Late Payment - per month	%	1.50
Late Payment - per annum	%	19.56
Collection of account charge – no disconnection	\$	9.00
Disconnect/Reconnect at meter - during regular hours	\$	20.00
Disconnect/Reconnect at pole - during regular hours	\$	185.00
Disconnect/Reconnect at pole - after regular hours	\$	415.00
Temporary service install and remove – overhead – no transformer	\$	400.00
Specific Charge for Access to the Power Poles – per pole/year	\$	22.35
Allowances		
Transformer Allowance for Ownership - per kW of billing demand/month	\$/kW	(0.40)
Primary Metering Allowance for transformer losses – applied to measured demand and energy	%	(1.00)

#### LOSS FACTORS

Total Loss Factor – Secondary Metered Customer < 5,000 kW	1.0433
Total Loss Factor – Secondary Metered Customer > 5,000 kW	1.0145
Total Loss Factor – Primary Metered Customer < 5,000 kW	1.0328
Total Loss Factor – Primary Metered Customer > 5,000 kW	1.0045

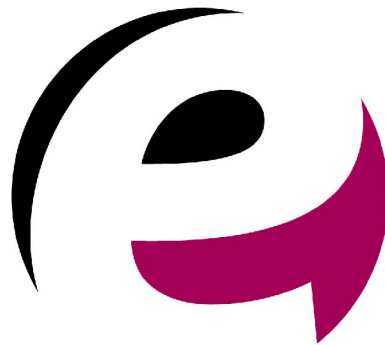
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**Conditions of Service**

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3 A copy of Enersource's current Conditions of Service is attached.

## **Conditions of Service**



***enersource***  
*Hydro Mississauga*

**October 17, 2006**

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## PREFACE

# CONDITIONS OF SERVICE

The Distribution System Code (DSC) requires that every Distributor produce its own “Conditions of Service” document. The purpose of this document is to provide a means for communicating the types and level of service available to customers within Enersource Hydro Mississauga’s service territory. The DSC requires that the Conditions of Service be readily available for review by the general public. In addition, the most recent version of the document must be provided to the Ontario Energy Board (OEB), who will in turn retain it on file for the purpose of facilitating dispute resolution in the event that a dispute cannot be resolved locally.

The Enersource Hydro Mississauga’s “Conditions of Service” document contains two major sections:

**The General Section (Section 2):** contains references to services and requirements that are common to all the Customer classes. This section covers items such as Capital Contribution, Billing, Hours of Work, Emergency Response, Power Quality and Availability Voltages.

**The Customer Specific Section (Section 3):** contains references to services and requirements specific to the respective Customer class. This section covers items such as Service Entrance Requirements, Delineation of Ownership, Special contracts, and Metering etc. Other sections include the Glossary of Terms, Tables and Appendices.

# 1 INTRODUCTION

## 1.1 IDENTIFICATION OF DISTRIBUTOR AND TERRITORY

*In this section, the distributor should identify their service territory as defined in the distributor's Licence.*

Enersource Hydro Mississauga Inc., referred herein as either Enersource Hydro Mississauga or the Distributor is a Corporation incorporated under the laws of the Province of Ontario to distribute electricity.

Enersource Hydro Mississauga licensed by the Ontario Energy Board (OEB), supplies electricity to its Customers as described under the Distribution Licence issued by the OEB. In addition, there are requirements imposed on Enersource Hydro Mississauga by the various codes referred to in the Licence as well as the Electricity Act and the Ontario Energy Board Act.

Enersource Hydro Mississauga operates distribution facilities within its licensed territory as defined in the Distribution Licence, generally within the boundaries of the Municipality of the City of Mississauga. The service area is subject to change with OEB approval.

## 1.2 RELATED CODES AND GOVERNING LAWS

*This section should reference any legislation that is applicable to the distributor-customer relationship.*

The following defines Enersource Hydro Mississauga's scope of operation:

Electricity Act, 1998 and associated regulations  
Ontario Energy Board Act, 1998  
Distribution Licence  
Affiliate Relationships Code  
Distribution System Code  
Retail Settlement Code  
Standard Service Supply Code  
These Conditions of Services

In the event of a conflict between this document and the Distribution Licence or regulatory Codes issued by the OEB, or the Electricity Act, the provisions of the Act, the Distribution Licence and associated regulatory Codes shall prevail.

### 1.3 INTERPRETATIONS

*This section should describe the rules for interpretation of the Conditions of Service document.*

Enersource Hydro Mississauga shall have the sole right to interpret questions directed to Enersource Hydro Mississauga with respect to the intent of any part of this document.

Headings and underlining are for convenience only and do not affect the interpretation of these Conditions of Service. Words referring to the singular include the plural and vice versa and words referring to a gender include any gender.

### 1.4 AMENDMENTS AND CHANGES

*This section should outline the process for making changes to this document. Include any public notice provisions.*

Enersource Hydro Mississauga reserves the right to make changes to the Conditions of Service at any time. In the event of changes, Enersource Hydro Mississauga shall notify its customers through “Community Connections” publication, website ([www.enersource.com](http://www.enersource.com)), local newspaper and/or include a notice of the change with customer bills. Please note that “Community Connections” is a bi-monthly Enersource publication.

The Customer is responsible for contacting Enersource Hydro Mississauga to ensure that they have the latest version of these conditions of service.

### 1.5 CONTACT INFORMATION

*This section should provide information on how a customer can contact the distributor. Include such items as: address of the distributor, telephone numbers, normal business hours, and emergency contact numbers.*

**OFFICE:**

Enersource Hydro Mississauga Inc.  
3240 Mavis Road  
Mississauga, Ontario  
L5C 3K1

**E-MAIL INQUIRIES:**

General Inquiries: [info@enersource.com](mailto:info@enersource.com)

Note: To direct e-mail inquiries to an appropriate business representative, the sample below identifies information that is more specific.

**DIRECT E-MAIL INQUIRIES:**

If you know the name of the person who you wish to reach, that person's E-mail address will be comprised of the first initial and surname followed by @enersource.com (e.g. Mary Smith would be e-mail: msmith@enersource.com).

**TELEPHONE INQUIRIES:**

Direct Auto-Attendant Inquiries: (905) 566-2727 plus extension plus # sign.

If you know the extension of the person you are calling, and you are calling from a touch-tone phone, dial Auto-Attendant at (905) 566-2727 followed by the extension number, then the pound sign. If the extension number is not known, you will be provided with a search option based on last and first name.

Operator Assisted Inquiries: (905) 273-9050

Our main switchboard phone number is (905) 273-9050 if you need to reach us during regular business hours (8:30 AM to 4:30 PM, Monday through Friday).

Emergency 24-Hour Service:

(Enersource Control Centre) 905-273-9050

Our main switchboard is constantly updated in the case of a significant outage, and our after-hours procedures provide for recorded updates at this number describing the nature and anticipated duration of a problem. Any after-hour callers who remain holding on this line are redirected through our Control Centre and will receive a response if the team is not preoccupied with business at hand.

Media Contact: (905) 283-4050 or [publicaffairs@enersource.com](mailto:publicaffairs@enersource.com)

Urgent after-hour media calls may be directed to our main (905) 273-9050 line, where depending on severity of the matter, return contact will be made either immediately or the next following business day.

**CUSTOMER ACCOUNTS:**

- General Billing Inquiries: (905) 273-7425 - [account-info@enersource.com](mailto:account-info@enersource.com)
- Moving In/Out: (905) 273-7425 – [moving@enersource.com](mailto:moving@enersource.com)
- PAPP and E-bill Payment Options: (905) 273-7425 [paymentplans@enersource.com](mailto:paymentplans@enersource.com)
- Credit and Collections: (905) 273-7425 – [credit-collections@enersource.com](mailto:credit-collections@enersource.com)
- Customer Account Status only: (905) 566-2711
- Street lighting: (905) 566-2718 or lighting repair request on-line form
- Underground locates: (905) 283-4212 or cable locate on-line form
- Tree-Trimming: (905) 283-4102 or [forestry@enersource.com](mailto:forestry@enersource.com)
- Energy Management and Conservation: (905) 566-2721

**OTHER CORPORATE CONTACTS:**

- Human Resources Inquiries: [careers@enersource.com](mailto:careers@enersource.com)
- Enersource Technologies: (905) 803-6467 [technologyservices@enersource.com](mailto:technologyservices@enersource.com)

## 1.6 CUSTOMER RIGHTS

*This section should outline the rights and obligations a customer or embedded generator has with respect to the distributor that are not covered elsewhere in this document.*

All Customers shall have non-discriminatory access to Enersource Hydro Mississauga's distribution system and services in accordance with the terms of these Conditions of Service and the applicable Acts, Regulations and Codes.

A Customer shall only be liable to Enersource Hydro Mississauga and Enersource Hydro Mississauga shall only be liable to a Customer for any damages that arise directly out of the willful misconduct or negligence of Enersource Hydro Mississauga in providing distribution services to the Customer, of the Customer in being connected to Enersource Hydro Mississauga's distribution system, or of Enersource Hydro Mississauga or the Customer in meeting the respective obligations under this Conditions of Service, their licences, and any other applicable law.

Notwithstanding the above, neither Enersource Hydro Mississauga nor the Customer shall be liable under any circumstances for any loss of profits or revenue, business interruption losses, loss of contract or loss of goodwill, or for any indirect, consequential, incidental or special damages, including but not limited to punitive or exemplary damages, whether any of the said liability, loss or damages arise in contract, tort, or otherwise.

A Customer or Embedded Generator shall indemnify and hold harmless Enersource Hydro Mississauga, its Directors, Officers, Employees and Agents from any claims made by any third parties in connection with the construction and installation of a generator by or on behalf of the Customer or Embedded Generator.

The provisions of these Conditions of Service and any amendments made from time to time form part of any Contract made between a connected Customer, Retailer, or Generator, and Enersource Hydro Mississauga.

## 1.7 DISTRIBUTOR'S RIGHTS

*This section should outline the rights a distributor has with respect to a customer or embedded generator that are not covered elsewhere in this document.*

### 1.7.1 Access to Customer Property

Enersource Hydro Mississauga shall have access to Customer property in accordance with Section 40 of the Electricity Act, 1998.

### 1.7.2 Safety of Equipment

The Customer will comply with all aspects of the Ontario Electrical Safety Code with respect to insuring that the equipment is properly identified, connected for metering and operation purposes and will take whatever steps necessary to correct any deficiencies, in particular cross wiring situations, in a timely fashion. If the Customer does not take such action within a reasonable time, Enersource Hydro Mississauga Inc. may disconnect the supply of power to the Customer.

The Customer shall not build, plant or maintain or cause to be built, planted or maintained any structure, tree, shrub or landscaping that would or could obstruct the running of distribution lines, endanger the equipment of Enersource Hydro Mississauga, interfere with the proper and safe operation of Enersource Hydro Mississauga's facilities or adversely affect compliance with any applicable legislation in the sole opinion of Enersource Hydro Mississauga.

The Customer shall not use or interfere with the facilities of Enersource Hydro Mississauga except in accordance with a written agreement with Enersource Hydro Mississauga. Where a connection on the line side of the metering equipment is possible, the Customer must grant Enersource Hydro Mississauga the right to make a seal at that point.

### **1.7.3 Operating Control**

The Customer will provide a convenient and safe place, satisfactory to Enersource Hydro Mississauga, for installing, maintaining and operating its equipment in, on, or about the Customer's premises. Enersource Hydro Mississauga will assume no risk and will not be liable for damages resulting from the presence of its equipment on the Customer's premises. In addition, or approaches thereto, or action, omission or occurrence beyond its control, and with negligence of any Persons over whom Enersource Hydro Mississauga has no control.

Unless an employee or an agent of Enersource Hydro Mississauga, or other person lawfully entitled to do so, no person shall remove, replace, alter, repair, inspect, or tamper with Enersource Hydro Mississauga's equipment.

### **1.7.4 Repairs of Defective electrical Equipment**

The Customer will be required to repair or replace any equipment owned by the Customer that may affect the integrity or reliability of Enersource Hydro Mississauga's distribution system. If the Customer does not take such action within a reasonable time, Enersource Hydro Mississauga may disconnect the supply of power to the Customer. Described further in these Conditions are Enersource Hydro Mississauga's policies and procedures with respect to the disconnection process.

### **1.7.5 Customer's Civil and Physical Structures**

Depending on the ownership and demarcation point, construction and maintenance of all civil works on private property owned by the Customer, including such items as transformer vaults, transformer rooms, transformer pads, manholes, cable pull rooms and underground conduit, will be the responsibility of the Customer. Enersource Hydro Mississauga and the Electrical Safety Authority must inspect all civil work on private property.

The Customer is responsible for the maintenance and safe keeping conditions satisfactory to Enersource Hydro Mississauga of its structural and mechanical facilities located on private property.

### **1.7.6 Tree and Vegetation Management**

To ensure public safety and the continued reliable operation of its distribution system Enersource Hydro Mississauga will maintain clearance around its distribution lines on a cyclical or as-needed basis. The tree trimming cycle may vary depending on extent of storm damage, health of trees, and vegetation type.

Enersource Hydro Mississauga will coordinate and maintain tree clearance around all its distribution lines that are located on public allowance. Enersource Hydro Mississauga will also maintain tree clearance around its overhead lines over 750 volts that may be located on private property at no cost to the Customer. Enersource Hydro Mississauga will endeavor to discuss the planned re-clearing with property owners prior to work being performed in order to mitigate the impacts to the environment and the property owner prior to performing the work.

Customers are responsible for all initial tree trimming for all new overhead lines that will be located on private property. Customers are also responsible for continuing tree trimming, tree and brush removal around service lines that are less than 750 Volts and are located on private property. Customers are also responsible for continuing tree trimming, tree and brush removal around service lines that are less than 750 Volts when these lines are owned by the Customer. Clearances must conform to the Electrical Safety Code.

To permit the safe clearance of trees and vegetation from overhead lines over 750 Volts located on private property Enersource Hydro Mississauga will, upon at least ten days prior notice from the Customer, once each year during normal business hours, disconnect and reconnect the Customer's supply without charge.

## 1.8 DISPUTES

*Any dispute between customers or retailers and the distributor shall be settled according to the dispute resolution process specified in the Distributor Licence. In this section, the Distributor should outline the Customer Complaint and Dispute Resolution processes that have been established as a condition of licence.*

The purpose of this process is to resolve and track disputes between Enersource Hydro Mississauga and market participants (retailers, MDMAs, consumers etc.) Disputes concerning the settlement amount billed or owed by a distributor to a retailer do not relieve either party from their obligations to make payment in full at the time payment is due. Any deviations between the amount paid at the time due and the amount determined through the dispute resolution process shall be subject to payment of interest. The interest rate shall equal the prime rate charged by the distributor's bank.

### 1.8.1 Internal Dispute Resolution Process

- Retailer Relations Department receives inquiry or complaint from market participant
- Investigate complaint within 24 hours
- If inquiry can be resolved within 10 days, determine corrective action, notify market participant of that action, seek/reach agreement, take corrective action, receive confirmation, and log data
- If inquiry cannot be resolved within 10 days, forward issue to VP Customer Care & Billing. Senior Management to determine if an agreement can be reached in 10 days, if yes log data and proceed to previous sequence (bullet #3)



- If agreement cannot be reached in 10 days forward issue to legal/OEB board and log data.

## 1.8.2 External Resolution Process

There will be an independent board or dispute resolution process sanctioned by the OEB. The dispute mechanism specified by the Board will be included in a distributor's licence.

There is no more information available at this time.

### Assumptions

The frequency/volume of disputes will be low. Enersource Hydro Mississauga will track disputes using existing software and will use "Contacts" in E-CIS or design a form in a PC application like Excel.

Note: In the Distribution License it states:

The Licensee shall:

- a) Establish proper administrative procedures for resolving complaints by consumers and other market participants' complaints regarding services provided under the terms of this license;
- b) Publish information which will facilitate its customers accessing its complaint resolution process;
- c) Refer unresolved complaints and subscribe to an independent third party complaints resolution agency which has been approved by the Board;
- d) Make a copy of the complaints procedure available for inspection by members of the public at each of the Licensee's premises during normal business hours;
- e) Give or send free of charge a copy of the procedure to any person who reasonably requests it; and
- f) Keep a record of all complaints whether resolved or not including the name of the complainant, the nature of the complaint, the date resolved or referred and the result of the dispute resolution.

## 2 DISTRIBUTION ACTIVITIES (GENERAL)

*This section should include information that is applicable to all customer classes of the distributor. Items that are applicable to only a specific customer class are covered in Section 3.*

### 2.1 CONNECTIONS

Under the terms of the Distribution System Code, Enersource Hydro Mississauga has an obligation either to connect or to make an offer to connect any Customer that is within its service area.

Early consultation with Enersource Hydro Mississauga is essential. The Customer or its authorized representative shall consult with Enersource Hydro Mississauga concerning the availability and timing of supply, supply voltage, service location, metering and any other details. These requirements are in addition to those of the Electrical Safety Authority. Enersource Hydro Mississauga will confirm in writing the characteristics of the electric supply.

The Customer or its authorized representative shall apply for new, upgraded or temporary power service in writing. The Customer is required to provide Enersource Hydro Mississauga with adequate lead-time to ensure the timely provisions of supply to a new or upgraded premise or the availability of adequate capacity for additional loads at existing premises.

Enersource Hydro Mississauga shall make every reasonable effort to respond promptly to a Customer's request for connection. Enersource Hydro Mississauga shall respond to a Customer's written request for connection within fifteen – (15) calendar days. Enersource Hydro Mississauga will make an offer to connect within 60 calendar days, unless additional information is specifically required from the Customer.

Enersource Hydro Mississauga shall make every reasonable effort to respond promptly to a Generator's request for connection. Within thirty - (30) calendar days of receiving a written request for connection, Enersource Hydro Mississauga shall provide an initial consultation to a Generator that wishes to connect to the distribution system regarding the connection process. Enersource Hydro Mississauga will make a final offer to connect the Generator to its distribution system within ninety - (90) calendar days, unless additional information is specifically required from the Generator.

Enersource Hydro Mississauga shall make every reasonable effort to respond promptly to another distributor's request for connection. Within thirty - (30) days of receiving a written request for connection, Enersource Hydro Mississauga shall provide an initial consultation to another distributor regarding the connection process. Enersource Hydro Mississauga will make a final offer to connect the distributor to its distribution system within ninety - (90) calendar days, unless additional information is specifically required from the distributor.

Enersource Hydro Mississauga, in its discretion, will require a Customer, Generator or Distributor to enter into a Connection Agreement with Enersource Hydro Mississauga including terms and conditions in addition to those in Appendix D, E, F, and G of this document.

If special equipment is required or equipment delivery problems occur then longer lead times may be necessary. Enersource Hydro Mississauga will notify the Customer of any extended lead times.

In addition to any other requirements in these Conditions, the supply of electricity is conditional upon being permitted and Enersource Hydro Mississauga able to provide such a supply, obtaining the necessary apparatus and material, and constructing works to provide the service. Should Enersource Hydro Mississauga not be permitted or able to do so, it is under no responsibility to the Customer whatsoever and the Customer releases Enersource Hydro Mississauga from any liability in respect thereto.

### **2.1.1 Building that Lies Along**

*In this section, the distributor should describe the standard connection allowance or charge used by the distributor in its service territory and describe any variable connection fees that would be charged beyond the standard allowance.*

*The distributor also may stipulate in this section other terms and conditions by which a customer requesting a connection must abide, as long as it is within the terms of this code.*

For the purpose of this Condition “lies along,” means a property or parcel of land that is directly adjacent to or abuts onto the public road allowance where Enersource Hydro Mississauga has distribution facility with appropriate voltage and adequate capacity.

Under the terms of the Distribution System Code (Section 28 of the Electrical Act, 1998), Enersource Hydro Mississauga has an obligation to connect a building or a facility that “lies along” its distribution line, provided:

- a) The building can be connected to Enersource Hydro Mississauga’s distribution system without an Expansion or Enhancement;
- b) The service installation meets the conditions listed in the Conditions of Service of Enersource Hydro Mississauga (i.e. the Distributor that owns and operates the distribution lines).

The location and service entrance equipment will be subject to the approval of Enersource Hydro Mississauga and the Electrical Safety Authority.

Sections 2.3 and 3 outline the conditions under which Enersource Hydro Mississauga will provide service to Customers that “lie along” an existing distribution line. Enersource Hydro Mississauga provides service to Customers’ meeting these conditions. Section 2.1.3 outlines conditions for connection refusal.

#### **2.1.1.1 Connection Charges**

Enersource Hydro Mississauga will recover costs associated with the installation of “Connection Assets” by Customer Class, (except for residential customers) via variable connection charge as applicable.

### **2.1.2 Expansions**

*Under the terms of the DSC, a distributor has the Obligation to make an offer to connect any building that is in the distributor’s service territory that cannot be connected without an expansion or enhancement, or “lies along” its distribution system, but may be denied connection for the reasons described in subsection 2.1.3 of the distributor’s Conditions of Service.*

*The offer to connect must be fair and reasonable and be based on the distributor’s design standard. The offer to connect also must be made within a reasonable time from the request for connection.*

*In this section, the Distributor should outline, in detail, the process followed to determine any required capital contributions. This section also should describe any fixed connection fees as well as variable connection fees, by customer class.*

Under the terms and conditions of the Distribution System Code, Enersource Hydro Mississauga is required to make an offer to connect.

Enersource Hydro Mississauga upon receiving detail plans and specifications from the Customer will perform system planning studies to see if system expansion of the distribution system is required. If the system expansion is not required, Enersource Hydro Mississauga will recover costs associated with

the installation of “Connection Assets” by customer class, via variable connection charges as applicable.

The detail plans must show property lines, roadways, curbs, sidewalks, deep services, preferred locations of transformations and/or service entrances. The specifications must indicate estimate kW peak by year for five years, project start date and desired in-service date.

If system expansion is required, Enersource Hydro Mississauga will undertake preliminary planning and design, engineering specification and economic evaluation (NPV).

Enersource Hydro Mississauga’s methodology and assumptions for economic evaluation are outlined in Appendix C. Expansion of the distribution system to connect new customers requires a capital investment. The revenue generated by new loads may or may not off-set the capital investment and on-going expenses of the expansion.

If the NPV of the economic evaluation is positive: customer will not be required to make “capital contribution”. However, connection charges will apply by customer class.

If negative: Enersource Hydro Mississauga will make an “offer to connect” to the customer. Enersource Hydro Mississauga’s “Connections and Expansion Process” is outlined in Appendix A.

#### **2.1.2.1 Offer to Connect**

If an expansion is needed in order for Enersource Hydro Mississauga to connect the customer the initial offer to connect shall include:

- (a) a statement as to whether the offer is a firm offer or is an estimate of the costs that would be revised in the future to reflect actual costs incurred;
- (b) a reference to the Enersource Hydro Mississauga’s Conditions of Service and information on how the customer requesting the connection may obtain a copy of them;
- (c) a statement as to whether a capital contribution will be required from the customer;
- (d) a statement as to whether an expansion deposit will be required from the customer; if one is required, the amount the customer will have to provide will be specified;
- (e) a statement as to whether the connection charges referred to in sections 3.1.5 and 3.1.6 of the Distribution System Codes, will be charged separately from the capital contribution referred to in Section 2.1.2.1(c), and a description of, and if known the amount for, those connection charges.

#### **2.1.2.2 Enersource Hydro Mississauga’s Obligations Under “Offer To Connect”**

All of the above will be provided to the customer without charge. If the NPV of the economic evaluation is negative and the customer pays capital contribution, Enersource Hydro Mississauga will include in the Offer to Connect.

- (a) The amount of the capital contribution that the customer will have to pay for the expansion.

- (b) The calculation used to determine the amount of the capital contribution to be paid by the customer including all of the assumptions and inputs used to produce the economic evaluation as described in Appendix B.
- (c) In the Offer to Connect Enersource Hydro Mississauga will inform the customer that he/she has a choice to obtain alternate bids from pre-qualified contractors.
- (d) A statement as to whether the offer includes work for which the customer may obtain an alternative bid and, if so, the process by which the customer may obtain the alternative bid.
- (e) A description of, and costs for, the contestable work and the uncontestable work associated with the expansion broken down into the following categories:
  - (i) labor (including design, engineering and construction);
  - (ii) materials;
  - (iii) equipment; and
  - (iv) overhead (including administration)
- (e) An amount for any additional costs that will be incurred as a result of the alternative bid option being chosen (including, but not limited to, inspection costs).
- (f) If the offer is for a residential customer, a description of, and the amount for, the cost of the basic connection referred to in Section 3.1.4 of the Distribution System Code that has been factored into the economic evaluation.
- (g) If the offer is to a non-residential customer, a description of, and the amount for, the connection charges referred to in section 3.1.5 of the Distribution System Code that have been factored into the economic evaluation.
- (h) The amount Enersource Hydro Mississauga may offer to charge a customer other than a generator or distributor to construct the expansion to Enersource Hydro Mississauga's distribution system shall not exceed the customer's share of the difference between the present value of the project capital costs and ongoing maintenance costs for the equipment and the present value of the projected revenue.
- (i) Enersource Hydro Mississauga's offer to connect is an estimate of the costs to construct the expansion and is not a firm offer, the final amount charged to the Customer will be the actual costs incurred. Enersource Hydro Mississauga will calculate the first estimate and the final payment at no extra expense to the Customer.
- (j) Whether the offer is firm or is an estimate, the NPV revisions in the final payment will reflect the actual costs incurred.

All of the above will be provided to the customer.

### **2.1.2.3 Settlement Of "Capital Contribution" For "Offer To Connect"**

The customer must supply a certified cheque, a minimum 30 days prior to construction to cover the cost of engineering design, materials, labor, equipment and administrative activities per phase of the

development. This cost is equal to the short fall identified between the present value of the projected costs and revenues.

#### **2.1.2.4 Alternate Bids**

As mentioned earlier in the “Offer to Connect” Section 2.1.2.2, Enersource Hydro Mississauga shall inform the customer that he has a choice to obtain alternate bids for expansion work, if the NPV of economic evaluation is negative.

(a) The conditions for “Alternate Bids” are:

- Project requires “Capital Contribution” from the Customer;
- Construction work does not involve work with existing circuits.

(b) Enersource Hydro Mississauga shall require the Customer to:

- complete all the contestable work, select and hire the contractor, pay the contractor’s costs for the contestable work, and assume full responsibility for the construction of that aspect of the expansion;
- be responsible for administering the contract (including the acquisition of all required permissions, permits and easements) or have the customer pay Enersource Hydro Mississauga to do this activity;
- ensure that the contestable work is done in accordance with Enersource Hydro Mississauga’s design and technical standards and specifications; and
- inspect and approve, at cost, all aspects of the constructed facilities as part of a system commissioning activity, prior to connecting the constructed facilities to the existing distribution system.
- Enersource Hydro Mississauga reserves the right to inspect and approve all aspects of the constructed facilities as a part of a system commissioning, prior to connecting the constructed facilities to the existing distribution system;

NOTE: “Uncontestable Work” means the preliminary planning, design and engineering specifications of the work required for the distribution system expansion and connection (specifications shall be made in accordance with design and technical standards and specifications); and also work involving existing distribution assets.

#### **2.1.2.5 Settlement of Rebates for Connection of Un-forecasted Customers During Connection Horizon**

Un-forecasted customers that connect to the distribution system during the customer connection horizon will benefit from the earlier expansion and should contribute their share. In such an event, the initial contributors shall be entitled to a rebate from Enersource Hydro Mississauga. Enersource Hydro Mississauga shall collect from the un-forecasted customers an amount equal to the rebate the

distributor shall pay to the initial contributors. The amount of the rebate shall be determined as follows:

- (a) For a period of up to the customer connection horizon, the initial contributor shall be entitled to a rebate without interest, based on apportioned benefit for the remaining period; and
- (b) The apportioned benefit shall be determined by considering such factors as the relative load level and the relative line length (in proportion to the line length being shared by both parties).

#### **2.1.2.6 Phase Developments**

For a development constructed in phases over several years, the estimated cost of servicing the first phase may reflect costs associated with the installation of equipment to accommodate the future phases. These costs may be excluded from the servicing costs of the first phase and be proportion to future phases. Customers must clearly identify the timing and scope of future phases with their original submittal. In the "Offer to Connect", Enersource Hydro Mississauga will identify any costs associated with accommodating future phases and specify if these costs are included in the servicing cost estimate, or if they are excluded but will be charged when the next phase proceeds.

#### **2.1.2.7 Expansion Deposit**

For expansions that require a capital contribution, Enersource Hydro Mississauga will require the customer to provide an expansion deposit. The amount shall be the lesser of 100% of the present value of the forecasted revenue and 100% of NPV of Capital Contribution required from the customer. Both amounts are determined by the economic evaluation.

For expansions that do not require a Capital contribution, the customer will provide an expansion deposit for up to 25% of the present value of the projected revenue.

- The expansion deposit collected shall cover both forecast and asset risk.
- The expansion deposit shall be in the form of cash, letter of credit from a bank as defined in the Bank Act, or Surety Bond. The customer may choose the form of the expansion deposit.
- If the expansion deposit is in the form of cash, Enersource Hydro Mississauga will return the expansion deposit as per Section 3.2.2.6 of the Distribution System Code.
- Once the facilities are energized, Enersource Hydro Mississauga shall annually return the percentage of the expansion deposit in proportion to the actual connections (for residential developments) or actual demand (for commercial and industrial developments) that materialized in that year. This annual calculation shall only be done for the duration of the customer connection horizon of five years. If at the end of the customer connection horizon the forecasted connections (for residential developments) or forecasted demand (for commercial and industrial developments) have not materialized, Enersource Hydro Mississauga shall retain the remaining portion of the expansion deposit.
- If the customer chooses an alternate bid, Enersource Hydro Mississauga will collect an expansion deposit in the amount of 10% of present value of the projected revenue, and:



- (a) retain and use the expansion deposit to cover its costs if it must complete, repair, or bring up to standard the facilities. Complete, repair, or bring up to standard includes Enersource Hydro Mississauga's costs to ensure that the expansion is completed to the proper design and technical standards and specifications, and that the facilities operate properly when energized;
- (b) retain up to ten percent of the expansion deposit for a warranty period of up to two years. This portion of the expansion deposit may be applied to any work required to repair the expansion facilities within the two year period. The two year period begins:
- (i) when the last forecasted connection in the expansion project materializes (for residential developments) or the last forecasted demand materializes (for commercial and industrial developments); or
  - (ii) at the end of the customer connection horizon of five years;
- which ever occurs first. Enersource Hydro Mississauga shall return any remaining portion of this part of the expansion deposit at the end of the two year warranty period.

#### 2.1.2.8 Securities Against Forecasted Revenues

The Customer in close consultations with Enersource Hydro Mississauga shall develop an estimated load connection forecast, which will outline the energization timing and energy consumption for all lots/blocks within the proposed development. This forecast forms an integral part of the Distribution System Code's economic evaluation model and associated capital contribution calculations and must be reviewed annually. In the event agreement cannot be reached on the load forecast provided by the customer, Enersource Hydro Mississauga may require that securities be posted until such time that energy consumption estimated by the customer becomes firm.

#### 2.1.2.9 Customer Classes

The capital contribution collected from the Customer is to be consistent with the respective customer class as outlined below:

1. Residential
  - a) Single Service
    - Overhead or Underground: Capital contribution not collected from Customers,
  - b) New residential subdivisions (2 or more single services): Capital contribution process will apply.
2. General Service
  - a) Capital contribution process will be applied to all general service customers,
  - b) Industrial/commercial subdivisions: Capital contribution process will be applied.

#### 2.1.3 Connection Denial

*The DSC sets out the conditions for a Distributor to deny connections. The DSC lists reasons for which a Building that "lies along" a distribution line may be refused connection to that line. This section should describe reasons why a distributor may not be obligated to connect the customer and provide additional details, where relevant, about specific conditions that may result in a refused*



*connection in accordance with this Code. For example, the criteria for establishing an unsafe connection or a connection, which adversely affects the system, should be further documented within the Conditions of Service.*

Enersource Hydro Mississauga has the right to refuse to connect, or continue to connect, a Customer for any of the following reasons:

1. Contravention of the laws of Canada or the Province of Ontario;
2. Violation of conditions in Enersource Hydro Mississauga's Distributors Licence;
3. Use of a distribution system line for a purpose that it does not serve and that Enersource Hydro Mississauga do not intend it to serve;
4. Adverse affect on the reliability or safety of the distribution system;
5. Imposition of an unsafe work situation beyond normal risks inherent in the operation of the distribution system;
6. A material decrease in the efficiency of Enersource Hydro Mississauga's distribution system;
7. A materially adverse effect on the quality of distribution services received by an existing connection;
8. Discriminatory access to distribution services;
9. If the person or business requesting the connection, or an associated business owes Enersource Hydro Mississauga money for distribution services;
10. If an electrical connection to Enersource Hydro Mississauga's distribution system does not meet Enersource Hydro Mississauga's requirements and these conditions of service;
11. If Enersource Hydro Mississauga refuses to connect a building or facility that lies along one of its distribution lines, Enersource Hydro Mississauga will inform the Customer requesting the connection of the reasons for not connecting, and where Enersource Hydro Mississauga is able to provide a remedy, will make an offer to connect. If Enersource Hydro Mississauga is unable to provide a remedy to resolve the issue, it is the responsibility of the Customer to do so before connection can be made.

#### **2.1.4 Inspection Before Connection**

*In this section, the distributor should state the requirement for inspection prior to the commencement of electricity supply by the Electrical Safety Authority.*

All Customers electrical installations shall be inspected and approved by the Electrical Safety Authority and must meet Enersource Hydro Mississauga's requirements. Enersource Hydro Mississauga requires notification from the Electrical Safety Authority of this approval prior to the energization of a Customer's supply of electricity. The Electrical Safety Authority re-inspection and approval for services that have been disconnected for a period of six months or longer must also be available prior to reconnection.

In the event that the Customer's existing service mast is damaged, the Customer is responsible for re-installing and re-anchoring the service mast and the installation must be inspected and approved by the Electrical Safety Authority before Enersource Hydro Mississauga can re-install the service conductors.

The Electrical Safety Authority must approve all temporary services typically used for construction purposes for a period of twelve months and must re-inspect after twelve months.

Enersource Hydro Mississauga reserves the right to inspect and witness the construction of any equipment or facilities that is or will be connected to Enersource Hydro Mississauga's distribution system. Enersource Hydro Mississauga will notify the Customer in advance if any witness testing or inspections that will be required during construction.

### **2.1.5 Relocation of Plant**

*This section should specify the distributor's policy with respect to requests for relocation of plant and the conditions under which the requestor is or may be required to pay for the relocation of plant should be specified. Sharing arrangements also should be noted.*

When requested to relocate distribution plant, Enersource Hydro Mississauga shall exercise its rights and discharge its obligations in accordance with existing legislation such as the Public Service Works on Highways Act, regulations, formal agreements, easements and common law. In the absence of existing arrangements, Enersource Hydro Mississauga is not obligated to relocate the plant. However, Enersource Hydro Mississauga shall resolve the issue in a fair and reasonable manner. Including a response to the requesting party and explaining the feasibility or infeasibility of the relocation and providing a fair and reasonable charge for relocation based on cost recovery principles.

### **2.1.6 Easements and Access to Equipment**

*In this section, any requirements for easements should be described.*

To maintain the reliability, integrity and efficiency of the distribution system, Enersource Hydro Mississauga has the right to have supply facilities on private property and to have easements registered against title to the property. Easements are required where facilities serve a property or properties other than the property where the facilities are located and/or where Enersource Hydro Mississauga deems it necessary.

The Customer will prepare, at its own cost any required reference plan to the satisfaction of Enersource Hydro Mississauga. The Customer's solicitor prepares and submits an electronic copy of easement documents to Enersource Hydro Mississauga along with three copies of a deposited reference plan. Enersource Hydro Mississauga reviews and approves the documents and forward them to the City Solicitor's Office for registration, in turn, Enersource Hydro Mississauga receives copies for their records.

### **2.1.7 Contracts**

*This section should outline the types of contracts that are available for each type of customer, including standard, implied and special contracts. Connection agreements and operating agreements should be listed and referenced as appendices to the Conditions of Services, if applicable.*

Generators and Customers with Customer-owned substations will be required to sign a Connection Agreement prior to commencement of service. Enersource Hydro Mississauga may require, at its discretion, other Customers with unusual conditions to sign a Connection Agreement. In addition to contracting for the conveyance of electricity and the use of Enersource Hydro Mississauga's

distribution system, Connection Agreements will typically define boundaries and responsibilities for the ownership, operation and maintenance of equipment at the Customer's location.

In all cases, notwithstanding the absence of a formal contract, or Connection Agreement, the consumption of electrical energy from Enersource Hydro Mississauga by any Person or Persons implies and constitutes the acceptance of the terms and conditions of all regulations and rates as established by Enersource Hydro Mississauga. Such acceptance and use of energy shall be deemed the acceptance of a binding contract with Enersource Hydro Mississauga and the person so accepting shall be liable for payment for all services and energy received and the contract shall be binding upon the Person's heirs, administrators, executors, successors or assigns.

#### **2.1.7.1 Contract for New or Modified Service**

Enersource Hydro Mississauga shall only connect a Building for a new or modified supply of electricity upon receipt of a completed and signed contract for service in a form acceptable to Enersource Hydro Mississauga. There will also be the requirement of payment to Enersource Hydro Mississauga of any applicable connection charge, and the inspection and approval by the Electrical Safety Authority of the electrical equipment for the new service.

#### **2.1.7.2 Implied Contracts**

In all cases, notwithstanding the absence of a written contract, Enersource Hydro Mississauga has an implied contract with any Customer that is connected to Enersource Hydro Mississauga's distribution system and receives distribution services from Enersource Hydro Mississauga. The terms of the implied contract are embedded in Enersource Hydro Mississauga's Conditions of Service, the Rate Handbook, Enersource Hydro Mississauga's rate schedules, Enersource Hydro Mississauga's licence and the Distribution System Code, as amended from time to time.

Any person or persons who consume electricity from Enersource Hydro Mississauga shall be liable for payment for such electricity. Any implied contract for the supply of electricity by Enersource Hydro Mississauga shall be binding upon the heirs, administrators, executors, successors or assignees of the Person or Persons who consumed electricity supplied by Enersource Hydro Mississauga.

#### **2.1.7.3 Special Contracts**

Special contracts that are customized in accordance with the service requested by the Customer normally include, but are not necessarily limited to, the following examples:

1. Construction sites;
2. Mobile facilities;
3. Non-permanent structures;
4. Special occasions, etc.;
5. Generation.

**2.1.7.4 Payment by Building Owner**

The Owner of a building is responsible for paying for the supply of electricity by Enersource Hydro Mississauga to the owner's building except for any supply of electricity to the Building by Enersource Hydro Mississauga in accordance with a written request for electricity by an occupant(s) of the Building. The owner of the building shall be considered the "responsible party", in the event of unauthorized energy use.

A Building owner wishing to terminate the supply of electricity to its Building must notify Enersource Hydro Mississauga. Until Enersource Hydro Mississauga receives such notice from the Building owner, the Building owner or the occupant(s), as applicable, shall be responsible for payment to Enersource Hydro Mississauga for the supply of electricity to such Building. Enersource Hydro may refuse to terminate the supply of electricity to an owner's Building when there are occupant(s) in the Building (i.e. during certain periods of the winter).

**2.1.7.5 Opening & Closing of Accounts**

A Customer who wishes to open or close an account for the supply of electricity by Enersource Hydro Mississauga shall contact Enersource Hydro Mississauga's Call Centre by phone, by written request (including requests submitted by facsimile), through Enersource Hydro Mississauga's web site, or other means acceptable to Enersource Hydro Mississauga.

Until Enersource Hydro Mississauga receives such written notice from the Customer or its authorized retailer, the Customer shall be responsible for payment to Enersource Hydro Mississauga for the supply of electricity to the Customer.

A request to transfer a Customer from Standard Service Supply (SSS) to a competitive retailer or from one retailer to another must be submitted by the retailer who will serve the Customer if the transaction is completed (the new retailer).

**2.1.8 Pole Attachments**

Enersource Hydro Mississauga will cooperate with community groups to allow the use of poles for community purposes. In all cases, the design of the attachment must meet strict requirements to minimize wind loading and damage to the pole and all such installations must have full approval by the City of Mississauga who controls the use of the right of way. All costs and liability for the attachments are the responsibility of the community group.

For all other pole attachments, Enersource Hydro Mississauga's written consent is required. Each pole attachment is subject to a yearly joint use charge. Enersource Hydro Mississauga, under special circumstances, will grant permission for installation of Customer-owned service cables or equipment on hydro poles. All pole attachments are subject to "Agreement for Licensed Occupancy of Enersource Hydro Mississauga Utility Distribution Poles" and per CSA Standard C22.3 governing joint use attachment on utility poles.

Unauthorized attachments include privately owned electrical service equipment and lighting, private signs, banners and notices, and privately owned brackets and planters. Enersource Hydro Mississauga will remove, at the owner's expense, any such attachments not approved.

### 2.1.9 Enhancements

Enersource Hydro Mississauga shall continue to plan and build the distribution system for reasonable load growth, and may perform enhancements to its distribution system for purposes of improving system operating characteristics or for relieving system capacity constraints. In determining system enhancements to be performed on its distribution system, Enersource Hydro Mississauga shall consider the following:

- (a) good utility practices;
- (b) improvement of the system to meet the required performance-based indices;
- (c) current levels of customer service and reliability and potential improvement from the enhancement; and
- (d) costs to customers associated with distribution reliability and potential improvement from the enhancement.

## 2.2 DISCONNECTION

*In this section, the distributor should specify under what circumstances it has the right or obligation to disconnect a customer. This section also should outline the business processes used by the distributor, including notification and timing provisions.*

Enersource Hydro Mississauga reserves the right to disconnect the supply of electrical energy for causes not limited to:

1. Contravention of the laws of Canada or the Province of Ontario;
2. Adverse affect on the reliability and safety of the distribution system;
3. Imposition of an unsafe worker situation beyond normal risks inherent in the operation of the distribution system;
4. A material decrease in the efficiency of the Distributor's distribution system;
5. A materially adverse effect on the quality of distribution services received by an existing connection;
6. Discriminatory access to distribution services;
7. Inability of Enersource Hydro Mississauga to perform planned inspections and maintenance;
8. Failure of the Customer to comply with a directive of Enersource Hydro Mississauga that Enersource Hydro Mississauga makes for purposes meeting its licence obligations;
9. Overdue amounts payable to Enersource Hydro Mississauga for the distribution or retail of electricity and/or security deposits;
10. Electrical disturbance propagation caused by Customer equipment that is not corrected in a timely fashion;
11. Any other conditions identified in these Conditions of Service;
12. Enersource Hydro Mississauga may disconnect the supply of electricity to a Customer without notice in accordance with a court order, or for emergency, safety, or system reliability reasons. The remainder of this section describes in more detail various disconnection circumstances.

## **2.2.1 Collection of Arrears**

### **2.2.1.1 Disconnection for Non-Payment**

Customer allowance is a minimum of 16 days from the billing date to the Due Date.

When the bill remains unpaid on the Due Date, collection procedures follow until the “Cut-off Date”, which is 16 days after the Due Date.

The following procedure will be adhered to when a Customer has reached the Cut-off Date:

1. Enersource Hydro Mississauga will hand deliver a Disconnect Notice to the Customer’s premises and attempt to collect the amount owing or a portion thereof. If collection is not possible at that time or if the Customer is absent, the notice will be left in a secure place;
2. The Manager of Customer Service will determine the granting of any consideration to a Residential Customer expressing extenuating circumstances, subject to a commitment for future payment prior to disconnection. If non-payment after seven (7) calendar days of the Disconnect Notice delivery, Enersource Hydro Mississauga will return to disconnect the service;
3. During the Winter Season, November 1 to April 30, all disconnected residential dwellings must be reconnected prior to the end of the Servicemen’s evening shift when the temperature forecast is to be at or below freezing. The Collection Supervisor is responsible and must ensure that in such cases, reconnections have been made;
4. In lieu of total disconnection during the Winter Season, a partial disconnecting device may be installed for unlimited periods on residential dwellings;
5. At the discretion of the Collection Supervisor, minimum dollar limits may be set on very small Customer accounts, below which no issuance of Reminder Notices and Disconnect Notices is necessary;
6. For bulk-metered General Service Accounts in which there are any residential premises, the disconnection procedure is to be the same as that for Residential Accounts, and each separately occupied dwelling unit’s occupant shall receive a Disconnect Notice. Prior to the delivery of the Disconnect Notices, the Vice-President of Customer Service, and the gas, water and telecommunication utilities are advised;
7. For very large General Service Accounts scheduled for disconnection, there will be close liaison with the gas and water utilities for a coordinated collection effort.

### **2.2.1.2 Late Payment Charge**

A late payment charge will be applied to the balance outstanding on the due date. The due date is sixteen calendar days from the date of billing. Late payment charges are at 1.5% per month or 0.0493% per day on all overdue balances.

Where payment is by mail, the postmark date will be deemed the payment date. Where payment is at an authorized branch of a chartered bank, the date received by the bank will be deemed the payment date.

There are four (4) days allowed before late payment charges are applicable. If payment is received after the grace period of four (4) days, interest will be calculated from the day after the due date. Additional connection and reconnection charges as authorized by Ontario Energy Board will apply for each visit to the Customer’s premises associated with continued non-payment of the amounts due.



Late payment charges will not apply where:

1. For one billing per year a Customer makes the request, indicating a good reason for late payment and the Customer has paid all other billings within the last year by the Due Date;
2. For large late payment charges a written request may be required, at the discretion of the Manager, Customer Service;
3. Bills not received by the Customer due to a postal strike.

## **2.2.2 Disconnection On Order Of Inspection Department**

The Electrical Safety Authority has the power under the Electricity Act, 1998 to order any utility to disconnect a service. The regulations pertaining to service discontinuance are contained in the Ontario Electrical Safety Code, 22nd Edition, 1998, Page 32, 2-018, Defects.

## **2.2.3 Disconnection and Reconnection of Private Substations for Maintenance**

Customers normally perform substation maintenance annually on the transformers and switchgear contained within the confines of their private substation. When this occurs, there are a number of procedures to follow before this maintenance can be complete.

### **2.2.3.1 Procedure**

The steps to be followed by owners or electrical contractors are outlined below:

The owner or electrical contractor will contact Enersource Hydro Mississauga representative at (905) 566-2710 to arrange a date and time for the disconnection and reconnection of the high voltage connections for the substation. Enersource Hydro Mississauga normally requires at least five (5) working days advanced notice to schedule the disconnection and reconnection of the substation.

The owner or electrical contractor will supply Enersource Hydro Mississauga with a purchase order number and a billing address.

Enersource Hydro Mississauga will not reconnect the supply power until connection authorization has been received from the Electrical Safety Authority. It is the responsibility of the owner or electrical contractor to contact the Electrical Safety Authority and complete an "Application for Inspection". The Electrical Safety Authority establishes the fee schedule for Electrical Inspections. Note that revisions to the fee schedule occur annually.

In the event that Enersource Hydro Mississauga is unable to perform scheduled work due to inclement weather, distribution system emergencies or similar, Enersource Hydro Mississauga's Control Room Operator will contact the owner or electrical contractor to reschedule the work.

Enersource Hydro Mississauga performs all substation disconnections and reconnections for maintenance under a time and material basis. Any work carried out during normal working hours (7:30 to 16:00) Monday to Friday except holidays, regular time will apply. Premium time applies for any hours worked outside the normal working hours stated.

The owner or electrical contractor will be billed applicable premium rate of two – 2 hours for a premium maintenance job cancelled within 24 hours of the start time.

## 2.2.4 Disconnection Notice

Prior to disconnecting a property for non-payment, Enersource Hydro Mississauga shall provide to any person that receives notice of the disconnection the following:

- a) The Fire Safety Notice of the Office of the Fire Marshall;
- b) Any other public safety notices or information bulletins issued by public safety authorities and provided to Enersource Hydro Mississauga, which provide information to consumers respecting dangers associated with the disconnection of electricity service.

Enersource Hydro Mississauga shall include a copy of the notices or bulletins referred to above along with any notice of disconnection that is left at the property at the time of actual disconnection for non-payment.

## 2.2.5 Disconnection & Reconnection Of Residential Meters And General Service Customer

The minimum time intervals required for Enersource Hydro Mississauga to connect new or upgraded services where a suitable supply circuit exists are as follows:

Residential	:	three (3) working days
General Service	:	five (5) working days

The measured time intervals are from the latest receipt of:

- Written approval by the Electrical Safety Authority;
- A Contract signed by the Customer for monthly billed General Service Customers; and
- A Customer deposit, where required.

Prior to energization, a field verification inspection by Enersource Hydro Mississauga may be necessary. If deficiencies are noted, Enersource Hydro Mississauga will perform a second inspection at its expense to ensure all corrective measures are complete. All subsequent costs, incurred by Enersource Hydro Mississauga due to continuing deficiencies, will be charged to the Customer.

## 2.2.6 Electrical Disturbances

Customers must ensure that their equipment does not cause any disturbances such as harmonics and spikes that may interfere with the operation of adjacent Customer Equipment. Examples of equipment that may cause disturbances include large motors, welders and variable speed drives.

Enersource Hydro Mississauga also reserves the right and has an obligation to disconnect a Customer's private line or equipment if it has caused or is likely to cause a disturbance or outage on Enersource Hydro Mississauga system. It is the Customer's responsibility to maintain their privately owned equipment to industry-accepted standards to ensure that outages affecting other Enersource Hydro Mississauga Customers do not occur.



If an undesirable system disturbance is being caused by the Customer's equipment, the Customer will be required to cease operation of the equipment until satisfactory remedial action has been taken. If the Customer does not take such action within a reasonable time, then Enersource Hydro Mississauga may disconnect the supply of power to the Customer.

When the supply of power is disconnected because of electrical disturbances, satisfactory inspection by the ESA is required before reconnection. It shall be the responsibility of the Customer requiring the reconnection to arrange for all inspections.

### **2.2.7 Unauthorized Energy Use**

If Enersource Hydro Mississauga should find that unauthorized energy use is taking place at a Customer's location, then Enersource Hydro Mississauga will disconnect the supply of power to the Customer.

Enersource Hydro Mississauga takes action to mitigate unauthorized energy use upon identification of possible unauthorized energy use. Enersource Hydro Mississauga may notify, Measurement Canada, Electrical Safety Authority, police officials, retailers that Service Customers affected by the unauthorized energy use or other entities.

Enersource Hydro Mississauga will monitor losses and un-accounted energy use on an annual basis.

When the supply of power is disconnected because of unauthorized energy use, satisfactory inspection from the Electrical Safety Authority (ESA) is required before reconnection. It shall be the responsibility of the Customer requiring the reconnection to arrange for the inspection. Owner of the property at which the unauthorized energy occurred shall pay all costs incurred by Enersource Hydro Mississauga arising from unauthorized energy use, including inspection, repairs and un-metered billing charges.

### **2.2.8 Hazardous Conditions**

If Enersource Hydro Mississauga discovers hazardous wiring, or conditions that would put the life of the general public or Enersource Hydro Mississauga employees in jeopardy, the Customer will be notified of the condition and will be required to remedy the hazard. If the Customer does not take such action within a reasonable time, then Enersource Hydro Mississauga may disconnect the supply of power to the Customer.

When the supply of power is disconnected because of an electrical hazard, Electrical Safety Authority inspection is required before reconnection. The Customer requiring the reconnection shall arrange for the inspection and is responsible for all inspection fees.

### **2.2.9 Reconnection After Six Months**

Where Enersource Hydro Mississauga has disconnected a service for non-payment for a period of six months or longer the Electrical Safety Authority shall re-inspect the premises. The party requiring the reconnection is responsible for the inspection and all associated fees.

### **2.2.10 Disconnection of Overlapped Services**

Enersource Hydro Mississauga reserves the right to disconnect a service in situations where 2 services have been permitted to be overlapped should the overlap period exceed 15 days.

### **2.2.11 Demolition Requirements**

Anyone requesting a building demolition must first obtain a City of Mississauga Demolition Permit Application. The City of Mississauga will request Enersource Hydro Mississauga to confirm the disconnection and removal of all hydro services and equipment. To avoid delays, the applicant must provide Enersource Hydro Mississauga well in advance the exact date of demolition.

### **2.2.12 House Moving**

In the event that the height of a loaded house or building is over 4.42 meters (14.5 feet), an application to Enersource Hydro Mississauga is required before the building travels onto City streets.

The mover is required to complete an application at the City Clerk's Office, and provide this application to Enersource Hydro Mississauga. Enersource Hydro Mississauga will review the application and provide the mover with an estimated cost based on the loaded height of the building, the distance and the route taken. The mover must guarantee the height of the building at the time of making the deposit.

Enersource Hydro Mississauga will disconnect or raise overhead wires during the move and the mover will be required to pay the actual costs incurred.

## **2.3 CONVEYANCE OF ELECTRICITY**

### **2.3.1 Limitations on the Guarantee of Supply**

*In this section, the distributor should specify its limitations on the guaranty of supply. The distributor also should reference the provisions for "Powers of Entry" described in section 40 of the Electricity Act, 1998.*

Enersource Hydro Mississauga will endeavor to use reasonable diligence in providing a regular and uninterrupted supply but does not guarantee a constant supply or the maintenance of unvaried frequency or voltage and will not be liable for damages to the Customer by reason of any failure in respect thereof.

Customers requiring a higher degree of security than that of normal supply are responsible to provide their own back-up or standby facilities. Customers may require special protective equipment at their premises to minimize the affect of momentary power interruptions or voltage sags.

Enersource Hydro Mississauga will endeavour to maintain voltage variation limits under normal operating conditions at the Customers' delivery points as specified by the latest edition of the Canadian Standards Association, C235.

Customers requiring a three-phase supply should install protective apparatus to avoid damage to their equipment, which may be caused by the interruption of one phase, or non-simultaneous switching of phases of the power supply by Enersource Hydro Mississauga.

Although it is Enersource Hydro Mississauga's policy to minimize inconvenience to Customers, it is necessary occasionally to interrupt a Customer's supply to maintain or improve Enersource Hydro Mississauga's system or to provide new or upgraded services to other Customers.

When practical, Enersource Hydro Mississauga will endeavour to notify Customers prior to interrupting the supply of power to any individual service. However, if an unsafe or hazardous condition is found to exist or if the use of electricity by a Customer's apparatus, appliances or other equipment is found to be unsafe or damaging to Enersource Hydro Mississauga or the public, or if service must be disconnected to assist in the safe or efficient restoration of power, or maintenance of Enersource Hydro Mississauga's system, or in response to a shortage in supply, service may be disconnected without notice.

Enersource Hydro Mississauga shall have access rights to a property in accordance with Section 40 of the Electricity Act, 1998 and any successor Acts thereto.

## 2.3.2 Power Quality

*This section should outline the guidelines and policies to which the distributor will endeavor to adhere to in conveying electricity supply, such as service voltage guidelines and outage notification processes. This section should also indicate the processes the distributor uses for handling voltage disturbances and power quality testing and remedial action.*

*This section should also include conditions under which supply of electricity to customers may be interrupted. Additionally, conditions under which the supply may become unreliable or intermittent should be described.*

### 2.3.2.1 Power Quality Testing

In response to a Customer's power quality concern, where the utilization of electric power adversely affects the performance of electrical equipment, Enersource Hydro Mississauga will perform investigative analysis to attempt to identify the underlying cause. Depending on the circumstances, this may include review of relevant power interruption data, trend analysis, and/or use of diagnostic measurement tools.

Upon determination of the cause resulting in the power quality concern, where it is deemed a system delivery issue and where industry standards are not met, Enersource Hydro Mississauga will recommend and/or take appropriate mitigation measures. Enersource Hydro Mississauga will take appropriate actions to control power disturbances found to be detrimental to the Customers. If Enersource Hydro Mississauga is unable to correct the problem without adversely affecting other Enersource Hydro Mississauga's Customers will use appropriate industry standards (such as IEC or IEEE standards) and good utility practice as a guideline. If the problem lies on the Customer's side of the system, Enersource Hydro Mississauga may seek reimbursement from the Customer for the costs incurred in its investigation.

### 2.3.2.2 Obligation to Help in the Investigation

If Enersource Hydro Mississauga determines the Customer's equipment may be the source causing unacceptable harmonics, voltage flicker or voltage level on the Enersource Hydro Mississauga distribution system, the Customer is obligated to help Enersource Hydro Mississauga by providing required equipment information, relevant data and necessary access for monitoring the equipment.

### 2.3.2.3 Timely Correction of Deficiencies

If an undesirable system disturbance is being caused by Customer's equipment, the Customer will be required to cease operation of the equipment until the Customer at the Customer's cost has taken satisfactory remedial action. If the Customer does not take such action within a reasonable time, Enersource may disconnect the supply of power to the Customer.

### 2.3.2.4 Notification for Interruptions

Although it is Enersource Hydro Mississauga policy to minimize inconvenience to Customers, it is necessary to occasionally interrupt a Customer's supply to allow work on the electrical system. Enersource Hydro Mississauga will endeavour to provide the Customer with reasonable notice of

planned power interruptions. Notice may not be given where work is of an emergency nature involving the possibility of injury to persons or damage to property or equipment.

However, during an emergency, Enersource Hydro Mississauga may interrupt supply to a Customers in response to a shortage of supply or to effect repairs on Enersource Hydro Mississauga distribution system or while repairs are being made to Customers-owned equipment. (See Appendix N for “Enersource Hydro Mississauga’s Policies on Planned Outages”.)

#### **2.3.2.5 Notification to Customers on Life Support**

Customers who require an uninterrupted source of power for life support equipment must provide their own equipment for these purposes. Customers with life support system are encouraged to inform Enersource Hydro Mississauga of their medical needs and their available backup power. These Customers are responsible for ensuring that the information they provide Enersource Hydro Mississauga is accurate and up-to-date.

Planned interruptions observe the same procedure as prescribed in section 2.3.2.4. For those unplanned power interruptions that extend beyond two hours and the time expected to restore power is longer than what was indicated by Customers (registered on life support) as their available backup power, Enersource Hydro Mississauga will endeavour to contact these Customers but will not be liable in any manner to the Customers for failure to do so.

#### **2.3.2.6 Emergency Interruptions for Safety**

Enersource Hydro Mississauga will endeavour to notify Customers prior to interrupting the supply to any service. However, if an unsafe or hazardous condition is found to exist, or if the use of electricity by apparatus, appliances, or other equipment is found to be unsafe or damaging to Enersource Hydro Mississauga or the public, service may be interrupted without notice.

#### **2.3.2.7 Emergency Service (Trouble Calls)**

When power is interrupted, the Customer should first ensure that failure is not due to blowing of fuses within the installation. If there is a partial power failure, the Customer should obtain the services of an electrical contractor to carry out necessary repairs. If, on examination, it appears that Enersource Hydro Mississauga’s main source of supply has failed, the Customer should report this condition at once to Enersource Hydro Mississauga Call Centre by calling (905) 273-9050.

Enersource Hydro Mississauga operates a Call Centre 24 hours a day to provide emergency service to Customers. Enersource Hydro Mississauga will initiate restoration efforts as rapidly as practicable.

#### **2.3.2.8 Outage Reporting**

Depending on the outage, duration and the number of Customers affected, Corporate Communications of Enersource Hydro Mississauga may issue a news release to advise the general public of the outage. In turn, news radio stations may call for information on 24-hour bases when they hear of an outage.

### 2.3.3 Electrical Disturbances

*This section should outline the guidelines to which the Distributor and the Customer will be expected to adhere regarding electrical disturbances.*

Enersource Hydro Mississauga shall not be held liable for the failure to maintain supply voltages within standard levels.

Voltage fluctuations and other disturbances can cause flickering of lights and other serious difficulties for Customers connected to Enersource Hydro Mississauga distribution system. Customers must ensure that their equipment does not cause disturbances such as harmonics and spikes that might interfere with the operation of adjacent Customer equipment. Equipment that may cause disturbances includes large motors, welders and variable speed drives, etc. In planning the installation of such equipment, the Customer must consult with Enersource Hydro Mississauga.

The proximity of high electrical currents that may be present in rooms with electrical equipment or primary and secondary cables can affect some types of electronic equipment, such as video display terminals. Enersource Hydro Mississauga will assist in attempting to resolve any such difficulties at the Customer's expense with electrical equipment or in proximity of primary and secondary cables.

Customers who may require an uninterrupted source of power supply or a supply completely free from fluctuation and disturbance must provide their own power conditioning equipment for these purposes.

Customers having non-linear load shall not be connected to Enersource Hydro Mississauga's distribution system unless power quality is maintained by implementing proper corrective measures such as installing filters, and/or grounding. Further, to ensure the distribution system is not adversely affected, installed power electronics equipment must comply with IEEE Standard 519-1992.

### 2.3.4 Standard Voltage Offerings

*This section should specify the voltages that the distributor may provide to each type of Customer, based on their supply requirements. This section should include both the primary and secondary voltages that are available. Additionally, any physical or geographic constraints on a particular voltage, or conditions under which voltages may not be provided should be detailed in this section.*

Enersource Hydro Mississauga distributes electrical power through 44kV, 27.6 kV, 13.8 kV and 4.16 kV primary distribution systems. All supply feeders arrangements are looped or radial with open points between interconnections where practical.

Enersource Hydro Mississauga's standard secondary supply voltages are as follows:

- 120/240 volt, single phase, 3 wire
- 120/208 volt, three phase, 4 wire
- 347/600 volt, three phase, 4 wire

Not all secondary voltages are available at all locations. For example, some areas only have single-phase power available and other areas such as industrial subdivisions may have a standardized 347/600 volt secondary bus. In all cases, Customers are required to consult with Enersource Hydro Mississauga to determine what secondary voltages are available.

Enersource Hydro Mississauga also has the following primary voltages in some but not all parts of its service territory:

- 2.4/4.16 kV, three phase, 4 wire
- 8.0/13.8 kV, three phase, 4 wire
- 16.0/27.6 kV, three phase, 4 wire
- 44 kV, three phase, 3 wire

Customers are required to consult with Enersource Hydro Mississauga to determine what voltages are available and to discuss their service requirements.

Customers requiring different voltages than those available in their area will be required to provide their own step down or step up transformation equipment.

In general, the Customer will have one service at one voltage. Under normal circumstances, there is only a single service through a single point of entry for each land parcel. If a Customer has more than one building on a single land parcel, it will be the Customer's responsibility to sub-feed the additional building(s) from the single point of supply. Exceptions may be made for commercial and industrial properties with multiple, separate buildings with different supply requirements. Customers must make application Enersource Hydro Mississauga to determine if more than one service to a property is possible.

### **2.3.5 Voltage Guidelines**

*This section should specify what voltages the distributor's customers can reasonably expect, with reference to CSA Standard CAN3-235 current edition.*

Enersource Hydro Mississauga maintains service voltage at the Customer's service entrance within the guidelines of C.S.A. Standard CAN3-C235-87 (or latest edition).

Improvements or corrective action will be on a planned and programmed basis where voltages lie outside the indicated limits for Normal Operating Conditions but within the indicated limits for Extreme Operating Conditions. Where voltages lie outside indicated limits for Extreme Operating Conditions, improvements or corrective action will be on an emergency basis. The urgency of such actions will depend on many factors as; the location and nature of load, circuit(s) effected, extent to which limits exceed the respective voltage levels, the expected duration of the emergency, etc.

Enersource Hydro Mississauga will practice reasonable diligence in maintaining voltage levels, but is not responsible for variations in voltage from external forces such as operating contingencies, exceptionally high loads or low voltage supply from Enersource Hydro Mississauga's Transmitter or Host Distributor. Enersource Hydro Mississauga shall not be liable for any delay or failure in the performance of any of its obligations under this Conditions of Service due to any events or causes beyond the reasonable control of Enersource Hydro Mississauga.



Some events or causes may include without limitation, severe weather, flood, fire, lightning, other forces of nature, acts of animals, epidemic, quarantine restriction, war, sabotage, act of a public enemy, earthquake, insurrection, riot, civil disturbance, strikes, restraint by court order or public authority, or action or non-action by or inability to obtain authorization or approval from any governmental authority or any combination of these causes ("Force Majeure").

### **2.3.6 Backup Generators**

*Distributors should include the following statements in this section:*

- *Customers with portable or permanently connected emergency generation capability shall comply with all applicable criteria of the Ontario Electrical Safety Code and in particular, shall ensure that customer emergency generation does not back feed on the Distributor's system.*
- *Customers with permanently connected emergency generation equipment shall notify their Distributor regarding the presence of such equipment.*
- *Any other requirements the Distributor imposes on customers with backup generation equipment should be described in this section.*

Customers with portable or permanently connected generation capability used for emergency back up shall comply with all applicable criteria of the Ontario Electrical Safety Code. In particular, the Customer shall ensure that their emergency generation does not operate in parallel with Enersource Hydro Mississauga's system without a proper interface protection and does not adversely affect Enersource Hydro Mississauga's distribution system.

Customers with permanently connected emergency generation equipment shall notify Enersource Hydro Mississauga regarding the presence of such equipment and shall enter into such agreements as may be requested or required, under these conditions.

### **2.3.7 Metering**

*This section should specify the options available to a Customer for metering equipment. The Distributor also should outline the technical requirements for meter installations including location and associated main switch.*

Enersource Hydro Mississauga will supply, install, own, and maintain all meters, instrument transformers, ancillary devices, and secondary wiring required for revenue metering as per our standard requirements

An OEB licensed generator connected to the Enersource Hydro Mississauga distribution system that sells energy and settles through the Enersource Hydro Mississauga retail settlement process, shall install a four-quadrant interval meter.

The metering for an embedded generation shall be installed at the high voltage point of supply.



Metered Market participants in the Independent Electricity System Operator (IESO) administered wholesale market, must meet or exceed all IESO metering requirements. All Embedded Generating Facilities of 10 MW or larger, must meet or exceed all IESO metering requirements.

### 2.3.7.1 General

*Describe the Distributor's access to meter installation requirements here.*

Enersource Hydro Mississauga installs metering equipment at Customer supply voltage. The Customer must provide a convenient and safe location satisfactory to Enersource Hydro Mississauga for the installation of meters, wires and ancillary equipment.

No person, except those authorized by Enersource Hydro Mississauga may remove, connect, or otherwise interfere with meters, wires or auxiliary equipment.

The Customer will be responsible for the care and safekeeping of Enersource Hydro Mississauga meters, wires and auxiliary equipment on Customer's premises. If any Enersource Hydro Mississauga equipment installed on Customer premises is damaged, tampered, destroyed or lost other than by ordinary wear and tear, the Customer will be liable to pay to Enersource Hydro Mississauga the value of such equipment or at the option of Enersource Hydro Mississauga, the cost of repairing the same plus estimated energy not metered.

The location allocated by the owner for Enersource Hydro Mississauga metering shall provide direct access for Enersource Hydro Mississauga staff and shall be subject to satisfactory environmental conditions.

### 2.3.7.2 Residential

1. The Customer supplies and installs an outdoor meter socket, for both new and enlarged services, in accordance with Enersource Hydro Mississauga specifications, with its centre located between 160 and 180 centimeters above finished grade.
2. There shall be a clear working space of not less than 100 centimeters in front of the socket, from grade level to 200 centimeters above grade. The meter socket shall be complete with a security collar and disc as specified by Enersource Hydro Mississauga.
3. Enersource Hydro Mississauga shall approve the method used for screening; concealing or fencing in vicinity of meters before construction. In all cases, a clear working space as per item 2 is still required.
4. The Owner shall mark clearly and permanently dwelling unit numbers on all meter bases prior to energization.
5. All overhead & underground services having a Service Entrance Capacity of 200 Amperes and less shall have a meter socket rated 200 Amperes. Acceptable meter sockets are to be as per the latest list approved by Enersource Hydro Mississauga.
6. Service entrance capacity of 400 amperes is to be underground complete with CT's and PT's mounted outside in an Enersource Hydro Mississauga approved meter base.
7. In addition, for service entrance capacity 600 Amperes and above, the meter socket shall have provision for automatic short-circuiting of current transformers with the meter removed. The Customer also supplies an indoor metering cabinet, 900 mm x 900 mm x 300 mm, (36" x 36" x

12”) connected to the meter socket by a minimum of 32 mm (1 ¼ inches), I.P.S. rigid conduit as specified in the Ontario Electrical Safety Code (latest edition), complete with pulling wire.

### 2.3.7.3 All General Service Customers

1. Clear working space shall not be less than 1 meter in front of the installation from floor to ceiling with a minimum 2 meters ceiling height for the full width of the installation.
2. Where a metering cabinet is used, the bottom of the cabinet shall be a minimum of 60 centimeters (24”) from the floor, the top a maximum of 200 centimeters (80”) from the floor.
3. Where there is a possibility of danger to workmen or damage to equipment from moving machinery, dust, fumes, gas, heat, cold or moisture, protective arrangements satisfactory to Enersource Hydro Mississauga shall be provided by the Customer.
4. Where excessive vibration may affect metering equipment, the Customer shall install Enersource Hydro Mississauga approved shock-absorbing devices. The Customer shall contact Enersource Hydro Mississauga where such conditions may occur.
5. Customers shall not be permitted to electrically monitor Enersource Hydro Mississauga metering circuits except under the following conditions:
  - a. Enersource Hydro Mississauga shall have installed interval metering with a dedicated phone line and meter in an indoor location on the Customer's premises, within an adequately-sized meter cabinet;
  - b. Enersource Hydro Mississauga will approve that the location and environmental conditions are suitable for such monitoring;
  - c. All wiring modifications in and around the metering cabinet and metering circuits shall be performed by Enersource Hydro Mississauga, including devices installed to protect Enersource Hydro Mississauga circuits;
  - d. The Customer shall not be permitted access to the meter cabinet or the cabinet which contains Enersource Hydro Mississauga metering transformers;
  - e. The Customer shall enter into an agreement with Enersource Hydro Mississauga which shall, among other things, save Enersource Hydro Mississauga harmless from any damages with respect to equipment failure or incorrect data;
  - f. The metering circuit modifications shall receive the prior approval of Measurement Canada;
  - g. All capital, operation and maintenance costs shall be paid by the Customer.
6. Customers shall not be permitted to install Customer-owned monitoring, switching or splitter equipment between the main disconnect switch and Enersource Hydro Mississauga meter equipment.
7. Where Enersource Hydro Mississauga requires the installation of remotely interrogated time-of-use metering, Customers shall supply, install and maintain a dedicated Bell telephone line to the meter cabinet. The meter department will then make final connection to the meter.
8. Meter mounting equipment in a meter room having the following characteristics:
  - a) At or above grade level;
  - b) Direct outside access for Enersource Hydro Mississauga during normal business hours;
  - c) Adequate electrical illumination at the working level;
  - d) If not located at grade level, then accessibility must be by a standard stairway with handrail; vertical ladders are not permitted;
  - e) 120 Volt convenience outlet;

- f) Lockable with a standard Enersource Hydro Mississauga supplied and installed door lock. (Any subsequent replacements of the lock required by the Owner shall be at the Owner's expense); or a lockbox with Enersource Hydro Mississauga access key to store the key to the customers' electrical room so that Enersource Hydro Mississauga can have access to equipment switch or metering (lockbox to be supplied and installed by the customer);
- g) Complete with a permanent interior sign indicating how Enersource Hydro Mississauga may contact the Owner during an emergency;
- h) If an outdoor meter is required and the service entrance is rated over 200 ampere and above 200 volts, then the main disconnect and all metering equipment shall be enclosed in a lockable weatherproof cabinet. All such services are pending until approved by Enersource Hydro Mississauga;
- i) Customers shall not request a revenue-approved meter, for billing purposes, installed that is not part of Enersource Hydro Mississauga Meter department inventory.

9. Each metered point will have its own account for billing.

**2.3.7.4 Main Switch with respect to Meter Mounting Devices**

The Customer's main switch immediately preceding the meter shall be installed so that the top of the switch is as per the Electrical Safety Code (latest addition) from the finished floor and shall permit the sealing and padlocking of:

- 1. The handle in the "open" position; and
- 2. The cover or door in the closed position

All Enersource Hydro Mississauga metering must have a Main Switch in the same room and in plain view at all times.

**2.3.7.5 Meter Sockets**

- 1. The Customer shall supply and install meter sockets in accordance with Enersource Hydro Mississauga specifications for the following services, up to and including the maximum Ampere values shown below:

<u>Voltage</u>	<u>Phases</u>	<u>Wires</u>	<u>Maximum Amperes</u>	<u>Location</u>
120/240	1	3	200	Outdoors
120/208	3	4	200	Outdoors
347/600	3	4	200	Indoors

- 2. Where the supply voltage is 120/208 volts, 3-phase, 4-wire, and where the Owner desires a certain number of single phase 3-wire supplies, the meter sockets shall contain 5 prongs to accommodate Enersource Hydro Mississauga's network type meters.
- 3. Where meter sockets are used, sufficient wall space shall be allocated for the future installation of meter cabinets, should up to one third of the units require enlarged service entrances in the future.
- 4. Not permitted are automatic by-pass meter sockets. For 120/208 volts and larger, a fused main disconnect device must be installed, immediately adjacent to or integral with the meter socket on the line side.

5. Centers of meters shall be located at a height between 160 and 180 centimeters above finished floor.
6. Table showing meter types for Residential, Industrial/Commercial Customers shown in Appendix N.

**2.3.7.6 Meter Cabinets**

Meter cabinets shall be supplied, installed and maintained by the Customer on the load side and immediately adjacent to the fused main disconnect switch, located in the same room. The meter cabinet must be in clear view of the main disconnect switch.

Where the conductors within meter cabinets are the Customer's responsibility, they shall be installed and maintained by the Customer, according to Enersource Hydro Mississauga specifications, as well as the Ontario Electrical Safety Code (latest edition), and shall have the following characteristics:

1. Entry and exit points to the meter cabinet must have prior Enersource Hydro Mississauga approval;
2. A minimum conductor loop size of 900 mm (36”) per phase must be allowed within the cabinet between entry and exit points;
3. Mineral insulated, metallic sheath, solid or hard drawn wire conductors are not permitted;
4. Enersource Hydro Mississauga provides and installs connectors for conductors in the meter cabinet. A single conductor per phase is preferred, however, if more than two conductors per phase are used, the Customer shall supply and install the non-standard Enersource Hydro Mississauga connectors.

**2.3.7.7 Meter Cabinet Specifications**

1. Meter cabinets shall be 14 gauge steel minimum, CSA approved, and in accordance with the following:
  - a) Hasp and clasp to accommodate Enersource Hydro Mississauga standard padlock; no other locking provision will be permitted;
  - b) Equipped with a removable steel back plate;
  - c) Nominal dimensions of:

<u>SWITCH SIZE</u>	<u>CONDUCTOR SIZE</u>	<u>CABINET SIZE</u>		
		<u>Width</u>	<u>Height</u>	<u>Depth</u>
Up to 100 A	Up to 1/0	20 in (0.50 m)	30 in (0.75 m)	10 in (0.25 m)
Up to 200 A	2/0 to 250 MCM	36 in (0.90 m)	36 in (0.90 m)	12 in (0.30 m)
Over 200 A	Over 250 MCM	48 in (1.20 m)	48 in (1.20 m)	12 in (0.30 m)

2. Cabinets 36 in. (0.9 m) x 36 in. (0.9 m) and larger shall have two side-hinged doors opening at the centre not less than 135° and complete with three point latching.

**2.3.7.8 Multi Metering**

1. All new condominium apartments and offices, and rental apartments and offices shall be individually metered. Enersource Hydro Mississauga will supply, install and maintain the meters.

2. For existing bulk metered buildings (Condominium Apartments & Offices and Rental Apartments & Offices), Enersource Hydro Mississauga shall, upon request from such buildings and subject to contract, provide, install and maintain individual meters at such buildings.
3. Individual metering for commercial establishments within these buildings are subject to metering requirements in accordance with section 2.3.7.5, 2.3.7.6, and 2.3.7.7.

#### **2.3.7.9 Metering at Customer-Owned Substation**

The Customer shall make provision to meter the service at one point and shall be at the point of supply. If there is more than one high voltage point of supply then each shall be metered and totalized.

The layout and arrangement of components must be approved by Enersource Hydro Mississauga well in advance of fabrication of equipment and preparation of tendering documents.

The Customer shall be required to pay Enersource Hydro Mississauga cost of the Primary Metering Unit.

If the customer installs an additional substation, provisions must be made to meter at the high voltage point of supply.

#### **2.3.7.10 Auxiliary Connections**

Connections to circuits for fire pumps are on to the line side (before main disconnect) of Enersource Hydro Mississauga metering, complete with its own disconnect switch. A load letter indicating the size of motor and its running load is required to determine monthly flat fee charges.

No Customer equipment shall be connected to any part of the Enersource Hydro Mississauga metering circuit.

#### **2.3.7.11 Current Transformer Boxes**

*Where current transformers are required, the Distributor should outline the technical requirements to be followed for such installations.*

Where instrument transformers are incorporated in low voltage switchgear, the size of the chamber and number of instrument transformers shall be per Enersource Hydro Mississauga requirements. A separate meter cabinet must be supplied and installed by the Customer, located as close as possible to the instrument transformer compartment & per Enersource Hydro Mississauga Requirements.

For Enersource Hydro Mississauga metering transformers installed remotely from the meter cabinet, the Customer shall supply, install and maintain a 32mm (1 1/4") minimum I.P.S. rigid galvanized conduit, complete with pulling wire, between the metering transformers and the meter cabinet continuous with no more than 4-90 degree bends.

Enersource Hydro Mississauga supplies, installs and maintains the metering conductors, for a conduit length of up to 10 meters beyond which the conductors are the responsibility of the Customer. Enersource Hydro Mississauga delivers, at its expense, 600 Volt metering transformers to the Customer's service location within the City of Mississauga.

A minimum of #6 copper grounding conductor, not installed in the above conduit, shall ground the meter cabinet. The Customer shall install a strong nylon or poly-rope pull line in the conduit, with an excess of 1.5 m loop left at each end.

Enersource Hydro Mississauga must approve the final layout and arrangements of components before fabrication of equipment

#### **2.3.7.12 MIST Meter**

A MIST meter installation is required for any existing Customer that has an average monthly peak demand during a calendar year over 1MW and for any new Customer that had forecasted by the Distributor to have a monthly average peak demand during a calendar year of over 500kW. A MIST meter installation consists of a Distributor-approved interval meter and a Distributor-approved dedicated communication link to the meter.

The Customer shall supply the dedicated communication link to the meter and pay for all capital costs, installation costs, maintenance costs and on-going service costs for the dedicated communication link directly to the communication service provider.

#### **2.3.7.13 Interval Metering**

***Where interval metering is required or requested, the Distributor should outline the technical requirements to be followed for such installations. Included with the technical specifications should be the conditions under which interval metering will be supplied.***

Interval meters will be installed for all new or upgraded services where the peak demand is estimated to be 500 kW or greater, or for any Customer wishing to participate in the spot market pass-through pricing. Prior to the installation of an interval meter, the Customer must provide a ½ inch conduit from their telephone room to the meter cabinet. The Customer will arrange for the installation of a telephone line, terminated in the meter cabinet for the exclusive use of Enersource Hydro Mississauga to retrieve interval meter data. The Customer will be responsible for the installation and ongoing monthly costs of operating the phone line. The phone line will be direct dialing voice quality, active 24 hours per day, and energized prior to meter installation.

Other Customers that request interval metering shall compensate Enersource Hydro Mississauga for all incremental costs associated with that meter, including the capital cost of the interval meter, installation costs associated with the interval meter, ongoing maintenance (including allowance for meter failure), verification and re-verification of the meter, installation and ongoing provision of communication line or communication link with the Customer's meter, and cost of metering made redundant by the Customer requesting interval metering. The capital cost of the interval meter varies depending on the metering requirements specific to each customer. The monthly variable costs such as settlement, software and other processing costs amount to \$26.00 – this cost (\$26.00 per month) will be recovered from customers that request interval metering.

#### **2.3.7.14 Meter Reading**

***This section should outline the requirements for access to meters for the purposes of obtaining readings and the process to be used if a reading is not obtained.***



The Customer must provide or arrange free, safe and unobstructed access during regular business hours to any authorized representative of Enersource Hydro Mississauga for the purpose of meter reading, meter changing, or meter inspection. Where premises are closed during Enersource Hydro Mississauga normal business hours, the Customer must, on reasonable notice, arrange such access at a mutually convenient time.

#### **2.3.7.15 Final Meter Reading**

*This section should outline any requirements associated with obtaining a final meter reading on termination of a contract for service.*

When a service is no longer required, the Customer shall provide sufficient notice of the date the service is to be discontinued so that Enersource Hydro Mississauga can obtain a final meter reading as close as possible to the final reading date. The Customer shall provide access to Enersource Hydro Mississauga or its agents for this purpose. If a final meter reading is not obtained, the Customer shall pay a sum on an estimated demand and/or energy for electricity used since the last meter reading.

#### **2.3.7.16 Faulty Registration of Meters**

*In this section, the Distributor should outline the process for dealing with metering errors.*

Metering electricity usage for the purpose of billing is governed by the federal Electricity and Gas Inspection Act and associated regulations, under the jurisdiction of Measurement Canada, Industry Canada. Enersource Hydro Mississauga's revenue meters are required to comply with the accuracy specifications established by the regulations under the above Act.

In the event of incorrect electricity usage registration, Enersource Hydro Mississauga will determine the correction factors based on the specific cause of the metering error and the Customer's electricity usage history. The Customer shall pay for all the energy supplied a reasonable sum based on the reading of any meter formerly or subsequently installed on the premises by Enersource Hydro Mississauga due regard being given to any change in the characteristics of the installation and/or the demand. If Measurement Canada, Industry Canada determines that the Customer was overcharged, Enersource Hydro Mississauga will reimburse the Customer for the amount incorrectly billed.

If the incorrect measurement is due to reasons other than the accuracy of the meter, such as incorrect meter connection, incorrect connection of auxiliary metering equipment, or incorrect meter multiplier used in the bill calculation, the billing correction will apply for the duration of the error. Enersource Hydro Mississauga will correct the bills for that period in accordance with the regulations under the Electricity and Gas Inspection Act.

#### **2.3.7.17 Meter Dispute Testing**

*This section should outline the process by which a customer can dispute a meter measurement or read and seek redress.*

Most billing inquiries can be resolved between the Customer and Enersource Hydro Mississauga.

Either Enersource Hydro Mississauga or the Customer may request the service of Measurement Canada to resolve a dispute. If the Customer initiates the dispute, Enersource Hydro Mississauga will charge the Customer a meter dispute fee if the meter is accurate and Measurement Canada rules in favor of the utility.

## **2.4 TARIFFS AND CHARGES**

Charges for distribution services schedule of rates are available at Enersource Hydro Mississauga. Information about changes will be mailed to all Customers with the first billing issued at revised rates.

### **2.4.1 Service Connections and Miscellaneous Charges**

The Distributor should outline the rates that have been established for providing the customer with a connection to the electrical distribution system and all services provided by the Distributor as per the rules and regulations laid out by all applicable codes.

Enersource Hydro Mississauga's policy is to develop and set average Customer charges at a level to permit full recovery of the allowable connection charges described in the OEB's Distribution System Code.

Where fixed rate average connection charges do not apply, Customers charges will be on a time and material basis to recover fully the allowable cost.

Information under "Customer Charges for Electric Servicing", in Appendix I, summarizes fixed Enersource Hydro Mississauga and Customer charges.

#### **2.4.1.1 Customers Switching to a Retailer**

There are no physical service connection differences between Standard Service Supply (SSS) Customers and third party retailers' Customers. Delivery of Customer energy supplies is through the local Distributor with the same distribution requirements. Therefore, all service connection requirements applicable to the SSS Customers are applicable to third party retailers' Customers.

### **2.4.2 Energy Supply**

*This section should outline the process the Distributor has established for the following:*

- *Provision of Standard Service Supply to the Customer, per the rules and regulations laid out in the Retail Settlement Code and the Standard Service Supply Code.*
- *Provision of Supply to the customer through a Retailer, per the rules and regulations laid out in the Retail Settlement Code.*
- *Wheeling of energy and all associated rates.*

#### **2.4.2.1 Standard Service Supply (SSS)**

Unless informed of their switch to a Retail Electricity Supplier, all existing Enersource Hydro Mississauga Customers are "Standard Service Supply" (SSS) Customers. The Customer's authorized retailer must make the Service Transfer Request (STR).



#### **2.4.2.2 Retailer Supply**

Customers transferring from Standard Service Supply (SSS) to a retailer must comply with the Service Transfer Request (STR) requirements outlined in Sections 10.5 through 10.5.6 of the Retail Settlement Code. Requests submitted will be Electronic files and transmitted through Enersource Hydro Mississauga's EBT system. Service Transfer Requests (STR's) must contain information as set out in Section 10.3 of the Retail Settlement Code and the EBT standards.

If the information is incomplete, Enersource Hydro Mississauga will notify the retailer or Customer about the specific deficiencies and await a reply before proceeding to process the transfer.

#### **2.4.2.3 Wheeling of Energy**

All Customers considering delivery of electricity through Enersource Hydro Mississauga's distribution system are required to contact Enersource Hydro Mississauga for technical requirements and applicable tariffs.

### **2.4.3 Deposits**

*This section should outline any deposit and prudential requirements the distributor has established for providing a customer with distribution services, supply through standard service supply or through a retailer, per the rules and regulations laid out in the Retail Settlement Code.*

A Security or Prudential Deposit Policy is required to ensure that Enersource Hydro Mississauga's recoverables are secured and protected against the payment default.

#### **2.4.3.1 PROCEDURE**

- **INTRODUCTION**

This credit policy/procedure has been issued by Enersource Hydro Mississauga to make it compliant with the OEB's Retail Settlement and Distribution System Codes that were amended on February 20, 2004 and became effective on August 10, 2006.

- **OVERVIEW**

The extent of this policy includes all customers and retailers (except those billed by a competitive retailer under Retailer-Consolidated Billing) including Standard Supply Customers and Distributor Consolidated Billing Customers.

The information contained in this policy will form sections of the Conditions of Service Document.

- **SCOPE**

This policy applies to all customers/retailers either opening a new account or those whose payment and/or collection activities become delinquent.

Retailer Prudential requirements will be covered within this policy and included in Enersource Hydro Mississauga's Retailer Service Agreement.

- **DEFINITIONS**

**Disconnection or Collection Field Trip**

A Disconnection or Collection Field Trip is a visit to a customer's premises by an employee or agent of Enersource Hydro Mississauga to demand payment of an outstanding amount or to shut off or limit service to the customer failing payment. This is also known as a Disconnect Service Order.

**Good Payment History**

A Good Payment History for a customer in each customer class is defined in section 2.4.3.7.1 of the General Rules.

**Interruption of Service Notice**

An Interruption of Service Notice is a formal notice delivered to the customer by an employee or agent of Enersource Hydro Mississauga advising the customer that service may be shut off or limited failing payment and that service beyond a specified date cannot be guaranteed. This is also known as a Final Notice.

**Residential Customer**

A residential customer is a person or corporation who holds either a Distributor Consolidated Retail Account or a Standard Supply Service (SSS) Residential Account. Residential customers typically live in houses or apartments and live in the premises as an owner or tenant, as defined in Enersource Hydro Mississauga's Conditions of Service Single Dwelling.

A customer that is a corporation within the meaning of the Condominium Act, 1998 who has an account with EHM that:

- Relates to a property defined in the Condominium Act 1998 and comprised predominantly of units that are used for residential purposes; and
- Relates to more than one unit in the property, and
- Has filed a Bulk Metered Residential Condominium Corporation Self-Declaration Form,

will be assessed as a Residential Customer.

**Commercial Customer (General Service <50kW Demand)**

A commercial customer is defined by the OEB as a non-residential customer in a <50kW demand rate class. These customers are similar to the residential customer in that their bill does not have a demand component to it and their charges are based upon kWh of consumption. Most of these customers would occupy small storefront locations or offices.

**Demand Customer (General Service >50kW Demand)**

A demand commercial customer is defined by the OEB as a non-residential customer in a >50Kw demand rate class who is not a Large User Customer. These customers have meters capable of measuring and recording peak demand and a customer in this rate class will have a demand component on their bill.

**Large User Customer (General Service >5000kW Demand - Large Users)**

A large commercial customer is defined by the OEB as a non-residential customer in a >5000kW demand rate class. These customers are some of the largest users of electricity in the Enersource Hydro Mississauga service area. Some of these customers may be direct market participants and contract for their electricity directly with the IESO.

## **LDC**

A Local Distribution Company (LDC) is the regulated entity responsible for the distribution of electricity for a defined service area. Enersource Hydro Mississauga is the LDC for all of the Mississauga area.

## **OEB**

The Ontario Energy Board (OEB) is the provincial government entity responsible for LDC regulation.

## **Returned Item**

A Returned Item is defined as any method of payment offered by a bank and it will include any cheque or preauthorized payment that has been returned to Enersource Hydro Mississauga by the bank for any of the following reasons: a Stop Payment has been issued, Non Sufficient Funds or the bank indicates that the funds have not been cleared. In summary, a Returned Item will be any item not honored by the bank, including all forms of paper or electronic items.

### **2.4.3.2 RESIDENTIAL CUSTOMER - CREDIT PROCEDURE**

#### **2.4.3.2.1 SECURITY DEPOSIT**

- a) A security deposit must be provided to Enersource Hydro Mississauga (“EHM”) by each Residential Customer that is billed by EHM and that does not qualify for an exemption under section b), c) or d). The form of payment of the security deposit shall be cash or cheque, as the customer chooses, or such other form as EHM may accept.
- b) A customer is exempt if the customer has a Good Payment History with EHM for a period of at least one year (12 months).
- c) A customer that is not eligible for an exemption under section b) is nevertheless exempt if the customer, as an alternative, provides EHM with a letter from another electricity or gas distributor in Canada confirming a Good Payment History with that distributor for a period of at least one year (12 months). The time period that makes up the good payment history must be the most recent period of time and some of the time period must have occurred in the previous 24 months.
- d) A customer that is not eligible for an exemption under section b) or c) is nevertheless exempt if the customer, as an alternative, provides EHM with a credit check made at the customer’s expense. The credit check must indicate a satisfactory credit rating for a period of at least one year (12 months) and some of the time period must have occurred within the past six months.

#### **2.4.3.2.2 AMOUNT OF SECURITY DEPOSIT**

- a) The amount of a customer’s security deposit will be based on the customer’s load profile:
  1. For a monthly-billed customer - the customer’s average monthly load over the most recent 12-consecutive month period prorated for 75 days (2.5 times the average monthly bill). Where the average monthly load for the customer is not available, EHM will calculate the consumption based upon its best estimate.
  2. For a bi-monthly billed customer the customer’s average monthly load over the most recent 12 consecutive month period

prorated for 3.5 months (1.75 times the average bill). Where the average monthly load for the customer is not available, EHM will calculate the consumption based on its best estimate.

- b) Despite section a), where a customer has a payment history that discloses more than one Interruption of Service Notice in the immediately preceding 12 months, the amount of the security deposit will be calculated on the highest monthly load occurring in the most recent 12 consecutive months.
- c) EHM may reduce the amount of a customer's security deposit by one-third when the customer signs up for a pre-authorized payment plan; provided that, if the customer subsequently withdraws from the plan, the customer must provide the full amount of the security deposit unless, at the time, the customer qualifies for an exemption under section b), c) or d) of section 2.4.3.2.1.

### **2.4.3.2.3 REVIEW OF SECURITY DEPOSIT**

- a) EHM will review a customer's security deposit at least once in a calendar year for the following purposes:
  1. to determine whether the entire amount of the security deposit is to be returned to the customer because the customer then qualifies for an exemption under section a), b) or c) of 2.4.3.2.1; and/or
  2. to determine whether the amount of the security deposit is to be adjusted based on a recalculation of the maximum security deposit under section a) or b) of 2.4.3.2.2.
- b) EHM will also review a customer's security deposit for the same purposes whenever the customer demands in writing that EHM do so; provided that a customer shall not be entitled to make such a demand any earlier than 12 months after making the security deposit, in the case of the initial demand, or after making a prior demand for a review.
- c) If EHM determines, after conducting any such review, that some or all of the security deposit should be returned to the customer, EHM shall do so promptly by crediting the customer's account or otherwise.
- d) If EHM determines, after conducting any such review, that the maximum amount of the security deposit should be increased, EHM may require the customer to pay the amount of the increase at the same time as the customer's next regular bill comes due.

### **2.4.3.3 COMMERCIAL CUSTOMER - CREDIT PROCEDURE**

#### **2.4.3.3.1 SECURITY DEPOSIT**

- a) A security deposit must be provided to Enersource Hydro Mississauga ("EHM") by each Commercial Customer that is billed by EHM and that does not qualify for an exemption under section b), c), d), e) or f). The form of payment of the security deposit shall be cash, cheque or an automatically renewing, irrevocable letter of credit from one of the Domestic or Foreign Federally Regulated Financial Institutions Banks, listed on the Office of the Superintendent of Financial Institutions Canada website.
- b) A customer is exempt if the customer is a Federal, Provincial and Municipal government, a governmental agency or agent, or a governmental guarantee.

- c) A customer is exempt if the customer is a School Board or a Schedule I or II Bank listed on the Office of the Superintendent of the Financial Institutes of Canada website.
- d) A customer is exempt if the customer has a Good Payment History with EHM for a period of at least five years.
- e) A customer that is not eligible for an exemption under section d) is nevertheless exempt if the customer, as an alternative, provides EHM with a letter from another electricity or gas distributor in Canada confirming a Good Payment History with that distributor for a period of at least five years (60 months). This time period that makes up the good payment history must be the most recent period of time and some must have occurred in the previous 24 months.
- f) A customer that is not eligible for an exemption under section d) or e) is nevertheless exempt if the customer, as an alternative, provides EHM with a credit check made at the customer's expense. The credit check must indicate a satisfactory credit rating for a period of at least five years (60 months) and some of the time period must have occurred within the past six months.

#### **2.4.3.3.2 AMOUNT OF SECURITY DEPOSIT**

- a) The amount of a customer's security deposit will be based on the customer's load profile:
  - 1. For a monthly-billed customer - the customer's average monthly load over the most recent 12-consecutive month period prorated for 75 days (2.5 times the average monthly bill). Where the average monthly load for the customer is not available, EHM will calculate the consumption based upon its best estimate.
  - 2. For a bi-monthly billed customer the customer's average monthly load over the most recent 12 consecutive month period prorated for 3.5 months (1.75 times the average bill). Where the average monthly load for the customer is not available, EHM will calculate the consumption based on its best estimate.
- b) Despite section a), where a customer has a payment history that discloses more than one Interruption of Service Notice in the immediately preceding 12 months, the amount of the security deposit will be calculated on the highest monthly load occurring in the most recent 12 consecutive months.
- c) EHM may reduce the amount of a customer's security deposit by one-third when the customer signs up for a pre-authorized payment plan; provided that, if the customer subsequently withdraws from the plan, the customer must provide the full amount of the security deposit unless, at the time, the customer qualifies for an exemption under section d), e) or f) of 2.4.3.3.1.

#### **2.4.3.3.3 REVIEW OF SECURITY DEPOSIT**

- a) EHM will review a customer's security deposit at least once in a calendar year for the following purposes:
  - 1. to determine whether the entire amount of the security deposit is to be returned to the customer because the customer then

- qualifies for an exemption under section d), e) or f) of 2.4.3.3.1; and/or
2. to determine whether the amount of the security deposit is to be adjusted based on a recalculation of the maximum security deposit under section a) or b) of 2.4.3.3.2.
- b) EHM will also review a customer's security deposit for the same purposes whenever the customer demands in writing that EHM do so; provided that a customer shall not be entitled to make such a demand any earlier than 5 years (60 months) of Good Payment History after making the security deposit, in the case of the initial demand, or after making a prior demand for a review.
  - c) If EHM determines, after conducting any such review, that some or all of the security deposit should be returned to the customer, EHM shall do so promptly by crediting the customer's account or otherwise.
  - d) If EHM determines, after conducting any such review, that the maximum amount of the security deposit should be increased, EHM may require the customer to pay the amount of the increase at the same time as the customer's next regular bill comes due.

#### **2.4.3.4 DEMAND CUSTOMER - CREDIT POLICY**

##### **2.4.3.4.1 SECURITY DEPOSIT**

- a) A security deposit must be provided to Enersource Hydro Mississauga ("EHM") by each Demand Customer that is billed by EHM and that does not qualify for an exemption under section b), c), d), e) or f). The form of payment of the security deposit shall be cash, cheque or an automatically renewing, irrevocable letter of credit from one of the Domestic or Foreign Federally Regulated Financial Institutions Banks, listed on the Office of the Superintendent of Financial Institutions Canada website, as the customer chooses.
- b) A customer is exempt if the customer is a Federal, Provincial and Municipal government, a governmental agency or agent, or a governmental guarantee.
- c) A customer is exempt if the customer is a School Board or a Schedule I or II Bank listed on the Office of the Superintendent of Financial Institutions Canada website.
- d) A customer is exempt if the customer has a Good Payment History with EHM for a period of at least seven years (84 months).
- e) A customer that is not eligible for an exemption under section d) is nevertheless exempt if the customer, as an alternative, provides EHM with a letter from another electricity or gas distributor in Canada confirming a Good Payment History with that distributor for a period of at least seven years (84 months). The time period that makes up the good payment history must be the most recent period of time and some of the time period must have occurred in the previous 24 months.
- f) A customer that is not eligible for an exemption under section d) or e) is nevertheless exempt if the customer, as an alternative, provides EHM with a credit check made at the customer's expense that indicates a satisfactory credit rating and, thereafter, maintains a satisfactory credit rating.
- g) Despite sections d) and e), where a customer has a credit rating from a recognized credit rating agency, EHM may require the customer to provide a security deposit whenever the customer's credit rating is downgraded to the extent that EHM, acting



reasonably, has good cause for concern about the customer’s on-going creditworthiness and, in particular, the ability to pay EHM’s bills in full when they are due and payable.

**2.4.3.4.2 AMOUNT OF SECURITY DEPOSIT**

- a) The amount of a customer’s security deposit will be based on the customer’s load profile: the average monthly load over the most recent 12-month period prorated over 75 days. Where an average monthly load for the customer is not available, EHM will calculate the load based upon its best estimate.
- b) Despite section a), where a customer has a Good Payment History that discloses more than one Interruption of Service Notice in the immediately preceding 12 months, the amount of the security deposit will be calculated on the highest monthly load occurring in the most recent 12 consecutive months.
- c) Despite sections a) and b), where a customer has a credit rating from a recognized credit rating agency, the maximum amount of a security deposit that the customer is required to pay shall be reduced in accordance with the following table:

<b>Credit Rating</b> <i>(Using Standard &amp; Poor’s Rating Terminology)</i>	<b>Allowable Reduction of Security Deposit</b>
AAA- and above or equivalent	100%
AA-, AA, AA+ or equivalent	95%
A-, from A, A+ to below AA or equivalent	85%
BBB-, From BBB, BBB+ to below A or equivalent	75%
Below BBB- or equivalent	0%

- d) EHM may reduce the amount of a customer’s security deposit by one-third when the customer signs up for a pre-authorized payment plan; provided that, if the customer subsequently withdraws from the plan, the customer must provide the full amount of the security deposit unless, at the time, the customer qualifies for an exemption under section d), e) or f) of 2.4.3.4.1.

**2.4.3.4.3 REVIEW OF SECURITY DEPOSIT**

- a) EHM will review a customer’s security deposit at least once in a calendar year for the following purposes:
  - 1. to determine whether the entire amount of the security deposit is to be returned to the customer because the customer then qualifies for an exemption under section d) or e) of 2.4.3.4.1; and/or
  - 2. to determine whether the amount of the security deposit is to be adjusted based on a recalculation of the maximum security deposit under section a), b) or c) of 2.4.3.4.2.
- b) EHM will also review a customer’s security deposit for the same purposes whenever the customer demands in writing that EHM do so; provided that a customer shall not be entitled to make such a demand any earlier than 7 years (84 months) of good payment

history after making the security deposit, in the case of the initial demand, or after making a prior demand for a review.

- c) If EHM determines, after conducting any such review, that some or all of the security deposit should be returned to the customer, EHM shall do so promptly by crediting the customer's account or otherwise.
- d) If EHM determines, after conducting any such review, that the maximum amount of the security deposit should be increased, EHM may require the customer to pay the amount of the increase at the same time as the customer's next regular bill comes due.

#### **2.4.3.5 LARGE USER CUSTOMER - CREDIT POLICY**

##### **2.4.3.5.1 SECURITY DEPOSIT**

- a) A security deposit must be provided to Enersource Hydro Mississauga ("EHM") by each Large User Customer that is billed by EHM and that does not qualify for an exemption under section b), c), d) or e). The form of payment of the security deposit shall be cash, cheque or an automatically renewing, irrevocable letter of credit from one of the Domestic or Foreign Federally Regulated Institutions Banks, listed on the Office of the Superintendent of Financial Institutions Canada website, as the customer chooses.
- b) A customer is exempt if the customer is a Federal, Provincial and Municipal government, a governmental agency or agent, or a governmental guarantee.
- c) A customer is exempt if the customer is a School Board or a Schedule I or II Bank listed on the Office of the Superintendent of Financial Institutions Canada website.
- d) A customer is exempt if the customer has a Good Payment History with EHM for a period of at least seven years.
- e) A customer that is not eligible for an exemption under section d) is nevertheless exempt if the customer, as an alternative, provides EHM with a letter from another electricity or gas distributor in Canada confirming a Good Payment History with that distributor for a period of at least seven years (84 months).
- f) Despite sections d) and e), where a customer has a credit rating from a recognized credit rating agency, EHM may require the customer to provide a security deposit whenever the customer's credit rating is downgraded to the extent that EHM, acting reasonably, has good cause for concern about the customer's on-going creditworthiness and, in particular, the ability to pay EHM's bills in full when they are due and payable.

##### **2.4.3.5.2 AMOUNT OF SECURITY DEPOSIT**

- a) The amount of a customer's security deposit will be based on the customer's load profile: the average monthly load over the most recent 12-month period prorated over 75 days. Where an average monthly load for the customer is not available, EHM will calculate the load based upon its best estimate.
- b) Despite section a), where a customer has a payment history that discloses more than one Interruption of Service Notice in the immediately preceding 12 months, the amount of the security deposit will be calculated on the highest monthly load occurring in the most recent 12 consecutive months.
- c) Despite sections a) and b), where a customer has a credit rating from a recognized credit rating agency, the maximum amount of a security deposit that the customer is required to pay shall be reduced in accordance with the following table:



<b>Credit Rating</b> <i>(Using Standard &amp; Poor's Rating Terminology)</i>	<b>Allowable Reduction of Security Deposit</b>
AAA- and above or equivalent	100%
AA-, AA, AA+ or equivalent	95%
A-, from A, A+ to below AA or equivalent	85%
BBB-, From BBB, BBB+ to below A or equivalent	75%
Below BBB- or equivalent	0%

### 2.4.3.5.3 REVIEW OF SECURITY DEPOSIT

- a) EHM will review a customer's security deposit at least once in a calendar year for the following purposes:
  1. to determine whether 50% of the amount of the security deposit is to be returned to the customer because the customer then qualifies for an exemption under section a) or b) of 2.4.3.5.1; and/or
  2. to determine whether the amount of the security deposit is to be adjusted based on a recalculation of the maximum security deposit under section a), b) or c) of 2.4.3.5.2.
- b) EHM will also review a customer's security deposit for the same purposes whenever the customer demands in writing that EHM do so; provided that a customer shall not be entitled to make such a demand any earlier than 12 months after making the security deposit, in the case of the initial demand, or after making a prior demand for a review.
- c) If EHM determines, after conducting any such review, that some or all of the security deposit should be returned to the customer, EHM shall do so promptly by crediting the customer's account or otherwise.
- d) If EHM determines, after conducting any such review, that the maximum amount of the security deposit should be increased, EHM may require the customer to pay the amount of the increase at the same time as the customer's next regular bill comes due.

### 2.4.3.6 RETAILER PRUDENTIAL REQUIREMENTS

The Ontario Energy Board's "Retail Settlement Code" dictates a Distributor shall enter into security arrangements with each Retailer.

All Retailers will provide a prudential security deposit with Enersource Hydro Mississauga regardless of their credit rating.

The security deposit requirement, the type of security deposit, and the planned frequency for prudential review for timing and updating will be set out in the "Retailer Service Agreement".

This prudential calculation will be reviewed every three months. Variances (positive or negative) are anticipated in each quarter.

### 2.4.3.7 GENERAL RULES

#### 2.4.3.7.1 GOOD PAYMENT HISTORY

- a) A customer is deemed to have a “Good Payment History” unless, during the relevant time period set out in the following table, one or more of the events set out in section b) occurs:

<b>Customer Class</b>	<b>Time Period</b>
Residential	one year
Commercial	five years
Demand	seven years
Large User	seven years

Each time period in the foregoing table must be the most recent period of time and some of the time period must have occurred in the previous 24 months.

- b) A customer’s Good Payment History is deemed to be terminated if, during the relevant time period set out in section a), one of the following events occurs unless the event occurs due to an error by EHM:
1. the customer receives a second Interruption of Service Notice (also known as a Final Notice);
  2. EHM receives a second Returned Item;
  3. EHM makes a Disconnection or Collection Field Trip to the customer’s premises to demand payment of an outstanding amount and, at the time, there is one Returned Item; or,
  4. EHM makes a Disconnection or Collection Field Trip (also known as a Disconnect Service Order) to shut off or limit service to the customer failing payment.

#### **2.4.3.7.2 PAYMENT OF SECURITY DEPOSIT**

- a) A customer may provide a security deposit in equal installments paid over four months or, if the customer so chooses, or over a shorter period. This provision does not apply, however, when Enersource Hydro Mississauga (“EHM”) determines to increase the maximum amount of a security deposit after reviewing it.
- b) Despite section a), a customer whose service was previously disconnected by EHM for failing to pay amounts owing to EHM must pay the entire amount of the security deposit. The customer must also pay any amount still owing to EHM before EHM will restore service to the customer.

#### **2.4.3.7.3 RETURN OF SECURITY DEPOSIT**

- a) EHM will return a customer’s security deposit within six weeks after the closure of the customer’s account; that is, when EHM’s final bill has been rendered and paid. EHM will render a final bill promptly after receiving notice to close the account, with a forwarding address, and after making a final meter reading at the service location. Notwithstanding payment of the final bill, EHM may apply the security deposit as a set-off against any amount then owing to EHM by the customer. EHM will return, in this event, only the balance (if any) of the customer’s security deposit.
- b) EHM will apply a customer’s security deposit to the final bill prior to the change in service where:
1. the customer changes from Standard Supply Service to a competitive retailer that uses retailer-consolidated billing; or

2. the customer changes billing options from distributor-consolidated billing to split billing or retailer-consolidated billing.
- c) EHM will promptly return, after any such change in service, any remaining amount of the security deposit to the customer. EHM will not, in any event, pay any portion of a customer's security deposit to a competitive retailer.

**2.4.3.7.4 INTEREST ON SECURITY DEPOSIT**

Interest shall accrue monthly on security deposits made by way of cash or cheque. The interest rate shall be at the Prime Business Rate as published on the Bank of Canada website less 2 percent, updated quarterly. The interest accrued shall be paid out every 12 months or on return or application of the security deposit or closure of the account, whichever comes first, and shall be paid by crediting the account of the customer. A cheque will be issued only to those customers no longer in the EHM service area and whose final bill has been rendered and paid.

**2.4.3.7.5 OTHER CHARGES**

As well as asking for additional money to be added to the security deposit on hand, EHM will also ask the customer to pay other charges, including: late payment interest charges, returned item charges, disconnect and reconnection charges and other charges.

#### 2.4.3.7.6 COLLECTION PROCEDURES

Customers with overdue accounts, in addition to having to pay a security deposit, will be subject to the standard collection procedures of EHM, including: notices of late payment, late payment penalties including interest charges on overdue payments, collection agency activity, notification of credit bureaus and termination of service as appropriate. Service may be terminated for non-payment of any balance (including the requested security deposit) after proper notice has been given. Any payments made at the door of a customer must be made with certified cheque, money order or cash. In addition, EHM reserves the right to accelerate the billing frequency up to and including daily billing.

THIS CREDIT POLICY MAY BE CHANGED BY EHM IN ITS DISCRETION FROM TIME TO TIME.

OTHER TERMS AND CONDITIONS MAY APPLY. Please consult an EHM customer service representative for further details.

#### 2.4.4 Billing

*This section should outline the billing methods and billing cycles the distributor has established to provide a customer with distribution services, supply through standard service supply or through a retailer, per the rules and regulations laid out in the Retail Settlement Code.*

Enersource Hydro Mississauga purchases electricity on behalf of all of its Customers and then recovers the cost, along with the cost of distribution, through Customer billings.

As Customers switch to competitive retailers and depending on the billing options, the amount of exposure for Enersource Hydro Mississauga will vary, therefore, adjustments on security deposits to reflect new levels of exposure is required.

The following policy shall apply for each billing option:

##### 2.4.4.1 Retailer-Consolidated Billing

Under this option, Enersource Hydro Mississauga will not issue a bill to a Customer. The retailer is responsible for issuing the bill to the Customer and for Customer non-payment risk. Enersource Hydro Mississauga would not require a security deposit plus the interest from the Customer.

If we are in possession of a Customer's deposit at the time of a switch to retailer-consolidated billing, Enersource Hydro Mississauga will apply the deposit towards the final bill and any excess deposit returned to the Customer.

##### 2.4.4.2 Distributor-Consolidated Billing

Under this option, Enersource Hydro Mississauga will issue a bill to the Customer. Enersource Hydro Mississauga is responsible for Customer non-payment risk. We may impose an amount of security deposit depending upon our assessment of the Customer's likely risk of non-payment as per the attached requirements.

### 2.4.4.3 Standard Supply Service

Enersource Hydro Mississauga bills the Customer.

### 2.4.4.4 Billing Errors

- a) Where billing errors have resulted in a customer overpaying for service, Enersource Hydro Mississauga will credit to the Customer with the amount over billed. The period of credit will be up to a maximum of 6 years. Interest paid on all credits is at a rate equal to the prime rate charged by the company's bank.
- b) Where billing errors have resulted in a Customer under-payment, the Customer will be charged the amount not billed. In the case of an individual residential Customer who is not responsible for the error, the Customer will be charged with the amount erroneously not billed, for a period not exceeding two years. For non-residential Customers or for instances of willful damage, the relevant time period will be the duration of the defect. Repayment may be made by installments over a period of up to two years without interest, if requested by the customer.
- c) Where billing errors have resulted in under-billing and the Customer not willing to pay the amount owing, subject to the approval of the Vice-President, Customer Service, Enersource Hydro Mississauga may turn the matter over to the Company's Solicitor to initiate court action to enforce payment. The Vice-President, Customer Service may recommend a reduced settlement amount that would save legal costs, including court costs, for the Company where the Customer has shown mitigating circumstances that might succeed in law.

## 2.4.5 Payments and Late Payment Charges

*This section should outline payment methods that the distributor has established to provide the customer with distribution services, supply through standard service supply or through a retailer as per the rules and regulations laid out in the Retail Settlement Code.*

Bills are payable in full by the due date; otherwise late payment charges will apply. Where a Customer makes a partial payment on or before the due date: a) late payment charge will apply to the amount of the bill outstanding as of the due date, b) funds will be to the LDC's charges and remaining funds shall be applied or allocated to competitive and non-competitive electricity costs based on the ratios of the amount billed.

The Customer will be required to pay additional charges for the processing of non-sufficient fund (N.S.F.) cheques.

## 2.5 CUSTOMER INFORMATION

*The Conditions of Service shall describe the provision of information with respect to chapter 11 of the Retail Settlement Code. This specifies the rights of consumers and retailers to access current and historical usage information and related data and the obligations of distributors in providing access to such information. The Conditions of Service should include reference to include information subject to privacy regulations and load profile information.*

***Any processes for handling requests for information outside of the requirements of the Retail Settlement Code should be described in this section.***

Enersource Hydro Mississauga will provide information for operational purposes and that has been sufficiently aggregated, such that an individual Customer's information cannot reasonably be identified, and at no charge to (a) another Distributor, (b) the transmitter, (c) the IESO, or (d) the OEB. Enersource Hydro Mississauga will charge a fee approved by the OEB for all other requests for aggregated data.

The Customer has the right to request historical usage information or about its meter configuration be sent to its service address or to retailer or third party designated by the customer.

At the request of a Customer, Enersource Hydro Mississauga will provide a list of retailers who have entered into Service Agreements with Enersource Hydro Mississauga. Enersource Hydro Mississauga will inform the Customers that an alternative retailer does not have to be chosen in order to ensure that the Customers receives electricity and of the terms of service available under Standard Supply Service.

Upon receiving an inquiry from a Customer connected to its distribution system, Enersource Hydro Mississauga will either respond to the inquiry, if it pertains to local distribution services or provide the Customer with contact information for the entity responsible for the item of inquiry.

An embedded Distributor that receives electricity from Enersource Hydro Mississauga shall provide load forecasts or any other information related to an embedded Distributor's system load to Enersource Hydro Mississauga, as determined and required by Enersource Hydro Mississauga.

### 3 CUSTOMER CLASS SPECIFIC

*The Customer Class Specific section shall contain references to services and requirements, which are specific to individual customer classes. This section should cover such items as:*

- *Demarcation point*
- *Metering*
- *Service Entrance Requirements*
- *Delineation of ownership and operation points of demarcation*
- *Special contracts*
- *Other conditions specific to customer class*

*The following are examples of customer specific subsections. It is recognized that customer classifications are unique to each distributor. The distributor is not limited by these examples to the range and scope of their customer classifications. Each distributor therefore should review their current classifications and ensure that all of their existing customer classifications are adequately covered by the distributor's Conditions of Service document.*

This section contains references to services and requirements that are specific to individual Customer Class. It covers items such as; Line of Demarcation, Conditions specific to Customer Class, Service Entrance Requirements, Delineation of Ownership and Operational Jurisdiction, Metering, and Special Conditions.

Basic connection to residential and General Service Customers, from Enersource Hydro Mississauga's electrical distribution system, will be as per Appendix I, Table 1.

#### 3.1 RESIDENTIAL CUSTOMERS

*Include all items that apply specifically to residential customers not covered under the General section.*

This section refers to all residential services including, without limitation, single family or single unit dwellings, multi-family dwellings, row-type dwellings and subdivision developments.

Energy is supplied single phase, 3-wire, having a nominal voltage of 120/240 Volts, up to a maximum demand of 100 kVA per dwelling unit. There shall be only one delivery point to a dwelling.

For developments, where the developer's requirement is other than single phase, 3 wire, 120/240 Volts, the supply from Enersource Hydro Mississauga will be either 347/600 Volts or 120/208 Volts three phase, 4 wire. It will be the responsibility of the developer to ensure that appropriate disclosure is made to all potential owners/tenants of such development with respect to the voltage supply to each dwelling.



### **3.1.1 Single Detached Dwellings**

#### **3.1.1.1 Early Consultation**

The Customer shall submit and or obtain from Enersource Hydro Mississauga well in advance of installation commencement, the following:

1. Required in-service date
2. Obtain Delivery point location from Enersource Hydro Mississauga before proceeding with the installation of any service. Failure to do so may result in the Delivery Point having to be relocated at the Customer's expense.
3. Capacity of the service entrance equipment as specified by the Ontario Electrical Safety Code (latest edition)
4. Details respecting heating equipment, air-conditioners and any appliances which demand a high consumption of electrical energy
5. Survey plan and site plan indicating the proposed location of the service entrance equipment with respect to public rights-of-way, lot lines, easements and other services such as gas, telephone, water, cable TV, etc.

#### **3.1.1.2 Overhead Services**

The point of demarcation for residential overhead services, no longer than 30m, is at the connection point where Enersource Hydro Mississauga's service drop connects to the Customer's anchor point and service mast (weather head).

Enersource Hydro Mississauga recovers basic connection fees through its rates.

Enersource Hydro Mississauga charges the Customer actual costs for connection assets beyond standard allowance of 30m.

Enersource Hydro Mississauga is responsible for the maintenance and repair of the transformer, transformer hardware, the first 30m of the overhead service wire and electric meter.

The Customer is responsible for the maintenance and repair of the anchor point; weather head and all points downstream of the connection splice including the meter socket base and the jaw and connection block assemblies.

#### **3.1.1.3 Overhead Servicing Details**

In overhead supplied areas, Enersource Hydro Mississauga will install overhead service wires from its aerial circuits on the public right of way at no charge to the Customer if the distance between Enersource Hydro Mississauga's supply point and the Customer's service entrance is not more than 30 meters.

If the distance is greater than 30 meters, the Customer will incur a charge for additional material and labor. The Customer shall supply own and maintain a Customer Owned pole line or any other attachment required on their property to support, anchor or terminate service conductors. The Customer will have a choice to install, own and maintain this line or have Enersource Hydro Mississauga install the line at the Customer's expense. Enersource Hydro Mississauga will make the connection to Enersource Hydro Mississauga circuits on the public right-of-way.



If transformation is required on the customer owned pole line, Enersource Hydro Mississauga will supply the transformer at no cost to the Customer. The Customer will also be required to sign a Connection Agreement with Enersource Hydro Mississauga and pay connection charges.

The point of demarcation for a primary or secondary voltage pole line is at the first pole on the Customer's property. The exception with the primary line is that any secondary conductors beyond the first 30m from the transformer pole to the Customer's service entrance will incur additional charges to the Customer.

The maximum Service Entrance Capacity connected overhead is 200 Amperes. Service Entrance Capacities in excess of 200 Amperes will require an underground service as outlined in 3.1.2.3.

#### **3.1.1.4 Services Over/Under Swimming Pools**

Enersource Hydro Mississauga will not allow electrical services over/under swimming pools.

Where a new swimming pool is to be installed it will be necessary to relocate, at the customer's expense, any electrical service that is located directly over/underground the proposed pool.

#### **3.1.1.5 Underground Services**

The point of demarcation for residential underground service is at the line side of Customer's meter base.

Enersource Hydro Mississauga is responsible for the maintenance and repair of the transformer, transformer hardware, the underground secondary cable and the electric meter.

The Customer is responsible for the maintenance and repair of the meter socket base, the meter jaw and connection block assemblies and all equipment downstream. The Customer is also responsible for the conduit that guides the service cable from underground to the meter base.

For Customers whose service entrance is located more than 100 meters from the point of supply, a high voltage primary line (overhead or underground) will be required. The Customer will have a choice to install, own and maintain this line or have Enersource Hydro Mississauga install, own and maintain the line with the initial cost at the Customer's expense. If the Customer is responsible to maintain the primary line, the point of demarcation for overhead is at the first pole and the point of demarcation for underground is at the primary cable riser connection.

The Customer is responsible for the maintenance and repair of all customer owned poles, primary overhead wires and hardware (including regular tree trimming), primary underground cable terminators, cable hangers, and primary cables. Enersource Hydro Mississauga is responsible for the transformer, transformer hardware and the first 30m of overhead secondary wire. For underground secondary cables, Enersource Hydro Mississauga will be responsible for maintaining up to 100m in length.

In all cases, if a Customer requires a primary line on their property, the Customer must sign a Connection Agreement that will describe in detail which party is responsible for the maintenance of various components of the line.

Customers requesting an underground service in an overhead area will be subject to conditions as outlined in Appendix H, Table 1.

### **3.1.1.6 Underground Servicing Details**

In underground residential areas, an approved Enersource Hydro Mississauga Contractor may install underground service wires at the Customer's expense.

For secondary services up to 100 meters in length, Enersource Hydro Mississauga will own, operate and maintain the underground secondary cable provided there is reasonable access to the underground plant. The Customer will be responsible to remove and reinstate any privately owned obstructions (landscaping, sprinklers and sprinkler piping, sheds, buildings, etc.) if required for access. Enersource Hydro Mississauga requires an appropriate electrical conduit driveway crossing installed to avoid future open cut cable repairs. Enersource Hydro Mississauga will not allow drainage pipe under any circumstances.

The customer shall pay for any necessary road crossings. Enersource Hydro Mississauga approved contractors will conduct all civil work. Enersource Hydro Mississauga must approve trench routing, service entrance and meter location. The Customer will be responsible for Enersource Hydro Mississauga's costs associated with re-design and inspection services due to changes or deviations initiated by either the Customer or its agent.

Enersource Hydro Mississauga reserves the right to install temporary jumper cables from either a Customer's or a neighboring Customer's service in the event of a fault on a Customer's underground hydro service. Enersource Hydro Mississauga will make connections on the line side of the meter not affecting consumption charges; however, maintain power to the affected Customer until repaired.

For services larger than 200 A, single phase, installation of parallel secondary cables will be allowed. Installation and number of ducts will be as per latest Enersource Hydro Mississauga standards.

## **3.1.2 Semi-Detached, Duplex or Triplex Dwellings**

This section refers to the supply of electrical energy to Customers residing in detached, semi-detached, duplex or triplex dwelling units as defined in the City of Mississauga zoning by-law where a small business establishment exists, in addition to a dwelling, within one of the aforementioned dwelling units.

The point of demarcation is as outlined in 3.1.1.2 & 3.1.1.4 for overhead and underground services respectively.

### **3.1.2.1 Underground Servicing Details**

The Customer shall submit and or obtain from Enersource Hydro Mississauga well in advance of installation commencement the following:

1. Required in-service date;
2. Obtain a delivery point location from Enersource Hydro Mississauga before proceeding with the installation of any service. Failure to do so may result in the Delivery Point having to be relocated at the Customer's expense;

3. Capacity of the service entrance equipment as specified by the Ontario Electrical Safety Code (latest edition);
4. Details respecting heating equipment, air-conditioners and any appliances which demand a high consumption of electrical energy;
5. Survey plan and site plan indicating the proposed location of the service entrance equipment with respect to public rights-of-way, lot lines, easements and other services such as gas, telephone, water, cable TV, etc.;
6. Number and size of individual services proposed for duplex or triplex dwelling units;
7. Plan to scale showing the electrical room and provision for metering equipment for duplex or triplex dwelling units;
8. All new units shall have an underground supply through a single Point of Entry for each land parcel at a location specified by Enersource Hydro Mississauga;
9. The Customer shall arrange the electrical wiring to provide for individual metering of each dwelling or small business unit, as well as a separate meter for a common house service;
10. The Customer's Delivery Point shall be an electrical room with direct outside access for Enersource Hydro Mississauga during regular business hours. The room details shall be as per the Ontario Electrical Safety Code (latest edition) and as per Enersource Hydro Mississauga's applicable conditions in section 2.3.7.1.2.

### **3.1.2.2 Overhead Distribution Area**

Where Enersource Hydro Mississauga specifies that the dwelling is located in an overhead distribution area, the following shall apply:

1. The maximum Service Entrance Capacity connected overhead is 200 Amperes. Service Entrance Capacities in excess of 200 Amperes will require an underground service as outlined in 3.1.2.3;
2. The Customer erects and maintains a pole(s) or other attachments required on the Customer's property to support service wires at their expense. This pole line shall be in accordance with section 3.5 of these Conditions of Services and as per the Ontario Electrical Safety Code (latest edition);
3. For overhead services, the Customer shall supply, install and maintain a rigidly mounted service mast, and a single point clevis and insulator to which Enersource Hydro Mississauga will attach its multiplex service cable. The mast must be of sufficient height to allow Enersource Hydro Mississauga to attach its service cable not less than 4.5 meters or greater than 5.5 meters above finished grade. There must be no aerial trespass unless Enersource Hydro Mississauga specifically attains a registered easement; The service mast shall be located as specified by Enersource Hydro Mississauga and must be in accordance to the Electrical Safety Authority;
4. Secondary services installed underground to Enersource Hydro Mississauga's overhead distribution systems are at the Customer's request as outlined in 3.1.2.3. Enersource Hydro Mississauga will terminate the secondary cable at the overhead circuit and on the line side of the Customer's meter base.

### **3.1.2.3 Underground Distribution Area**

Where Enersource Hydro Mississauga specifies that the dwelling is located in an underground distribution area, the following shall apply:

1. The Customer shall supply, install and maintain a rigidly mounted, 50mm minimum, I.P.S., CSA approved service entrance conduit, terminated 90 centimeters below grade, complete with conduit bushing. The service entrance conduit shall be located as specified by the Enersource Hydro Mississauga;
2. Enersource Hydro Mississauga or an Enersource Hydro Mississauga approved Contractor generally installs underground secondary services. The Customer may install only trenching and ducting, at the Customer's option. In the latter case, all work done by the Customer shall be subject to inspection by Enersource Hydro Mississauga;
3. Enersource Hydro Mississauga will be responsible for terminating the secondary cable at the pad mount transformer and on the line side of the Customer's meter base;
4. In the event of a fault on a Customer's underground supply, Enersource Hydro Mississauga reserves the right to install temporary jumper cables from a Customer's neighboring service to maintain power to the affected Customer until the fault is rectified. The connection made is on the line side of the meter and does not affect consumption charges.

#### **3.1.2.4 Point of Demarcation**

The ownership demarcation point for residential service is as follows:

- for existing overhead services, it is the first point of attachment on private property. Normally this is service mast at the house. However it may be another structure such as a pole;
- for underground service, it is the line side of the meter base; and
- Enersource Hydro Mississauga also owns the electric meter.

The operational demarcation point for a residential service is at the meter base.

### **3.1.3 Residential Subdivisions or Multi-unit Developments (Row Type Multiple Dwellings)**

New Residential subdivisions or Row-type Multiple Dwellings involving the construction of new city streets and roadways will involve capital contribution for "Expansion" work. Enersource Hydro Mississauga will perform an economic evaluation to determine whether, the future revenue will pay for the capital investment and on-going maintenance. Should the Economic Evaluation identify a shortfall for the expansion, the Customer will be required to provide a capital contribution. The developer has a choice of either having Enersource Hydro Mississauga do the work or request for "Alternate Bids" in accordance with Section 3.3 of the Distribution System Code.

Construction of all electrical services is to Enersource Hydro Mississauga standards and in compliance with the Ontario Electrical Safety Code as well as applicable laws, regulations and codes.

## **3.2 GENERAL SERVICE**

*Include all items that apply specifically to general service customers not covered under the other sections, and broken down into:*

- *General Service Type A Customers*

- *General Service Type B Customers*
- *Embedded Generation*
- *Embedded Market Participant*
- *Embedded Distributor*
- *Un-metered Connections*

This section refers to the supply of electrical energy and related requirements to all Industrial and Commercial buildings including plazas, office and apartments buildings. For the purpose of this Conditions of Service, General Service Customers relate to Industrial/Commercial Subdivisions, General Service (Type 'A' & 'B' Customers), Metering, Temporary Services, Private Pole Lines and Motors.

### 3.2.1 General Requirements (Type 'A' Customers)

Enersource Hydro Mississauga may require the Customer to pay all or part of costs of installing distribution equipment, including circuits and transformation, which are necessary to supply only the Customer due to the following:

- As a guarantee against the Customer's account or;
- Where, in the sole opinion of Enersource Hydro Mississauga, the carrying charges on the equipment will exceed the revenue or;
- Where, Enersource Hydro Mississauga has reason to believe that its transformers may have to be removed in less than five years from the date of installation.

Enersource Hydro Mississauga will refund payment when satisfied that the above conditions no longer apply.

#### 3.2.1.1 Type of Service

The City of Mississauga "Official Plan Strategy Policy" is that all service power lines be located underground, where feasible

The type of servicing arrangement (either overhead or underground) to a Customer is determined as follows:

Underground services are required in locations where any of the following occur:

1. City of Mississauga site development plan approval is required;
2. Enersource Hydro Mississauga technical requirements call for underground services;
3. Areas are designated as underground by Enersource Hydro Mississauga.

Overhead servicing is available where both:

1. Enersource Hydro Mississauga circuits are overhead; and
2. City of Mississauga site development plan approval is not required.

In overhead servicing areas, the Customer may elect to install an underground service at their expense.

**3.2.1.2 Delivery Point and Point of Entry**

The Customer must obtain from Enersource Hydro Mississauga a location for both the Delivery Point and Point of Entry to land parcel before proceeding with the installation of any service.

Failure to do so may require that the Delivery Point and Point of Entry be relocated, resulting in a time delay and additional expense to the Customer.

**3.2.1.3 Overhead Services**

The point of demarcation for overhead services is at the connection point where Enersource Hydro Mississauga's service drop connects to the Customer's anchor point and service mast (weather head).

Enersource Hydro Mississauga collects basic connection fees through distribution rates. Customers will be charged 100% actual costs for connection assets and redesign due to changes in Customer initial proposal.

In overhead supplied areas, Enersource Hydro Mississauga will install, connect and maintain overhead service wires from its aerial circuits on the public right of way to Customer's service mast.

**3.2.1.4 Overhead Servicing Requirements**

The maximum Service Entrance Capacity for which Enersource Hydro Mississauga will install overhead secondary service wires is normally 400 Amperes.

The Customer shall supply and maintain the service mast, including the number of clevises and insulators as required by Enersource Hydro Mississauga for service cable attachments. The mast must be of sufficient height to allow Enersource Hydro Mississauga to attach its service cable not less than 4.5 meters or greater than 5 meters above finished grade. There must be no aerial trespass unless Enersource Hydro Mississauga specifically attains a registered easement

The service mast shall be located as specified by Enersource Hydro Mississauga and must be in accordance with the Electrical Safety Code.

The Customer erects and maintains a pole(s) or other attachments required on the Customer's property to support service wires at their expense. This pole line shall be in accordance with section 3.5 of these Conditions of Services and as per the Ontario Electrical Safety Code (latest edition).

**3.2.1.5 Underground Services**

The point of demarcation for underground services is where Enersource Hydro Mississauga's wires connect to the Customer's "Termination Compartment" inside the Customer's (grade level) electrical room.

Enersource Hydro Mississauga is responsible for the maintenance and repair of the transformer, transformer hardware, the underground secondary cable (installed by Enersource Hydro Mississauga) and the electric meter.

Enersource Hydro Mississauga collects basic connection fees through distribution rates. Customers will be charged 100% actual costs for connection assets and redesign due to changes in Customer initial proposal.



The Customer is responsible for the maintenance and repair of the meter socket base, the meter jaw and connection block assemblies and all equipment downstream. The Customer is also responsible for the conduit that guides the service cable from underground to the meter base.

### **3.2.1.6 Underground Servicing Requirements**

Installation of a new or upgraded underground primary service to the Delivery Point, including splicing, is at the Customer's expense. Enersource Hydro Mississauga pays for system operating & protective devices, if any.

The Customer shall supply, install and maintain a concrete encased duct bank in accordance with Enersource Hydro Mississauga specifications from the Point of Entry to the Delivery Point. Prior to installation, Enersource Hydro Mississauga is to approve the duct bank.

If Enersource Hydro Mississauga determines that a duct bank will have a difficult cable pull, the Customer shall design, supply, install and maintain a pulling manhole or pit on their property.

The Customer will supply, install and maintain the transformer foundations and switchgear foundations and grounding in accordance with Enersource Hydro Mississauga's specifications. This includes protective vehicular barriers if required.

The Customer will provide access for Enersource Hydro Mississauga vehicles to the transformers and switchgears without causing property damage. The Customer shall provide an unobstructed paved or graveled surface for this purpose of sufficient strength, as specified by Enersource Hydro Mississauga.

The Customer will pay Enersource Hydro Mississauga the additional cost of transformers of kVA rating in excess of the need estimated by Enersource Hydro Mississauga. Enersource Hydro Mississauga refunds payment when, in the sole opinion of Enersource Hydro Mississauga, the actual kVA load justifies the installation of the transformer. Enersource Hydro Mississauga will consider such refund only when requested.

### **3.2.1.7 Maintenance of Supply**

1. Overhead Primary / Secondary Lateral Supply
  - a) Where no poles exist on the Customer's property Enersource Hydro Mississauga will maintain the service wires from its circuits to the Customer's service mast or Delivery Point;
  - b) Where a pole line exists on the Customer's property, Enersource Hydro Mississauga maintains the service wires from its circuits to the first pole on the Customer's property;
  - c) Private lines shall be maintained at the Customer's expense;
  - d) Pole lines installed by Enersource Hydro Mississauga, for the Customer, shall be maintained at the Customer's expense.
2. Underground Primary / Secondary Lateral Supply
  - a) Services installed by Enersource Hydro Mississauga, or its agents, are maintained by Enersource Hydro Mississauga, unless specifically documented otherwise to the Customer by Enersource Hydro Mississauga;
  - b) Following maintenance, surface restoration by Enersource Hydro Mississauga will include only soil, sod, gravel or asphalt. All other damage, maintenance and repair are at the Customer's expense;

- c) Ownership and maintenance of privately owned existing service cables is the responsibility of the Customer. If Enersource Hydro Mississauga replaces the existing cable for the Customer, such work shall be at the Customer's expense.
3. Underground Primary Looped Supply
  - a) Enersource Hydro Mississauga shall perform maintenance or replacement of all underground looped cables, which form part of Enersource Hydro Mississauga circuits, at Enersource Hydro Mississauga's expense, unless specifically documented otherwise to the Customer by Enersource Hydro Mississauga;
  - b) Following maintenance, surface restoration by Enersource Hydro Mississauga will include only soil, sod, gravel or asphalt. All other damage, maintenance and repair are at the Customer's expense.

### 3.2.1.8 Transformation & Voltage availability (Type 'A' Customer)

Enersource Hydro Mississauga supplies, installs and maintains transformers and associated facilities for the Type 'A' Customer whose ultimate demand will not exceed the values as shown in Appendix L Table 'A'.

### 3.2.1.9 Early Consultation

The Customer shall consult with Enersource Hydro Mississauga in the early planning stages to ascertain what facilities and voltages are available at specific locations. Detailed servicing conditions are sometimes difficult to apprehend without specific information, therefore, the Customer shall submit the following:

1. Required in-service date;
2. Obtain Delivery point location from Enersource Hydro Mississauga before proceeding with the installation of any service. Failure to do so may result in the Delivery Point having to be relocated at the Customer's expense;
3. Voltage requirements;
4. Overall single line diagram showing proposed arrangement of the Customer's main primary and secondary distribution system, including the metering facilities & requirements;
5. Estimated initial and future Maximum Demand;
6. Specific listing of the types of loads for lighting, motor, welding, heating, air conditioning or other;
7. Electrical site plan, to scale, showing the preferred location of the service entrance equipment from the Point of Entry to the Delivery Point;
8. Electrical room shall be located above grade;
9. Architectural site plan to scale, showing grading & building(s) in relation to existing or proposed property lines;
10. Service Entrance Capacity, voltage rating and the interruption capacity of the main secondary service switch;
11. Complete set of engineering drawings, including sewer and water servicing and grading, as approved by the City and the Region. Digital drawings are preferred as Micro station files (dgn. format), however, AutoCAD files (dwg. format) is acceptable. Supply of the files can be e-mail or on 3½" diskette, compressed if necessary. AutoCAD files should have all the reference files bound to the main drawing file;



12. The Owner shall ensure that his service entrance equipment has an adequate short-circuit interrupting capability. Enersource Hydro Mississauga will advise, on request, the maximum available short-circuit symmetrical in-rush Amperes at any specific location.

#### **3.2.1.10 Electrical Service Characteristics**

1. Hydro supply to the Customer is at one service voltage and at one Delivery Point to any building. Primary feeder circuits may enter or exist via a different route on the land parcel.
2. The Customer shall supply, install and maintain internal transformers where a voltage other than the supply voltage is required.
3. The Customer shall maintain a balanced 3-phase load.
4. The Customer shall obtain prior approval from Enersource Hydro Mississauga for the use of any specific voltage at any specific location.
5. The electric servicing of most Industrial / Commercial and Institutional buildings is via transformation supplied, owned, operated, and maintained by Enersource Hydro Mississauga.
6. It is Enersource Hydro Mississauga's practice to provide transformation to supply the Customer's actual demand. As such, the main switch and/or breaker setting may need to be set at a lower fuse level to provide coordination with Enersource Hydro Mississauga's primary transformer fuse. Enersource Hydro Mississauga will provide the time-current characteristic curve of the upstream protection to the Customer's Consultant. The onus is on the Customer to confirm suitable coordination.
7. Where the voltage requested is not available from Enersource Hydro Mississauga, the Customer shall supply, install and maintain the transformers.
8. The Customer shall ensure that his service entrance equipment has an adequate short-circuit interruption capability. Enersource Hydro Mississauga will advise, on request, the maximum available short-circuit symmetrical in-rush Amperes at any specific location.

#### **3.2.1.11 Overhead Secondary Services (max 400 Amp)**

1. Enersource Hydro Mississauga will be responsible for the installation & maintenance of the transformer and hardware
2. Enersource Hydro Mississauga will be responsible for the installation & maintenance of the first 30m of overhead service wire for new or enlarged services.
3. The Customer is responsible for the installation & maintenance of the clevises and insulators including weather heads and all points downstream of the delivery point including the meter socket base.
4. Enersource Hydro Mississauga is responsible for the installation & maintenance of the electric meter.

#### **3.2.1.12 Underground Secondary Services - Via Overhead Circuits (max 600 Amp)**

1. Enersource Hydro Mississauga will be responsible for the installation & maintenance of the transformer and hardware
2. The Customer's Service Entrance Capacity must not exceed 600 Amperes (80% rating).
3. Enersource Hydro Mississauga will be responsible for the installation & maintenance of the underground service wire for new or enlarged services. The initial installation costs will be at the Customer's expense.

4. The customer's electrical room shall be located above ground. Enersource Hydro Mississauga will be responsible for supply and installation of secondary cables mounting and terminations on hydro pole at the Customer's expense.
5. Enersource Hydro Mississauga is responsible for the installation & maintenance of the electric meter including requirements for CT's and PT's.

**3.2.1.13 Underground Secondary Services - Via Padmounted transformer (max 1600 Amp)**

1. Enersource Hydro Mississauga will be responsible for the installation, ownership & maintenance of the transformer and hardware.
2. Enersource Hydro Mississauga will be responsible for the installation, ownership & maintenance for the life of the underground service wire for new or enlarged services. The initial installation costs will be at the Customer's expense.
3. The Customer's electrical room shall be located above grade level, Enersource Hydro Mississauga will install, own and maintain secondary cables downstream of the pad mount transformer secondary bushings.
4. Enersource Hydro Mississauga will be responsible for the transformer secondary cable terminations at the Customer's expense.
5. Enersource Hydro Mississauga is responsible for the installation & maintenance of the electric meter including requirements for CT's and PT's.

**3.2.1.14 Transformer Vaults**

This section refers to the requirements of Customer-Owned Transformer Vaults in which Enersource Hydro Mississauga installs and maintains its electrical equipment to a maximum of 1600 Amps.

Note: The practice of vault installation is no longer encouraged by Enersource Hydro Mississauga. If Customers request a vault, then the following will apply:

**3.2.1.14.1 General Requirements**

For transformer vault services, the point of demarcation is downstream of the secondary transition unit's penetration into the vault.

The Customer is responsible for a safe environment and maintaining a structural integrity of the Customer owned vault as per Enersource Hydro Mississauga standards.

Enersource Hydro Mississauga is responsible for the installation & maintenance of the electric meter including requirements for CT's and PT's.

Construction of vaults must be in accordance with applicable Federal, Provincial and Municipal codes as well as Enersource Hydro Mississauga requirements. Vaults shall be located at grade level, preferably in a corner of the building, with two outside walls with no occupied living or office space adjacent to the vault.

The grade level requirement shall be with respect to the location of the doors. Continual natural drainage away from both the interior and immediate exterior of the vault is also required. Prior to the commencement of construction, Enersource Hydro Mississauga must approve all vault dimensions and clearances.

**3.2.1.14.2 Vault Requirements**

The Owner shall submit details of all vault requirements listed below to Enersource Hydro Mississauga for approval well in advance of installation commencement.

The Owner shall supply, install and maintain the following in accordance with applicable Federal, Provincial and Municipal Codes as well as Enersource Hydro Mississauga specifications:

1. Incoming primary concrete-encased ducts, complete with reinforcing and fish wire;
2. Grounding system in accordance with the Ontario Hydro Electrical Safety Code;
3. A transition unit through the vault wall by which the secondary conductors connect to the Customer's main service entrance. Phase rotation is to be according to the Enersource Hydro Mississauga's standards;
4. Ventilation inlet and outlet openings sized according to the Owner's service entrance capacity complete with high security steel bars, screens, louvers and grills. Mechanical ventilation is not acceptable;
5. Non-flammable insulation, where required to prevent heat or sound transfer;
6. Cable trench at the primary entrance to the vault, complete with drain and cover;
7. Cable pulling eyes;
8. Drain, with screen, trap and reverse check valve, including adequate floor slope towards drain;
9. Two coats of light-colored waterproof paint on all interior walls and ceiling of the vault;
10. Metal clad vault door(s);
  - a) Located in an outside wall with direct access from grade level
  - b) Locking provisions with Enersource Hydro Mississauga locks. No other means of locking shall be permitted
  - c) With hardware not removable from the outside
  - d) With a permanent legible sign stating, "Danger - High Voltage" on the outside
  - e) Without ventilation openings
  - f) With an elevated concrete sill
11. Smoke detector, location approved by Enersource Hydro Mississauga, with annunciation external to the vault. Sprinklers and other fire extinguishing systems are not permitted;
12. Lighting and convenience outlet.

**3.2.1.14.3 Access to Vaults**

The Customer shall allow authorized personnel of Enersource Hydro Mississauga access to the transformer vault at all times, and shall prevent unauthorized persons from entering.

It is necessary that Enersource Hydro Mississauga vehicles have access to the door(s) of the vault at all times, without causing property damage. The Owner shall provide an unobstructed paved or graveled surface for this purpose, of sufficient size and strength as specified by Enersource Hydro Mississauga

**3.2.1.14.4 Maintenance and Costs**

Enersource Hydro Mississauga will carry out or co-ordinate maintenance inside the vault. Routine maintenance could include cleaning, painting, tightening connections, and other normal functions. Enersource Hydro Mississauga will pay for the costs for such routine maintenance done during normal working hours. The Owner shall pay Enersource Hydro Mississauga's premium overtime costs when the Owner requests work done outside normal working hours.

Specific repairs to the Owner's equipment will be at the Owner's expense. Specific repairs to Enersource Hydro Mississauga's equipment will be at Enersource Hydro Mississauga's expense

Enersource Hydro Mississauga will not allow the owner or their agents to perform maintenance inside an energized vault.

#### **3.2.1.14.5 Secondary Conductors in a Vault**

Where Enersource Hydro Mississauga supplies, installs and maintains transformers, in the Customer's vault, the Customer shall:

1. Supply, install and maintain the vault and grounding in accordance with Enersource Hydro Mississauga specifications;
2. Supply, install and maintain a cable tray for secondary cables within transformer vaults with service entrance capacities up to and including 800 Amperes. For these vaults, Enersource Hydro Mississauga will supply and install secondary cables and connectors at the Customer's expense. Where the service entrance capacity exceeds 800 Amperes, Enersource Hydro Mississauga will install secondary bus bars, cables and connectors at the Customer's expense. Maintenance of cables and connectors will be at Enersource Hydro Mississauga's expense;
3. Provide access for Enersource Hydro Mississauga vehicles to the vault without causing property damage. The Customer shall provide an unobstructed paved or graveled surface for this purpose of sufficient strength, as specified by Enersource Hydro Mississauga.

#### **3.2.1.15 Point of Demarcation**

The ownership demarcation point is as follows:

- For existing overhead services, it is the first point of attachment on the private property.
- For existing customer-installed underground service, it is the transformer secondary bushing.
- For Enersource Hydro Mississauga underground services, it is the junction box or switchboard.

The operational demarcation point is as follows:

- For existing overhead services, it is the first point of attachment on private property.
- For underground service, it is the meter base or the disconnect switch, while meter comes first. The disconnected switch comes first in most instances, without being small single phase services up to 400A.

### **3.2.2 Transformation & Voltage availability (Type 'B' Customer)**

For Type 'B' Customers, the Customer will be responsible to supply, install and maintain transformers and associated facilities as shown in Appendix L Table 'B'.

#### **3.2.2.1 Early Consultation**

The Customer shall consult with Enersource Hydro Mississauga in the early planning stages to ascertain what facilities and voltages are available at specific locations. Detailed servicing conditions

are sometimes difficult to apprehend without specific information, therefore, the Customer shall submit the following:

1. Required in-service date;
2. Voltage requirements;
3. Overall single line diagram showing proposed arrangement of the Customer's main primary and secondary distribution system, including the metering facilities & requirements;
4. Estimated initial and future Maximum Demand;
5. Specific listing of the types of loads for lighting, motor, welding, heating, air conditioning or other;
6. Electrical site plan, to scale, showing the preferred location of the service entrance equipment from the Point of Entry to the Delivery Point;
7. Architectural site plan to scale, showing grading & building(s) in relation to existing or proposed property lines;
8. Service Entrance Capacity, voltage rating and the interruption capacity of the main secondary service switch;
9. Complete set of engineering drawings, including sewer and water servicing and grading, as approved by the City and the Region. Digital drawings are preferred as Micro station files (dgn. format), however, AutoCAD files (dwg. format) is acceptable. Supply of the files can be e-mail or on 3½" diskette, compressed if necessary. AutoCAD files should have all the reference files bound to the main drawing file;
10. The Owner shall ensure that the service entrance equipment has an adequate short-circuit interrupting capability. Enersource Hydro Mississauga will advise, on request, the maximum available short-circuit symmetrical in-rush Amperes at any specific location;
11. kVA capacity of the substation transformers;
12. Primary and secondary voltage of the substation transformers;
13. Site plan showing the proposed location for the substation and the transmission line on the Customer's property.

#### **3.2.2.2 Electrical Service Characteristics**

1. Hydro supply to the Customer is at one service voltage and at one Delivery Point to any building. Primary feeder circuits may enter or exist via a different route on the land parcel.
2. The Customer shall supply, install and maintain internal transformers where a voltage other than the supply voltage is required.
3. The Customer shall maintain a balanced 3-phase load.
4. The Customer shall obtain prior approval from Enersource Hydro Mississauga for the use of any specific voltage at any specific location.
5. The Customer shall ensure that his service entrance equipment has an adequate short-circuit interruption capability. Enersource Hydro Mississauga will advise, on request, the maximum available short-circuit symmetrical in-rush Amperes at any specific location.

#### **3.2.2.3 Type of Service**

The City of Mississauga "Official Plan Strategy Policy" is that all service power lines be located underground, where feasible.

The type of servicing arrangement (either overhead or underground) to a Customer is determined as follows:

Underground services are required in locations where any of the following occur:

1. City of Mississauga site development plan approval is required;
2. Enersource Hydro Mississauga technical requirements call for underground services;
3. Areas are designated as underground by Enersource Hydro Mississauga.

Overhead servicing is available where both:

1. Enersource Hydro Mississauga circuits are overhead; and
2. City of Mississauga site development plan approval is not required.

In overhead servicing areas, the Customer may elect to install an underground service at their expense.

#### **3.2.2.4 Delivery Point and Point Of Entry**

The Customer must obtain from Enersource Hydro Mississauga a location for both the Delivery Point and Point of Entry to land parcel before proceeding with the installation of any service.

Failure to do so may require that the Delivery Point and Point of Entry be relocated, resulting in a time delay and additional expense to the Customer.

#### **3.2.2.5 Overhead Lateral Services**

Where the supply is to be overhead on the Customer's property:

1. The Customer may install, own and maintain a private pole line. Pole lines constructed by the Customer shall be in accordance with this Conditions of Service and with the Ontario Electrical Safety Code (latest edition).
2. Enersource Hydro Mississauga shall make the necessary connections from its circuits to the first pole on the Customer's property. The Customer will provide long enough circuit wire to make this connection.
3. Where requested, Enersource Hydro Mississauga will install the overhead line from the Point of Entry to the Delivery Point. Such installation shall be at the Customer's expense.
4. The Customer shall provide the U-bolts and tower eyes for attaching the strain insulator assembly.

#### **3.2.2.6 Underground Lateral or Underground Loop**

1. Installation of a new or upgraded underground primary service to the Delivery Point, including splicing, is at the Customer's expense. Enersource Hydro Mississauga pays for system operating & protective devices, if any.
2. The Customer shall supply, install and maintain a concrete encased duct bank in accordance with Enersource Hydro Mississauga specifications from the Point of Entry to the Delivery Point. Before installation, Enersource Hydro Mississauga is to approve the duct bank.
3. In accordance with Enersource Hydro Mississauga requirements, if it determined that cables cannot be readily pulled through a duct bank, the Customer shall design, supply, install and maintain a pulling manhole or pit on their property.

#### **3.2.2.7 Equipment Rating in Customer-Owned Substations**

1. The Customer shall provide high voltage fuses or breakers having symmetrical short-circuit interrupting capacities as follows:

<u>Supply Voltages</u>	<u>Wires</u>	<u>MVA</u>
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44,000	3	1,500
27,600	3	835
16,000/27,600	4	800
8,000/13,800	4	500
2,400/4,160	4	250

2. Ultimate supply voltage, fuse characteristics, relay settings and lightning arrestor application shall be as specified by Enersource Hydro Mississauga
3. The "Basic Impulse Levels" of Customers' equipment shall be as follows, or as otherwise specified by Enersource Hydro Mississauga

<u>Supply Voltage</u>	<u>Wires</u>	<u>BIL</u>
44,000	3	250 kV
27,600	3	200 kV
16,000/27,600	4	150 kV
16,000/27,600	4	125 kV*
8,000/13,800 (Dry Type/Oil Filled)	4	95 kV
2,400/4,160	4	60 kV

**\* Per the Electrical Safety Authority using appropriate 21kV Interrupting Class arrestors.**

**3.2.2.8 Transformer Specifications when Supplied by Customer**

1. Customers shall install Power Transformers in accordance with CSA specification C2 or C88 latest edition and applicable pad mounted transformer specifications C227.2 & C227.4 latest edition. For indoors, dry type transformer CSA specification C9 latest edition.
2. In order to facilitate voltage conversions, Enersource Hydro Mississauga may specify that a Customers' transformers be equipped with multiple high voltage windings, suitable for connection to two system voltages. Enersource Hydro Mississauga may also specify special tap settings to accommodate system voltage variations.

**3.2.2.9 Plans and Specifications for Customer-Owned Substations**

1. In addition to obtaining the approval of the Electrical Safety Authority Inspection Department for the Customer's substation equipment, the Customer shall also obtain Enersource Hydro Mississauga approval of any components, which may affect its system, e.g. cables, lightning arrestors, terminators, protective and switching devices, etc. This approval should be obtained well in advance of tender documents being issued.
2. To obtain approval the Customer shall submit to Enersource Hydro Mississauga two copies of detailed plans and specifications, certified by a registered Professional Engineer, showing the following:
  - a) Single line schematic diagram indicating:
    - i) All voltages of the proposed installation;
    - ii) Transformer bank capacity, rating, reactance, air, oil and other cooling;
    - iii) Protective and switching devices with short-circuit rating.
  - b) Working drawings and specifications for the substation installation, including:
    - i) Detailed dimensions, in plan and elevation.
    - ii) Working and live parts clearances.
    - iii) Structures and guying for dead-ending incoming lines.
    - iv) Material list.
    - v) Interlocking schemes.

- c) Survey plan and site plan indicating the location of the substation with respect to the public right-of-way;
  - d) List of the lighting, motor, welding, heating and other loads;
  - e) Ampere and voltage rating of the main secondary service switch;
  - f) Location and details of the metering equipment.
3. Enersource Hydro Mississauga will review and approve an original and one corrected proposal for each new substation free of charge. Any subsequent reviews will incur Enersource Hydro Mississauga charges. When modifications are being made to an existing substation without a substantial load increase, all costs of Enersource Hydro Mississauga review and approval will be charged to the Customer.

#### **3.2.2.10 Pre-Service Inspection and Energization**

1. The Customer at their expense, before energization, shall submit a certified pre-service inspection report. The inspection shall be completed as specified by Enersource Hydro Mississauga, not by the same or affiliated Contractor responsible for the substation installation. **The inspection report must bear the stamp of a registered Professional Engineer.**
2. The report shall include the results of tests and checks as follows:
  - a) Transformer oil sample test;
  - b) Field observed lightning arrester data;
  - c) Primary disconnect operation check;
  - d) Transformer ratio test;
  - e) High potential test of primary cables;
  - f) Field observed high voltage fuse test.
3. Following receipt of the pre-service inspection report, Enersource Hydro Mississauga will perform an on-site inspection and, if satisfactory, energize the substation. There will be no charge for these services if, scheduled in advance, during Enersource Hydro Mississauga normal working hours, and providing it is the first inspection and energization of a new or enlarged substation

#### **3.2.2.11 Operation of Primary Disconnect Devices**

1. Customers shall permit access by Enersource Hydro Mississauga at all times in order to operate primary disconnect devices on Customer Owned Substations.
2. Customers may require the operation of primary disconnect devices for purposes of routine maintenance or other reasons. Enersource Hydro Mississauga will do so upon receipt of a written commitment to pay its costs. A minimum of one week's notice is required for planned operation of such devices.
3. Under no other circumstances are Customers permitted to operate these devices. Enersource Hydro Mississauga may require Customers to enter into a written agreement pertaining to operation of primary disconnect devices. Under this agreement, Customers may operate certain devices.

#### **3.2.2.12 Maintenance of Supply to Customer-Owned Substation**

##### **3.2.2.12.1 Overhead Lateral Supply**

1. Where no poles exist on the Customer's property, Enersource Hydro Mississauga will maintain the service wires from its circuits to the Customer's Delivery Point.



2. Where a pole line exists on the Customer's property, Enersource Hydro Mississauga maintains the service wires from its circuits to the first pole on the Customer's property. The Customer shall maintain private pole lines at their expense.

#### 3.2.2.12.2 **Underground Lateral or Looped Supply**

1. Services installed by Enersource Hydro Mississauga, or its agents, are maintained by Enersource Hydro Mississauga, unless specifically documented otherwise to the Customer by Enersource Hydro Mississauga.
2. Following maintenance, surface restoration by Enersource Hydro Mississauga will include only soil, sod, gravel or asphalt. All other damage, maintenance and repair are at the Customer's expense.
3. Ownership and maintenance of privately owned service cables is the responsibility of the Customer. If Enersource Hydro Mississauga replaces the cable for the Customer, such work shall be at the Customer's expense.

#### 3.2.2.12.3 **Service Removal**

The Customer shall incur the cost to have Enersource Hydro Mississauga remove any service lines on the Customer's property.

#### 3.2.2.12.4 **Maintenance of Customer-Owned Substations**

Customers are responsible for performing both regular and emergency maintenance on their substations. Customers should be aware that availability of materials and labor to perform emergency repairs in the event of a sudden substation failure.

Enersource Hydro Mississauga will disconnect the supply accordingly and will provide advice regarding cause of failure. The Customer is responsible for Substation repairs.

#### 3.2.2.12.5 **Point of Demarcation is as follows:**

The ownership demarcation point, in this section, is as follows:

- The first point of attachment to Enersource Hydro Mississauga's distribution system for both overhead and underground up to and including the high voltage clamp.
- The operational point for a customer owned sub-station, in this section, may be at the live loop or switch as applicable.

**Note: High voltage disconnect switches downstream of Enersource Hydro Mississauga operational demarcation point must be operated only with proper authorization from Enersource Hydro Mississauga.**

### 3.2.3 **Industrial / Commercial Subdivisions**

Industrial/Commercial subdivisions involving the construction of new city streets and roadways will involve capital contribution for "Expansion" work (see section 2.1.2 Expansions for details). Enersource Hydro Mississauga will perform an economic evaluation to determine whether, the future revenue will pay for the capital investment and on-going maintenance. Should the Economic Evaluation identify a shortfall for the expansion, the Customer will be required to provide a capital contribution. The developer has a choice of either completing the work by Enersource Hydro

Mississauga or asking for “Alternate Bids” in accordance with section 3.3 of the Distribution System Code.

Industrial/Commercial subdivisions not involving new streets and roadways, but only private property, will follow general terms and conditions for connection charges and Capital contribution and appropriate General Class Customers.

In all cases, all of the electrical service must be constructed to Enersource Hydro Mississauga standards and in compliance with Ontario Electrical Safety Codes, applicable laws, regulations and codes.

### **3.2.3.1 Early Consultation**

Developer shall consult with Enersource Hydro Mississauga in the early planning stages to ascertain the Enersource Hydro Mississauga’s requirements.

The Developer shall submit the following information:

1. Plan of subdivision;
2. Schedule of power requirements at defined stages of development survey plan of the lands, showing public rights-of-way and all easements required by the City and the Region;
3. Complete set of engineering drawings, including sewer and water servicing and grading, as approved by the City and the Region. Digital drawings are preferred as Micro station files (dgn format), however, AutoCAD files (dwg format) is acceptable. Supply of the files to be e-mailed or on 3½” diskette, compressed if necessary. AutoCAD files should have all the reference files bound to the main drawing file;
4. General type of buildings to be constructed and electrical loads anticipated;
5. A statement from the Municipality as to whether the lands will require Site Development Plan Approval;
6. Type of heating and air-conditioning for each building unit;
7. One set of detailed engineering plans, approved by the Municipality.

## **3.3 TEMPORARY SERVICES**

This section refers to the supply of electrical energy on a temporary basis for construction, short term processing, or pending permanent installations.

### **3.3.1 Early Consultation**

The Customer shall consult with Enersource Hydro Mississauga in the early planning stages to ascertain what facilities and voltages are available at specific locations.

The Owner shall submit to Enersource Hydro Mississauga the following information:

1. Required in-service date;
2. Voltage requirements;
3. Estimated Maximum Demand;
4. Specific listing of types of loads for lighting, motor, heating, air conditioning or other;
5. Plot plan, to scale, showing the proposed Delivery Point location related to the public right-of-way and lot lines.

### **3.3.2 Delivery Point Location**

The Owner must obtain approval of his proposed Delivery Point location from Enersource Hydro Mississauga before proceeding with the installation of any service. Failure to do so may require that the Delivery Point be relocated, resulting in a time delay and additional expense to the Owner.

### **3.3.3 Installation and Removal**

Enersource Hydro Mississauga will:

1. Install and remove all temporary services, except a Private Pole line if required by Section 3.2.5;
2. Render a standard charge to the Owner when a temporary service is supplied overhead from an existing Commission circuit of adequate capacity;
3. Provide for the Owner upon request, estimates for installation and removal charge for all temporary services not covered in Paragraph (2). The owner shall pay 100% of the installation & removal costs.
4. The Owner shall pay, in advance, 110 % of the estimated installation cost. Following completion of the installation, if the actual costs exceed the advance payment, Enersource Hydro Mississauga will disconnect the temporary service if the Owner does not pay the additional amount. Total actual costs are payable or refunded upon removal of the service.

### **3.3.4 Supply of Transformation**

1. Enersource Hydro Mississauga supplies, installs and maintains transformers up to 100 kVA single-phase and 500 kVA 3-phase, at the Owners expense;
2. The transformer size actually supplied will be dependent upon demand requirements and size availability from Enersource Hydro Mississauga's normal inventory;
3. The owner shall supply, install and maintain transformers larger than 100 kVA single-phase or 500 kVA three-phase, or any transformers required which are not available from Enersource Hydro Mississauga's normal inventory.

### **3.3.5 Temporary Pole Requirements**

If a temporary secondary service pole is required on the Owner's property, it shall be:

1. Minimum 9.5m (30' wood pole), 8m (25') above grade and 1.8m (6') in earth;
2. Minimum 150mm (6") top diameter;
3. Guyed against strain in one or more directions using 8mm (3/8") medium-hard galvanized steel wire, and anchored a minimum of 3.0 m from the pole;
4. Provided with a single point clevis and insulator not less than 7.5m above grade.

## **3.4 PRIVATE POLE LINES**

This section refers to the design and construction of privately owned poles, lines and attachments on private property. The intent of the pole lines is to supply electrical energy, which may accommodate Enersource Hydro Mississauga-owned transformers, metering units or protective devices.

### **3.4.1 Owner Responsibilities**

Where a Private Pole Line is required, the Customer shall supply, install and maintain the line at their expense per the Ontario Electrical Safety Code (latest edition).

### **3.4.2 Location Approval**

The Owner shall contact Enersource Hydro Mississauga prior to commencement of the work to obtain approval for the location of the line. Failure to do so may require that the pole line be relocated resulting in a time delay and additional expense to the Owner.

### **3.4.3 Submission of Drawings**

Enersource Hydro Mississauga shall receive two (2) copies of drawings, certified by a Registered Professional Engineer, of the proposed installation during the early planning stages of the project for approval before commencement of the work.

These drawings shall indicate the following:

1. Location of the line on a scale plot plan, including public rights-of-way, utilities, easements, lot lines and adjacent obstructions such as fences, buildings, trees or other equipment;
2. Voltage rating of the proposed line;
3. Pole heights and specification;
4. Guying arrangements;
5. Clearances between conductors;
6. Conductor sizes and material;
7. Location of transformers;
8. Means of isolation along with fusing.

### **3.4.4 Pole Line Specifications**

The Customer shall obtain specifications from Enersource Hydro Mississauga for each project before submitting drawings for approval.

The following general requirements apply:

1. Pole lines shall be constructed and guyed at each end independently from Enersource Hydro Mississauga's lines;
2. An additional guy wire may be required on the first pole to resist the angular tension from Enersource Hydro Mississauga's nearest pole;
3. The first pole on the line shall be of a height and class as specified by Enersource Hydro Mississauga;
4. The first pole shall be within 20 meters of the Point of Entry and shall not exceed 50 meters from the nearest existing or proposed Enersource Hydro Mississauga pole. The first pole shall be located such that conductors from the Enersource Hydro Mississauga pole shall not trespass aerially over adjacent lands;
5. Maximum span length between poles shall not exceed 50 meters;
6. All clearances and insulation levels must be designed for the Enersource Hydro Mississauga's line-to-line voltage;

7. Minimum horizontal clearance of 5 meters shall be required between any lot lines and centre line of poles. Clearances between phase conductors and adjacent buildings and structures shall be in accordance with the Ontario Electrical Safety Code (latest edition).

Minimum pole dimensions:

1. For secondary lines up to and including 600 volts, provide Class 4, 9.5 meter (30') poles 8 meters (25') above grade;
2. For primary lines up to and including 27,600 volts, provide Class 3, 14 meter (45') poles 11 meters (35') above grade;
3. Transformer poles shall be 14 meters (45') Class 3, 12 meters (38') above grade up to 50kVA. For 100 and 167kVA, provide Class 3, 17 meters (55') with top portion to be cut-off.

### 3.5 EMBEDDED GENERATION FACILITIES

*This section should include all terms and conditions applicable to the connection of embedded generation facility to the distributor (e.g., application process, engineering standards and operating agreements).*

The Generator Classifications set forth in the Distribution System Code are outlined in the table below:

<b>Generator Classification</b>	<b>Rating</b>
<b>Micro</b>	$\leq 10$ kW, for customer's own use
<b>Small</b>	(a) $\leq 500$ kW connected on distribution system voltage $< 15$ kV (b) $\leq 1$ MW connected on distribution system voltage $\geq 15$ kV
<b>Mid-Sized</b>	(a) $< 10$ MW but $> 500$ kW connected on distribution system voltage $< 15$ kV (b) $> 1$ MW but $< 10$ MW connected on distribution system voltage $\geq 15$ kV
<b>Large</b>	$\geq 10$ MW

#### 3.5.1 Connection Agreement

Section 3.5 does not apply to the connection or operation of an emergency backup generation facility. Refer to Subsection 2.3.6 for applicable requirements.

Customers shall enter into a Connection Agreement with Enersource Hydro Mississauga who have an embedded generation facility connected to the Enersource Hydro Mississauga distribution system. Where Enersource Hydro Mississauga does not have a Connection Agreement with an existing Customer that has a generation facility connected to the Enersource Hydro Mississauga distribution system, Enersource Hydro Mississauga shall be deemed to have an implied contract with the generator. The terms of the implied contract are embedded in these Conditions, the rate schedules, Enersource Hydro Mississauga's distribution license, the Distribution System Code and the Rate Handbook.

### **3.5.2 Connection Process**

Enersource Hydro Mississauga will promptly make available a generation connection information package (the “package”) to any person who requests this package. The package shall contain the following information:

- a) the process for having a generation facility connected to the Enersource Hydro Mississauga distribution system, including any form necessary for the application;
- b) information regarding any approvals from the ESA, the IESO, OEB, or a transmitter that are required before Enersource Hydro Mississauga will connect a generation facility to its distribution system;
- c) the technical requirements for being connected to Enersource Hydro Mississauga’s distribution system including the metering requirements; and
- d) the standard contractual terms and conditions for being connected to the Enersource Hydro Mississauga distribution system.

Subject to all applicable laws, Enersource Hydro Mississauga will make all reasonable efforts in accordance with the provisions of Section 3.6 to promptly connect to its distribution system a generation facility, which is the subject of an application for connection.

### **3.5.3 Connection of Micro-Generation Facilities**

A person who wishes to connect a micro-embedded load displacement generation facility to the Enersource Hydro Mississauga distribution system shall submit an application to Enersource Hydro Mississauga providing the following information:

- a) the name-plate rated capacity of each unit of the proposed generation facility and the total name-plate rated capacity of the proposed generation facility at the connection point;
- b) the fuel type of the proposed generation facility;
- c) the type of technology to be used; and
- d) the location of the proposed generation facility including address and account number where available.

Where the proposed micro-embedded load displacement generation facility is located at an existing Customer connection, Enersource Hydro Mississauga shall, within 15 days of receiving the application, make an offer to connect or provide reasons for refusing to connect the proposed generation facility. Enersource Hydro Mississauga shall give the applicant at least 30 days to accept the offer to connect and shall not revoke the offer to connect until this time period has expired. Enersource Hydro Mississauga will not charge the Customer for the preparation of the Offer to Connect.

Enersource Hydro Mississauga shall make any necessary metering changes and connect the applicant’s micro-embedded load displacement generation facility to its distribution system within 5 days of the applicant completing the following:

- a) provide Enersource Hydro Mississauga with a copy of the authorization to connect from the ESA’;
- b) enter into a Connection Agreement with Enersource Hydro; and

- c) pay Enersource Hydro Mississauga for the costs of any necessary metering changes.

### 3.5.4 Connection of Other Generation Facilities

Subsection 3.6.4 applies to the connection to the Enersource Hydro Mississauga distribution system of an embedded generation facility, which is not a micro-embedded load displacement generation facility.

After a person who is considering applying for the connection of a generation

facility to the Enersource Hydro Mississauga distribution system has requested a preliminary meeting with Enersource Hydro Mississauga and has provided the required initial set of information, Enersource Hydro Mississauga shall provide a time when its relevant employees are available to meet with the person within 15 days of the person requesting the meeting. For the purposes of this section, the following is the required “initial set of information”:

- a) the nameplate rated capacity of each unit of the proposed generation facility and the total nameplate rated capacity of the generation facility at the connection point;
- b) the fuel type of the proposed generation facility;
- c) the type of technology to be used; and
- d) the location of the proposed generation facility including address and account number with the distributor where available.

At the preliminary meeting, Enersource Hydro Mississauga shall discuss the basic feasibility of the proposed connection including discussing the location of its existing distribution facilities in relation to the proposed generation facility and providing an estimate of the time and costs necessary to complete the connection. Enersource Hydro Mississauga will not charge for its preparation for and attendance at the preliminary meeting.

A person who wishes to apply for the connection of a generation facility to the Enersource Hydro Mississauga distribution system shall submit an application, pay their impact assessment costs and provide the following information:

- a) any of the “initial set of information” which has not yet been provided to Enersource Hydro Mississauga;
- b) a single line diagram of the proposed connection; and
- c) a preliminary design of the proposed interface protection.

Enersource Hydro Mississauga shall provide an applicant proposing to connect a small embedded generation facility with its assessment of the impact of the proposed generation facility, a detailed cost estimate of the proposed connection and an offer to connect within:

- a) 60 days of the receipt of the application where no distribution system reinforcement or expansion is required; and
- b) 90 days of the receipt of the application where a distribution system reinforcement or expansion is required.



Enersource Hydro Mississauga shall provide its assessment of the impact of the proposed generation facility:

- a) within 60 days of the receipt of the application in the case of a proposal to connect a midsized embedded generation facility; or
- b) within 90 days of the receipt of the application in the case of a proposal to connect a large embedded generation facility.

The impact assessment shall set out the impact of the proposed generation facility on the Enersource Hydro Mississauga distribution system and any of its customers including:

- a) any voltage impacts, impacts on current loading settings and impacts on fault currents;
- b) the connection feasibility;
- c) the need for any line or equipment upgrades;
- d) the need for transmission system protection modifications; and
- e) any metering requirements.

The Customer shall submit any material revisions to the design, planned equipment or plans for the proposed generation facility and connection with Enersource Hydro Mississauga. Enersource Hydro Mississauga shall then prepare a new impact assessment within the relevant time period as set out above.

In the case of an application for the connection of a mid-sized or large embedded generation facility, after receiving from Enersource Hydro Mississauga the impact assessment the applicant shall pay to Enersource Hydro Mississauga for the cost of preparing a detailed cost estimate of the proposed connection and enter into an agreement with Enersource Hydro Mississauga on the scope of the project. Enersource Hydro Mississauga shall then provide the applicant with a detailed cost estimate and an offer to connect by the later of 90 days after the receipt of payment from the applicant and 30 days after the receipt of comments from a transmitter or other distributor that may have been advised under the following clause.

Within 10 days of receiving payment from the applicant for preparing a detailed cost estimate, Enersource Hydro Mississauga shall advise any transmitter or distributor whose transmission or distribution system is directly connected to the Enersource Hydro Mississauga distribution system that it is preparing a detailed cost estimate for a proposed large or mid-sized embedded generation facility. Enersource Hydro Mississauga will use its discretion in advising impacted transmitter or distributor when the detailed cost estimate involves a proposed small embedded generation facility.

After the applicant has entered into a connection cost agreement with Enersource Hydro Mississauga and has provided the detailed engineering drawings with respect to the proposal, Enersource Hydro Mississauga shall conduct a design review to determine if the detailed engineering plans are acceptable.

Enersource Hydro Mississauga has the right to witness the commissioning and testing of the connection of the generation facility to its distribution system. After the applicant has

- a) informed Enersource Hydro Mississauga that it has received all necessary approvals;



- b) provided Enersource Hydro Mississauga with a copy of the authorization to connect from the ESA; and
- c) entered into a Connection Agreement,

Enersource Hydro Mississauga shall act promptly to connect the generation facility to its distribution system.

Subject to any delays in commissioning and testing of the generation facility, which may be beyond the control of Enersource Hydro Mississauga, Enersource Hydro Mississauga shall connect a proposed small embedded generation facility within:

- a) 60 days of the applicant taking the steps set out above, where no distribution system reinforcement or expansion is required; and
- b) 180 days of the applicant taking the steps set out above, where a distribution system reinforcement or expansion is required.

The Connection Agreement for a small, mid-sized or large embedded generation facility shall be in the form set out in Appendix O.

Information on the process for connecting a generation facility to a distribution system is set out in Appendix F.1 of the DSC.

### **3.5.5 Technical Requirements**

The Customer shall ensure that the connection of its generation facility to the distribution system does not materially adversely affect the safety, reliability and efficiency of the Enersource Hydro Mississauga distribution system. New or significantly modified generation facilities shall meet the technical requirements specified in Appendix F.2 of the DSC. In addition, the Customer shall also comply with the detailed requirements outlined in Appendix O.

The Customer with an embedded generation facility connected to the Enersource Hydro Mississauga distribution system (other than a micro-embedded load displacement generation facility) shall reimburse Enersource Hydro Mississauga for any damage to the distribution system or increased operating costs that may result from the connection of a generation facility.

A Customer with a generation facility connected to the Enersource Hydro Mississauga distribution system shall include in the connection agreement and upon request by Enersource Hydro Mississauga provide satisfactory evidence of a regular, scheduled maintenance plan that ensures that the generator's connection devices, protection systems and control systems are maintained in good working order.

All equipment that is connected, operated, procured or ordered before May 1, 2002 is deemed to be in compliance with the technical requirements of the DSC.

Enersource Hydro Mississauga may determine that equipment that was deemed to be in compliance with the technical requirements of the DSC as noted in the immediately preceding paragraph is not in actual compliance with the technical requirements due to any of the following conditions:

- a) a material deterioration of the reliability of the distribution system resulting from the performance of the generator's equipment; or
- b) a material negative impact on the quality of power of an existing or a new customer resulting from the performance of the generator's equipment; or
- c) a material increase in generator capacity at the site where the equipment deemed compliant is located.

In such a case, Enersource Hydro Mississauga will provide the Customer with rules and procedures for requiring such equipment to be brought into actual compliance. The Customer shall then bring its equipment into actual compliance with the technical requirements and within a reasonable time period specified by Enersource Hydro Mississauga.

When a Customer with an embedded generation facility is connected to Enersource Hydro Mississauga's distribution system, the Customer shall provide an interface protection that is capable of automatically isolating the generation facility from Enersource Hydro Mississauga's distribution system under the following situations:

- a) internal faults within the generator
- b) external faults in Enersource Hydro Mississauga's distribution system
- c) certain abnormal system conditions, such as over/under voltage, over/under frequency.

The Customers shall disconnect the embedded generation facility from Enersource Hydro Mississauga's distribution system when:

- a) a remote trip or transfer trip is included in the interface protection, and
- b) the Customer effects changes in the normal feeder arrangements other than those agreed upon in the operating agreement between Enersource Hydro Mississauga and the Customer.

### **3.5.6 Net Metering for an Embedded Generation Facility**

Enersource Hydro Mississauga will encourage eligible customers wishing to participate in the net metering program.

Participation in the net metering program is available to all Enersource Hydro Mississauga customers with a generator that meets all of the following conditions:

- The electricity is generated primarily for customers own use;
- The electricity generated is conveyed to the customers own consumption point without reliance on the Enersource Hydro Mississauga distribution system;
- The maximum cumulative output capacity of the generator does not exceed 500k W;
- The electricity is solely generated from a renewable energy source (such as wind, drop in water elevation, solar radiation, agricultural bio-mass, or any combination thereof).

In order to participate in the Net Metering program, the customer must contact Enersource Hydro Mississauga well in advance and meet all the parallel generation requirements for Connecting Micro-Generation Facilities (10 kW or less) or Other Generation Facilities (greater than 10 kW and less than 500 kW), as applicable to the generator size, as found in Section 3.5 – Embedded Generation Facilities.

The customer must have a bi-directional revenue meter that records energy flow in both directions.

### **3.6 EMBEDDED MARKET PARTICIPANT**

*Criteria for a Customer that is classified as being a Market Participant needs to be established. This section should describe any specific requirements for customers that also are Market Participants.*

Under the "Market Rules for the Ontario Electricity Market", Chapter 2, Section 1.2.1, "No persons shall participate in the IESO - administered Markets or cause or permit electricity to be conveyed into, through or out of the IESO - controlled grid unless that person has been authorized by the IESO to do so".

All Embedded Market Participants within the service jurisdiction of Enersource Hydro Mississauga, once approved by the IESO, are required to inform Enersource Hydro Mississauga of their approved status in writing, 30 days before their participation in the Ontario Electricity Market.

### **3.7 EMBEDDED DISTRIBUTORS**

*This section should include all terms and conditions applicable to the connections of an embedded distributor.*

All Embedded Distributors within the service jurisdiction of Enersource Hydro Mississauga are required to inform Enersource Hydro Mississauga of their status in writing 30 days before the supply of energy from Enersource Hydro Mississauga. The terms and conditions applicable to the connection of an Embedded Distributor shall be included in a Connection Agreement with Enersource Hydro Mississauga.

### **3.8 UN-METERED CONNECTIONS**

*This section should include all terms and conditions applicable to un-metered connections such as but not limited to the following:*

- *Street lighting*
- *Traffic signals*
- *Bus shelters*

This section pertains to the conditions of service and supply of electrical energy for un-metered connections. Point of demarcation and ownership for un-metered connections are shown in Table 1, Appendix "J".

### **3.8.1 Street Lighting**

Consultation with Enersource Hydro Mississauga is required to establish street lighting circuit supply locations for each application.

Street lighting equipment in the City of Mississauga is owned by the City of Mississauga. All street lighting will be non-metered with energy consumption based on the connected wattage and calculated hours of use using the approved methods and rates established by the OEB.

Street lighting plant, facilities, or equipment owned by the Customer is subject to the Ontario Electrical Safety Code (latest edition) and the Electrical Safety Authority requirements.

### **3.8.2 Traffic Signals**

Consultation with Enersource Hydro Mississauga is required to establish traffic signal circuit supply locations for each application.

Supply may be from either the overhead or underground electrical systems and in all cases a disconnect switch will need to be installed and approved by the Electrical Safety Authority. All installation of cabling used for the purpose of traffic signal is in dedicated conduits separate from street lighting or any other secondary ductwork.

The service voltage for traffic signal systems will be 120 volts, single phase, 2 wires.

Notification of inspection and approval from the Electrical Safety Authority before the energization of a new traffic signal service is required. Enersource Hydro Mississauga will make the power source connection.

All traffic signal services will be non-metered with energy consumption based on the connected wattage and calculated hours of use using the approved methods and rates established by the OEB.

A connection fee for new traffic signal (and intersection lighting) supply will apply based on Enersource Hydro Mississauga's approved commercial connection charge for a 100 Amp U/G 120 volt service. Enersource Hydro Mississauga personnel must be involved in the disconnection and reconnection of existing traffic signal services fed from either underground or overhead circuit.

### **3.8.3 Bus Shelters, Billboards and Telephone Booths**

Consultation with Enersource Hydro Mississauga is required to establish an appropriate circuit supply location for each application.

All underground feeds must be in separate conduit from the bus shelter to the power supply location. For feeds originating from Enersource Hydro Mississauga's overhead system, the underground conduit for the cable riser will generally extend from the bus shelter to the nearest power supply pole.

Notification of inspection and approval from the Electrical Safety Authority before the energization of any new traffic signal, billboard or telephone booth service is required. Enersource Hydro Mississauga will make the power source connection.

All appropriate services will be non-metered with energy consumption based on the connected wattage and calculated hours of use using the approved methods and rates established by the OEB.

## 4 GLOSSARY OF TERMS

*The Conditions of Service document may contain a variety of terms that should be defined in the context of this document. Where possible, glossary terms should reflect definitions in existing documents that apply to the distributor, such as this Code, the distributor's Licence and Standard Supply Service Code. The text of Conditions of Service document should be used to expand on these definitions as applicable to the distributor.*

**"Affiliate Relationships Code"** means the code, approved by the Ontario Energy Board.

**"Billing Demand"** means the metered demand or connected load after necessary adjustments made on power factor, intermittent rating, transformer losses and minimum billing. A kilowatt (kW) measurement of the maximum rate of electricity consumption during a billing period

**"Building"** means a building, portion of a building, structure, or facility.

**"Conditions of Service"** means a document developed by a Distributor in accordance with subsection 2.4 of the Distribution System Code that is the operating practices and connection rules for Distributors.

**"Connection"** means the process of installing and activating connection assets in order to distribute electricity to a Customer.

**"Connection Agreement"** means an agreement entered into between the Distributor and a person connected to its distribution system that delineates the conditions of the connection and delivery of electricity to that connection.

**"Connection Assets"** means that portion of the distribution system used to connect the Customer to the existing main distribution system, and consists of the assets between the point of connection on a Distributor's main distribution system and the ownership demarcation point with that Customer.

**"Connection Authorization"** when concerning supply of electrical energy to an electrical installation from a supply authority, shall mean written permission by the Electrical Safety Authority to Enersource Hydro Mississauga or any other person or corporation, to supply electric energy to a particular electrical installation; or

When concerning supply of electric energy from one part of an electrical installation to another, or from a source of electric energy other than that of Enersource Hydro Mississauga, shall mean permission from the inspection department to a contractor to connect a particular electrical installation or part thereof to a source of electric energy.

**"Customers"** means a person who uses electricity that the person did not generate.

**"Customer's Service"** shall mean all that portion of the Customer's installation from the service box or its equivalent up to and including the point at which Enersource Hydro Mississauga makes connection.

**"Contract"** shall mean a contract for the supply of electrical service or energy.

**"Contractor"** shall mean any person who as principal, servant, or agent, by himself or herself or by associates, employees, servants or agents performs or engages to perform either for his or her own use and benefit or for that of another and for or without remuneration or gain any work with respect to any electrical installation or any other work to which the Ontario Electrical Code applies.

**"Customer"** shall mean the person or persons contracting for the supply of electric service or energy from Enersource Hydro Mississauga. This includes developers of residential or commercial subdivisions.

**"Customer in Arrears"** shall mean a Customer who owes to Enersource Hydro Mississauga charges

or accounts for power after the due date.

**"Demand"** means the average value of power measured over a specified interval of time, usually expressed in kilowatts (kW).

**"Demand Meter"** means a meter that measures a Customer's peak usage during a specified period of time.

**"Demarcation Point or Point of Demarcation"** means the physical location at which a Distributor's responsibility for operational control or ownership and maintenance of distribution equipment including connection assets ends at the Customer. The demarcation point for operational control may be different than the demarcation point for the ownership and maintenance of equipment.

**"Developer"** means an individual, an association, a partnership, a corporation or combination thereof; and further refers to employees, agents, contractors and other persons engaged by the developer on its behalf.

**"Development Agreement"** means a legal agreement between a developer, any Mortgagees and the Commission, in a form suitable for registration at the offices of Registry Division of Peel 43; or Land Titles Division of Peel 43 and which details the engineering and financial responsibilities of all parties to the agreement.

**"Disconnection"** means deactivation of connection assets that result in cessation of distribution services to a Customer.

**"Distribution Loss Factor"** means a factor or factors by which metered loads must be multiplied such that when summed equal the total measured load at the supply point(s) to the distribution system.

**"Distribution Losses"** means energy losses that result from the interaction of intrinsic characteristics of the distribution network such as electrical resistance with network voltages and current flows.

**"Distribution Services"** means services related to the distribution of electricity and the services the Board has required Distributors to carry out, for which a charge or rate has been approved by the OEB under Section 78 of the Ontario Energy Board Act.

**"Distribution System Code"** means the code approved by the Ontario Energy Board.

**"Distributor"** means a Person who owns or operates a Distribution System.

**"Easement"** means a legal document signed by the Owner of the lands, any mortgagees and the Commission and registered against the lands. Rights and responsibilities of all parties are detailed.

**"Electrical Safety Authority"** or ESA means the Person or body designated under the Electricity Act Regulations as the Electrical Safety Authority.

**"Electricity Act"** means the Electricity Act 1998, SO 1998.

**"Embedded Distributor"** means a Distributor who is not a Wholesale Market Participant and that is provided electricity by a Host Distributor.

**"Embedded Generator or Embedded Generation Facility"** means a Generator whose generation facility is not directly connected to the IMO - Controlled Grid but instead is connected to a Distribution System.

**"Embedded Retail Generator"** means an Embedded Generator that settles through a Distributor's Retail Settlement System and is not a wholesale market participant.

**"Embedded Wholesale Customers"** means a Customer who is a Wholesale Market Participant whose facility is not directly connected to the IESO - Controlled Grid but is connected to a Distribution System.

**"Embedded Wholesale Generator"** means an Embedded Generator that is a Wholesale Market Participant.

**"Energy Competition Act"** means the Energy Competition Act, 1998, SO-1998.

**"Energy Diversion"** means the electricity consumption unaccounted for but that can be quantified



through various measures upon review of the meter mechanism, such as unbilled meter readings, tap off load(s) before revenue meter or meter tampering.

**"Enhancement"** means a modification to an existing distribution system that is made for purposes of improving system operating characteristics such as reliability or power quality or for relieving system capacity constraints resulting, for example from general load growth.

**"Expansion"** means an addition to a distribution system in response to a request for additional Customer connections that otherwise could not be made: for example, by increasing the length of the distribution system.

**"E&USA"** is the Electrical and Utility Safety Authority.

**"IESO"** means the Independent Electricity System Operator established under the Electricity Act.

**"Inspector"** shall mean any person duly appointed by the Electrical Safety Authority for the purpose of enforcing the Ontario Electrical Code.

**"Load Factor"** means the ratio of average demand for a designated time period (usually one month) to the maximum demand occurring in that period.

**"Load Transfer"** means a network supply point of one Distributor that is supplied through the distribution network of another Distributor and where this supply point is not considered a wholesale supply or bulk sale point.

**"Load Transfer Customer"** means a Customer that is provided distribution services through a load transfer.

**"Market Rules"** means the rules made under the Electricity Act.

**"Measurement Canada"** means the Special Operating Agency established by the Electricity And Gas Inspection Act, 1980-81-82-83, C.87.

**"Meter Service Provider"** means any entity that performs metering services on behalf of a Distributor.

**"Meter Socket"** means a mounting device for accommodating a socket type revenue meter.

**"Multi-Family Residential Dwelling"** means a dwelling zoned residential by the City of Mississauga, used for dwelling purposes, containing more than one single family dwelling unit that are either individually metered or are metered with a bulk-meter having a service entrance capacity greater than 200 amps.

**"OEB"** is the Ontario Energy Board, the regulatory authority in Ontario responsible for electricity and gas.

**"Ontario Energy Board Act"** means the Ontario Energy Board Act, 1988, S.O. 1998, C.15.

**"Permit"** shall mean the official written permission of the Electrical Safety Authority, on a form provided for the purpose, authorizing work to be commenced on any electrical installation.

**"Person"** includes an individual, corporation, a sole proprietorship, partnership, unincorporated organization, unincorporated association, body corporate, and any other legal entity.

**"Physical Distributor"** with respect to a load transfer, means the Distributor that provides physical delivery of electricity to a load transfer Customer, but is not responsible for connecting and billing the load transfer Customer directly.

Point of Demarcation" see Demarcation Point.

**"Registered Plan"** means a plan of development of surveyed lands, prepared by a Developer, approved by the City of Mississauga, the Regional Municipality of Peel and the Ontario Ministry of Housing, and registered at the offices of Registry Division of Peel 43 or Land Titles Division of Peel 43.

**"Responsible Party"** the owner of the property shall be considered as the responsible party.

**"Retail"** with respect to electricity means to sell or offer to sell electricity to a Customers to act as



agent or broker for a retailer with respect to the sale or offer for sale of electricity, or to act or offer to act as an agent or broker for a Customers with respect to the sale or offering for sale of electricity.

**"Retail Settlement Code"** means the code approved by the Ontario Energy Board.

**"Retailer"** means a person who retails electricity.

**"Secondary Service"** means any service, which is supplied with nominal voltage less than 750 volts.

**"Service Agreement"** means the agreement that sets out the relationship between a licensed retailer and a Distributor in accordance with the provisions of Chapter 12 of the Retail Settlement Code.

**"Service Area"** with respect to a Distributor, means the area in which the Distributor is authorized by its licence to distribute electricity.

**"Site Development Plan Approval"** means a process of the City of Mississauga under which Commercial and Industrial Subdivisions are required, inter alia, to have an Underground Distribution System and Underground Street Lighting System.

**"Single Family Residential Dwelling"** shall be a dwelling zoned residential by the City of Mississauga, used for dwelling purposes, and having only one electric meter with a service entrance capacity of 200 amps or less.

**"Standard Distribution System"** means an overhead-improved pole line on public rights-of-way, plus underground road crossing ducts, as specified by the Enersource Hydro Mississauga.

**"Street Lighting System"** means all facilities required for illuminating all public rights-of-way as determined by the Municipality.

**"Standard Supply Service Code"** means the code approved by the Ontario Energy Board.

**"Standard Street Lighting System"** means a system of streetlights, as determined by the Municipality, utilizing the pole line of the standard Distribution System.

**"Street Lighting System"** means all facilities required for illuminating all public rights-of-way as determined by the Municipality.

**"Supply Service"** shall mean any one set of conductors run by Enersource Hydro Mississauga from its electrical system to a Customer's service.

**"Transformer room"** means an isolated enclosure built to applicable codes to house transformers and associated electrical equipment.

**"Temporary service"** means an electrical service granted temporarily for such purposes as construction, real estate sales, trailers, et cetera.

**"Type A Customer"** the installation designed, constructed, and maintained by Enersource Hydro Mississauga, up to 1600 A services.

**"Type B Customer"** means the installation is designed, constructed, and maintained by the Developer.

**"Underground Street Lighting System"** means all facilities including transformation, required for illuminating all public rights-of-way, as determined by the Municipality, utilizing underground wiring.

**"Underground Distribution System"** means all primary facilities required for supplying electrical energy from an existing Commission circuit to the subdivision, up to Point of Entry to each lot, block or parcel.

**"Unaccounted for energy"** means all energy losses that can not be attributed to distribution losses. These include measurement error, errors in estimates of distribution losses and unmetered loads, energy theft and non-attributable billing errors;

**"Unmetered loads"** means electricity consumption that is not metered and is billed based on estimated usage;

**"Wholesale Buyer"** means a person that purchases electricity or ancillary services in the IESO administered markets or directly from a generator.

**"Wholesale Market Participant"** means a person that sells or purchases electricity or ancillary services through the IESO - administered markets.

**"Wholesale Settlement Cost"** means costs for both competitive and non-competitive electricity services billed to a Distributor by the IESO or a Host Distributor or provided by an Embedded Retail Generator or by a neighboring Distributor.

**"Wholesale Supplier"** means a person who sells electricity or ancillary services through the IESO administered markets or directly to another person other than a Customers.

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## APPENDIX A ENERSOURCE HYDRO MISSISSAUGA'S CONNECTION AND EXPANSION PROCESS

### (SECTION 3 OF THE DISTRIBUTION SYSTEM CODE)

#### Step 1

Customer to make a written application for connections to Enersource Hydro Mississauga with the following information:

- *Detailed plans. Plans to show: property lines, roadways, curbs, sidewalks and deep services. Supply voltage, location, estimated kW peak.*
- *Desired in-service date.*

#### Step 2

Enersource Hydro Mississauga upon receiving the written application from the Customer will perform the detail system planning studies to see, if “System Expansion” required.

#### Step 3

No “System Expansion” of the distribution system is required.

#### Step 3A

Settlement of Connection Charges: Connection charges will apply by Customer Class and the connections will be according to section 3.1 of the Distribution System Code.

#### Step 4

“System Expansion” of the distribution system is required then Enersource Hydro Mississauga will undertake preliminary planning, design and engineering specifications and economics evaluation.

#### Step 5

The economic evaluation (NPV) is performed to determine, whether the future revenue will pay for the capital investment and on-going OM&A costs. The economic evaluation will indicate, either NPV + or -.

(Section 3.2.1 of the Distribution System Code)

#### Step 6

If NPV is positive, then connection charges will apply by Customer Class.

#### Step 6A

Settlement of Connection Charges: Connection charges will apply by Customer Class and the connections will be according to section 3.1 of the Distribution System Code.

**Step 7**

If NPV is negative, then Enersource Hydro Mississauga will make an “Offer to Connect” to the Customer. The “Offer to Connect” will include the following:

- A description of the material and labor required by Enersource Hydro Mississauga to build the expansion required to connect the Customer.
- An estimate of the amount that will be charged to the customer in order to construct the distribution system expansion necessary to make the connection.
- A description and estimate of the connection charges by customer class.
- A statement as to whether a capital contribution will be required from the customer.
- Whether the offer is firm or is an estimate of the costs that would be revised in the final payment to reflect actual costs incurred.
- Includes the work, for which the Customer may obtain an “Alternate Bid”.
- Enersource Hydro Mississauga’s “Conditions of Service” indicates the procedures for “Offer to Connect”. These “Conditions of Service” are posted on Enersource Hydro Mississauga’s website at ([www.enersource.com](http://www.enersource.com)).

Enersource Hydro Mississauga’s Obligations under “Offer to Connect”:

- Enersource Hydro Mississauga shall be responsible for the preliminary planning design and engineering specifications of the work required for the distribution system expansion and connection.
- In providing the estimates of the amount to be charged to the Customer in order to construct the distribution system expansion, Enersource Hydro Mississauga shall delineate estimated costs specifying those costs attributed to engineering design, materials, labor, equipment and administrative activities.
- In the “Offer to Connect”, Enersource Hydro Mississauga will inform that the Customer has a choice to obtain “Alternate Bids” from pre-qualified contractors.

**Step 8**

Is the Customer interested in “Alternate Bids”? If No, go to Step 9. If yes, go to Step 10.

**Step 9**

Settlement of “Capital Contribution”: The Customer must supply a certified cheque a minimum 30 days prior to construction to cover the cost of engineering design, materials, labor, equipment and administrative activities per phase of the development. This cost is equal to the short fall identified between the present value of the projected costs and revenues.

**Step 10**

The conditions for “Alternate Bids” that the customer must adhere to are:

- Project requires “Capital Contribution” from the Customer,
- Construction work does not involve work with existing circuits.

Enersource Hydro Mississauga shall inform the Customer:

- Of the work that the Customer may obtain through “Alternate Bid”
- List of pre-qualified contractors eligible to work for an “Alternate Bid”.
- To hire and pay the contractor’s costs for the eligible for the “Alternate Bid” and to assume full responsibility for the construction of that aspect of the project.
- Submit detailed construction drawings for approval to ensure work meets Enersource Hydro Mississauga’s standards.
- Be responsible for administering the contract or pay Enersource Hydro Mississauga to do this activity on a fee basis. Administering the contract includes acquisitions of all required permissions, permits and easements.
- Enersource Hydro Mississauga reserves the right to inspect and approve all aspects of the constructed facilities as a part of a system commissioning, prior to connecting the constructed facilities to the existing distribution system.
- To supply a certified cheque a minimum of 30 days prior to construction to cover the cost of inspection/energization.

Enersource Hydro Mississauga may charge the Customer that chooses to pursue “Alternate Bid” any costs incurred by Enersource Hydro Mississauga associated with the expansion, including but not limited to the following:

- Costs for additional design, engineering, or installation of facilities required to complete the project, that were not made in addition to the original offer to connect.
- Costs for inspection or approval of the work performed by the contractor hired by the Customer.

**Step 11**

Settlement of Refunds: The capital contribution refunds for all subdivision (per phase of the development) signed on after November 1, 2000 must be returned year after in-service date.

**Step 12**

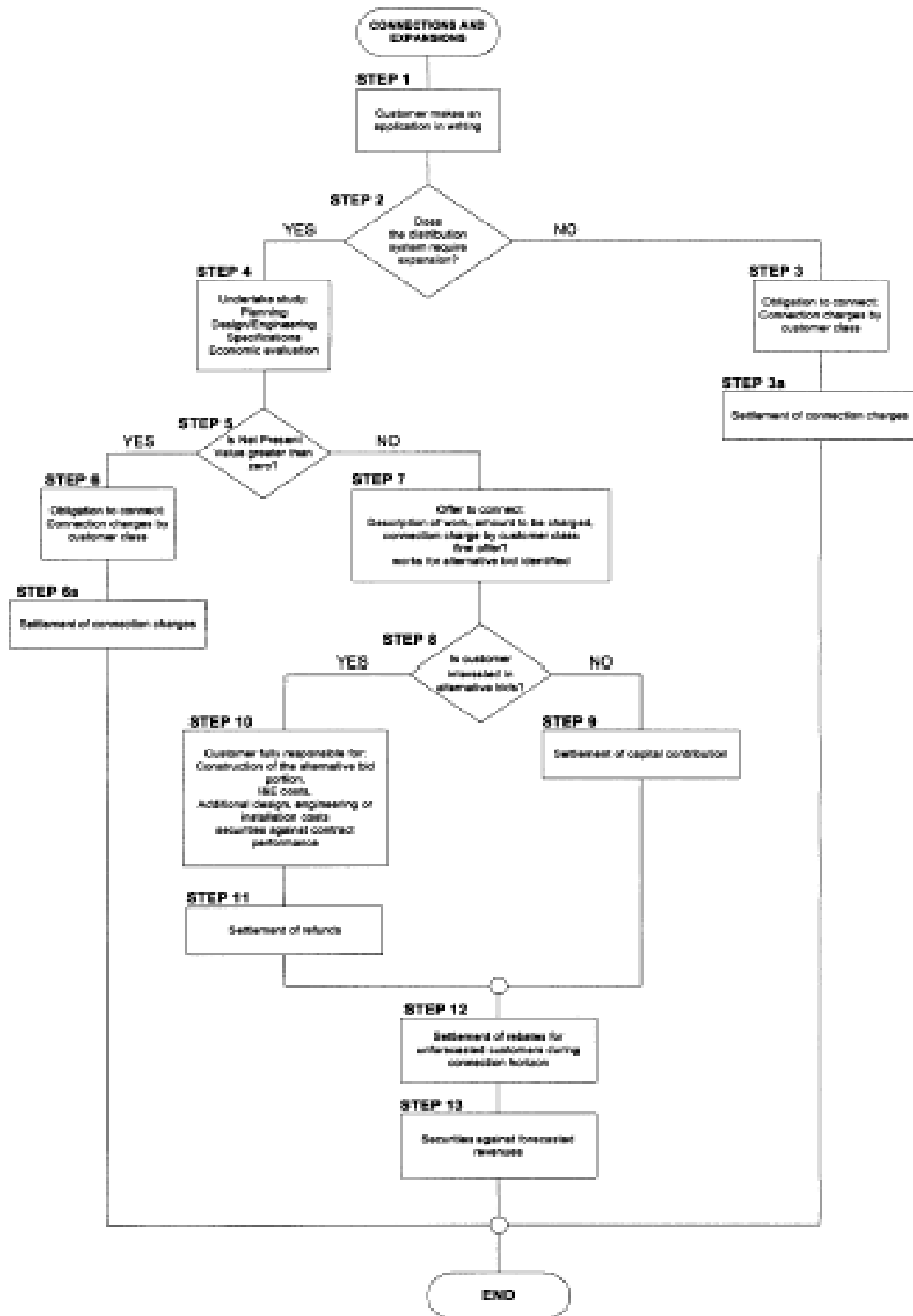
Settlement of Rebates for non-forecasted Customers during connection horizon: In situations where Enersource Hydro Mississauga is required to install new plant solely for the connection of a Customer, the Customer will be required to pay 100% of the calculated shortfall. If within 5 years from the connection date, there are non-forecasted Customers connected to this new plant without any further capital costs, the non-forecasted Customers shall contribute their share and the first Customer will be entitled to a rebate. The appropriate rebate shall be determined by

considering such factors as relative load level and relative line length (in proportion to the line length being shared by all parties).

**Step 13**

The Customer in close consultations with Enersource Hydro Mississauga shall develop an estimated load forecast, which will outline the energization timing and energy consumption for all lots/blocks within the proposed development. This forecast forms an integral part of the Distribution System Code's economic evaluation model and associated capital contribution calculations and must be reviewed annually. In the event agreement cannot be reached on the load forecast provided by the customer, Enersource Hydro Mississauga may require that securities be posted until such time that energy consumption estimated by the customer becomes firm.

**CONNECTION AND EXPANSION PROCESS FLOW CHART**



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## **APPENDIX B METHODOLOGY AND ASSUMPTIONS FOR AN ECONOMIC EVALUATION**

### **C.1 COMMON ELEMENTS OF THE DISCOUNTED CASH FLOW MODEL**

To achieve consistent business principles for the development of the elements of an economic evaluation model, the following parameters for the approach are to be followed by all distributors.

The discounted cash flow (DCF) calculation for individual projects will be based on a set of common elements and related assumptions listed below.

#### **Revenue Forecasting**

The common elements for any project will be as follows:

- a) Total forecasted customer additions over the Customer Connection Horizon, by class as specified below;
- b) Customer Revenue Horizon as specified below;
- c) Estimate of average energy and demand per added customer (by project) which reflects the mix of customers to be added – for various classes of customers, this should be carried out by class;
- d) Customer additions, as reflected in the model for each year of the Customer Connection Horizon; and
- e) Rates from the approved rate schedules for the particular distributor reflecting the distribution (wires only) rates.

#### **Capital Costs**

Common elements will be as follows:

- a) An estimate of all capital costs directly associated with the expansion to allow forecast customer additions.
- b) For expansions to the distribution system, costs of the following elements, where applicable, should be included:
  - Distribution stations;
  - Distribution lines;
  - Distribution transformers;
  - Secondary busses;
  - Services; and
  - Land and land rights
- c) Estimate of incremental overheads applicable to distribution system expansion.

Note that the “Ownership Demarcation Point” as specified in the distributor’s Condition of Service would define the point of separation between a customers’ facilities and distributor’s facilities.



**Expense Forecasting**

Common elements will be as follows:

- a) Attributable incremental operating and maintenance expenditures – any incremental attributable costs directly associated with the addition of new customers to the system would be included in the operating and maintenance expenditures.
- b) Income and capital taxes based on tax rates underpinning the existing rate schedules.
- c) Municipal property taxes based on projected levels.

**Specific Parameters/Assumptions**

Specific parameters of the common elements include the following:

- a) A maximum customer connection horizon of five (5) years.<sup>1</sup>
- b) A maximum customer revenue horizon of twenty five (25) years, calculated from the in service date of the new customers.<sup>1</sup>
- c) A discount rate equal to the incremental after-tax cost of capital, based on the prospective capital mix, debt and preference share cost rates, and the latest approved rate of return on common equity.
- d) Discounting to reflect the true timing of expenditures. Up-front capital expenditures will be discounted at the beginning of the project year and capital expended throughout the year will be mid-year discounted. The same approach to discounting will be used for revenues and operating and maintenance expenditures.<sup>2</sup>

**C.2 DISCOUNTED CASH FLOW (DCF) METHODOLOGY**

<u>Net Present Value (“NPV”)</u>	=	Present Value (“PV”) of Operating Cash Flow + PV of CCA Tax Shield – PV of Capital
1. <u>PV of Operating Cash Flow</u>	=	PV of Net Operating Cash (before taxes) – PV of Taxes
a) PV of Net Operating Cash	=	PV of Net Operating Cash Discounted at the Company’s discount rate for the customer revenue horizon. Mid-year discounting is applied. Incremental after tax weighted average cost of capital will be used in discounting
Net (Wires) Operating Cash	=	(Annual (Wires) Revenues – Annual (Wires) O&M)
Annual (Wires) Revenue	=	Customer Additions * (Appropriate (Wires) Rates * Rate Determinant)
Annual (Wires) O&M	=	Customer Additions * Annual Marginal (Wires) O&M Cost/customer
b) PV of Taxes	=	PV of Municipal Taxes + PV of Capital Taxes + PV

<sup>1</sup> For example, that the revenue horizon for customers connected in year 1 is 25 years while for those connected in year 3, the revenue horizon is 22 years.

<sup>2</sup> For certain projects Capital Expenditures may be staged and can occur in any year of the five years Connection Horizon.

Annual Municipal Tax	=	of Income Taxes (before Interest tax shield)
Total Capital Cost	=	Municipal Tax Rate * (Total Capital Cost)
Annual Capital Taxes	=	Distribution Capital Investment + Customer Related Investment + Overhead at the project level
Annual Capital Tax	=	(Capital Tax Rate) * (Closing Undepreciated Capital Cost Balance)
	=	(Capital Tax Rate)* (Net Operating Cash – Annual Municipal Tax – Annual Capital Tax)

The Capital Tax Rate is a combination of the Provincial Capital Tax Rate and the Large Corporation Tax (Grossed up for income tax effect where appropriate).

Note: Above is discounted, using mid-year discounting, over the customer revenue horizon.

2. PV of Capital = PV of Total Annual Capital Expenditures  
 a) PV of Total annual Capital Expenditures

Total Annual Capital Expenditures over the customer’s revenue horizon discounted to time zero

Total Annual Capital Expenditure = (for New Facilities and/or reinforcement Investments + Customer Specific Capital + Overheads at the project level). This applies for implicated system elements at the utility side of the “Ownership Demarcation Line”.

Note: Above is discounted to the beginning of year one over the customer addition horizon

3. PV of CCA Tax Shield

PV of the CCA Tax Shield on [Total Annual Capital]

The PV of the perpetual Tax shield may be calculated as:

PV at time zero of: 
$$\frac{[(\text{Income tax Rate}) * (\text{CCA Rate}) * \text{Annual Total Capital}]}{(\text{CCA Rate} + \text{Discount Rate})}$$

or,

Calculated annually and present valued in the PV of Taxes calculation.

**Note: An adjustment is added to account for the ½ year CCA rule.**

4. Discount Rate

PV is calculated with an incremental, after-tax discount rate.

**APPENDIX C  
ENERSOURCE HYDRO MISSISSAUGA’S OFFER TO  
CONNECT AGREEMENT**

SO# \_\_\_\_\_

**OFFER TO CONNECT AGREEMENT**

**THIS AGREEMENT** made this \_\_\_\_ day of \_\_\_\_\_, 20\_\_ (the “Effective Date”).

**B E T W E E N:**

ENERSOURCE HYDRO MISSISSAUGA INC.  
hereinafter called the “**Corporation**”

OF THE FIRST PART

- and -

\_\_\_\_\_  
hereinafter called the “**Developer**”

OF THE SECOND PART

- and -

\_\_\_\_\_  
hereinafter called the “**Mortgagee(s)**”

OF THE THIRD PART

(the Corporation, Developer and Mortgagee are hereinafter collectively referred to as “Parties” or individually as a “Party”)

**WHEREAS** the Corporation is a corporation, duly licensed for the distribution of electrical power in the City of Mississauga;

**AND WHEREAS** the Developer is the registered owner of the lands described in Schedule “A” attached hereto;

**AND WHEREAS** the Developer intends to develop the lands described in Schedule “A” by way of an existing or proposed plan of subdivision, a rezoning, or a land division;

**AND WHEREAS** certain of the works hereinafter referred to are to be constructed on the lands described in Schedule “B” attached hereto which lands are external to the lands described in Schedule “A”;

**AND WHEREAS** the lands described in Schedules “A” and “B” are hereinafter collectively referred to as the “Lands”;

**AND WHEREAS** the Corporation will perform Connection Work, including, but not limited to, designing the Electrical Plant and the Expansion;

**AND WHEREAS** the material and labor for the complete installation of the Electrical Plant and Expansion are to be supplied and constructed by the Developer or the Corporation as more

particularly described herein, for purposes of providing electrical power to the Development;  
**AND WHEREAS** the Corporation has agreed to design the Electrical Plant and the Expansion in accordance with the Corporation's Specifications and the terms and conditions herein;  
**AND WHEREAS** the Developer has agreed to pay the Corporation's costs under this Agreement associated with the Connection Work in accordance with the terms and conditions herein;  
**AND WHEREAS** the Developer and the Mortgagees represent and warrant that the Mortgagees are the only Mortgagees of the Lands;  
**NOW THEREFORE**, in consideration of the mutual covenants, conditions and agreements herein contained, other good and valuable consideration, the receipt and sufficiency whereof is hereby acknowledged, the Parties hereto covenant, promise and agree as follows:

## 1. Definitions

1.1 For the purposes of this Agreement defined terms used herein shall have the meanings given hereunder:

“**Agreement**” means this agreement as it may be amended, supplemented or restated from time to time and includes any Schedules or Exhibits hereto;

“**Capital Contribution**” means the amount, if any, payable to the Corporation by the Developer as calculated in accordance with the Economic Evaluation;

“**Civil Works**” means the excavation of trenches, sand padding with masonry sand and backfill, the concrete foundations, grounding and crushed stone base for transformers and kiosks, and road crossing ducts complete with pull rope and caps for spares;

“**Code**” or “**Distribution System Code**” means the Distribution System Code originally published by the Ontario Energy Board on July 14, 2000 under file no. RP-1999-0033, as amended from time to time;

“**Connection Work**” means regulated (non-contestable) work the Corporation must perform in order to connect a Consumer to the existing Distribution System;

“**Consumer**” means a person or other body to whom the Corporation has agreed to supply power;

“**Contractor**” means the firm of contractors, the company or the individual acting as contractor and commissioned by the Developer to install the Electrical Plant and Expansion;

“**Corporation**” means Enersource Hydro Mississauga Inc., or other persons engaged by the Corporation on its behalf;

“**Deposit**” means a payment by the Developer to the Corporation for the review of the plans and preparation of this Agreement;

“**Detailed Design Engineering**” means the work involved for system planning and to design the Electrical Plant and Expansion including sizing and specification of all materials and layout of same;

“**Developer**” includes an individual, corporation, partnership, association, or other persons engaged by the Developer on its behalf;

“**Development**” means the lands described in Schedule A that the Developer intends to develop;

“**Distribution System**” means the Corporation's distribution lines, underground cables,

transformers, associated equipment or other items used to distribute electricity but for the purposes of this Agreement does not include the Electrical Plant or Expansion;

“**Economic Evaluation**” means the analytical tool designed to determine the Developer’s capital contribution based on fixed costs and estimated revenue, as required pursuant to Section 3.2.1 of the Distribution System Code and as further described in Appendix B to the Distribution System Code;

“**Electrical Plant**” means electric services including overhead conductors or underground distribution cables, transformers, secondary cables to the lot line, and street lighting that will be constructed for the Development;

“**Electricity Act**” means the Electricity Act, 1998, S.O. 1998, C. 15, Schedule A, as amended from time to time;

“**Expansion**” means an addition to a Distribution System in response to a request for additional customer connections that otherwise could not be made, e.g., increasing the length of the Distribution System;

“**Force Majeure Event**” shall be deemed to be a cause reasonably beyond the control of the Party whose inability as aforesaid is involved such as, but without limitation to, strike of that Party’s employees, damage or destruction by the elements, accident to the works of that Party, fire and explosion (except where caused by the Party’s act or negligence), war with the Queen’s enemies, legal act of the public authorities, insurrection, act of God or inability to obtain essential services or transport materials, product or equipment because of the effect of similar causes on the Party’s suppliers or carriers;

“**Inspector**” means a person assigned by the Corporation to inspect the Contractor’s work and method of installation of the Electrical Plant and Expansion in accordance with the Specifications;

“**Lands**” means the lands described in Schedule A and Schedule B;

“**Maintenance Period**” means a minimum one year time period beginning and ending with written notification by the Corporation, during which the Developer is responsible to guarantee the quality and performance of the installation in connection with the Electric Plant;

“**Ontario Energy Board Act**” means the Ontario Energy Board Act, 1998, S.O. 1998, C.15, Schedule B, as amended from time to time;

“**Party**” means a party to this Agreement;

“**Residential Service(s)**” means the overhead or underground electrical system located from the lot line to the dwelling;

“**Specifications**” means the Standards Construction Practice Drawings Manual as specified by the Corporation and as may be amended from time to time;

“**Work**” means any work to be performed by the Corporation pursuant to this Agreement related to the design, supply, installation or connection of the Distribution System and the Expansion.

## 2. Distribution System Code Requirements

- 2.1 The Corporation, the Developer and the Mortgagee acknowledge that the financial requirements set forth in this Agreement are governed by and subject to the provisions of the Distribution System Code. The Parties acknowledge and confirm that the Corporation has performed standard Economic Evaluation to determine to what extent the present

value of the future revenue from Consumers within the Development will pay for the capital cost and ongoing maintenance costs of the Electrical Plant and the Expansion thereto. The Parties also acknowledge and confirm that they comply with all connection requirements identified in Section 3.1.1 of the Code.

### **3. Financial Obligations**

3.1 The Developer elects the:

- “Offer to Connect” whereby the Corporation shall design, supply and install and energize the Electrical Plant and Expansion;
- or
- “Alternate Bid” whereby the Corporation shall design, inspect and energize the Electrical Plant and Expansion and complete the Connection Work and the Developer shall supply the material and labor necessary to install the Electrical Plant and the Expansion.

3.2 The Developer acknowledges that the costs set out in Schedule “C”, Table A and Table B are estimates only and are subject to change. The Corporation shall notify the Developer in writing as soon as practicable of any revision to such estimates, and the amount of any increase or decrease to such estimates shall be due and payable immediately by the Developer to the Corporation or by the Corporation to the Developer, as the case may be, upon receipt by the Developer of such notification.

3.3 The Corporation will not order any material required specifically for this project if the amounts set out in Schedule “D” have not been paid. The Corporation will not be liable in any way to the Developer or any other person for any delay in the delivery of such components.

3.4 If, within five years (1826 days) from the effective date of this Agreement, an unforecasted consumer is connected to the Expansion or the Electrical Plant and the Developer has made a capital contribution towards the Expansion or the Electrical Plant, the Corporation will collect a capital contribution (calculated using the Economic Evaluation) from the unforecasted consumer and this amount will be rebated to the Developer, in accordance with the Code. The amount rebated is to be paid by the Corporation to the Developer within 60 days of receipt of the capital contribution from the unforecasted consumer by the Corporation.

3.5 Once the design has been returned to the Developer or its consultant, future changes in the design will only be made at the expense of the Developer.

3.6 If any relocation of services after the six (6) week notice period as provided in 5.1(g) results in additional costs, such additional costs, shall be the sole responsibility of the Developer.

3.7 Any changes to the design of the Electrical Plant or Expansion will be at the expense of the Developer as determined by the Corporation.

- 3.8 Except as otherwise expressly provided, all amounts in this Agreement shall be exclusive of any applicable taxes.

**Offer to Connect**

- 3.9 Where the Developer chooses the Option “Offer to Connect”, the Developer shall pay to the Corporation the Capital Contribution as provided in Table A of Schedule “C”. Such payments will be in addition to any Deposit paid by the Developer. The Developer shall make all payments as provided in Table A of Schedule “D”.
- 3.10 Any Deposit paid by the Developer shall be returned to the Developer, 30 days after the Developer has fulfilled all the financial obligations.

**Alternate Bid**

- 3.11 Where the Developer chooses the Option “Alternate Bid”, the Developer shall pay to the Corporation:
- a) the cost of the Detailed Design Engineering, as provided in Table B of Schedule “C”, upon execution of this Agreement;
  - b) the cost of the Corporation for the labor and materials to complete the Connection Work as provided in Table B of Schedule “C”; and,
  - c) the cost of the Inspection and Energization, as provided in Table B of Schedule “C”.
- 3.12 The payments required by the above shall be due and payable as provided in Table “B” of Schedule “D” to this Agreement. The Corporation shall have the right to stop all work, if any payments are overdue for any reason.
- 3.13 Any Deposit paid by the Developer shall be refunded to the Developer, 30 days after the Developer has fulfilled all the financial obligations.
- 3.14 Where the Developer chooses the Option “Alternate Bid” the Developer shall provide the Corporation with notarized evidence through statutory declaration of the actual costs of the material and labor for the Electrical Plant and the Expansion. The Corporation shall, within 60 days of receipt of the actual costs from the Developer, complete the Economic Evaluation pursuant to the Code and shall notify the Developer of any refund owed to the Developer or any additional payment owed to the Corporation as a Capital Contribution. The Party responsible for such payment shall make the payment within 60 days from the date of such notice.

**4. The Corporation Covenants**

- 4.1 With respect to the Development the Corporation covenants to:
- a) design the Electrical Plant for the Development in accordance with the Specifications, all applicable codes and good engineering judgment;



- b) provide temporary electrical plant construction services to the Developer subject to the execution of a separate agreement concerning payment of the Actual Cost thereof;
- c) provide, at the Developer's expense, the design for the Electrical Plant of the Developer showing the location of primary cables, secondary cables, service cables, transformer(s), switch-gear(s), foundations, road crossings and connection point(s) with the Distribution System;
- d) provide an Inspector to inspect the work of the Contractor and the Developer for work on the Electrical Plant or the Expansion upon reasonable advance notice by the Developer not less than (5) five working days;
- e) advise the Developer of service locations within (5) five working days of the written request;
- f) ensure all plant provided by the Developer shall be of sufficient size and capacity, as solely determined by the Corporation, to service the Development as well as any adjacent lands which the Corporation determines may require the use of the Electrical Plant or Expansion, in whole or in part, as feeders;
- g) provide service connections promptly upon the receipt of notice that the dwellings within the Development have passed inspection by the Electrical Safety Authority or within such other time period as may be practicable; and
- h) prepare design and specifications for any Expansion where the Corporation indicates, in writing, that one is required.

4.2 Notwithstanding Section 4.1 above, the Corporation will not perform construction after the ground freezes, unless requested to do so by the Developer. The Developer shall be additionally responsible for all incremental costs, incurred by the Corporation as a result of construction being performed during such period.

## **5. Developer Covenants**

5.1 With respect to the Development, the Developer covenants to:

- a) provide, prior to the design of the Electrical Plant or Expansion, an engineering site plan in AutoCAD V.13 (latest version) or Micro Station referencing either:
  - 1. Universal Transverse Mercator Projection (UTMP), NAD 83 co-ordinates; or
  - 2. Local co-ordinates with control points using UTMP, NAD 83 co-ordinates;
  - 3. and showing the location and specifications of:
    - i. water, sewers, hydrants and other facilities;
    - ii. driveways and side walks;
    - iii. road profiles and cross sections; and
    - iv. ultimate landscape on public road allowance.
- b) notify the Corporation, Bell Canada, any telecommunications company or companies and any other interested third party of any revisions to the engineering design prior to commencing any construction;



- c) prior to construction of the Electrical Plant or Expansion, provide clearance and grading of the Electrical Plant routes within 15 centimeters of final grades and installed curbs;
  - d) incorporate the Corporation's design into the engineering drawings for the Development;
  - e) prior to commencement of work, submit proposed layout plans, in both electronic and hard copy form that conform to local municipal requirements and that indicate all road profile/cross-section drawings;
  - f) submit all plans of adequate scale to allow the design of the Electrical Plant and Expansion to be incorporated onto the plan;
  - g) provide location of curb cuts and walkways at least six (6) weeks in advance of installation of the Electrical Plant;
  - h) provide location stake out of any other service(s) that might conflict with all or a portion of the Electrical Plant or Expansion;
  - i) identify lot lines and other reference points immediately prior to the staking of any or all of the Electrical Plant or Expansion or a joint use trench;
  - j) provide unobstructed access to the Corporation personnel to and along the route of the Electrical Plant and the Expansion;
  - k) provide Civil Works as required and specified in the Specifications;
  - l) co-ordinate the installation of the Civil Works with the Corporation in regard to when the trenches will be opened and the cables installed;
  - m) co-ordinate the installation of the Electrical Plant and Expansion with Bell Canada, Cable TV, Gas and any other party who may be sharing the joint trench;
  - n) comply with all obligations under the applicable attached schedules; and
  - o) where any part of the Electrical Plant or Expansion is located on private property, the Developer shall obtain, at its expense, easements and/or shall enter into a license agreement free of encumbrances, as may be required by the Corporation to maintain and operate electrical equipment, and shall prepare all necessary documents and survey plans for registration.
- 5.2 Where the Developer has chosen "Alternate Bid" in Section 3.1, the Developer covenants to:
- a) provide and install the Electrical Plant and Expansion in accordance with the Corporation's design and the Specifications. Any exceptions to the use of specified materials must be reviewed and approved by the Corporation prior to any construction;
  - b) request an inspection by the Corporation and obtain the Corporation's approval before backfilling or covering up any portion of the Electrical Plant or Expansion;
  - c) in the event that the Developer or its agent damages the Distribution System, Electrical Plant or other equipment in any manner whatsoever, pay an amount, which represents the cost of any repair to such system or equipment, together with the value of any loss of cable or equipment life;
  - d) provide proof of "Labor and Material Payment Bond" from a Canadian Company totaling one hundred and ten percent (110%) of the Developer's contract amount, including all labor and material; and

- e) provide an automatically irrevocable letter of credit from a recognized financial institution with a Dominion Bond Rating Service R-1 middle (lower rated institutions are not acceptable and shall be returned) in the amount of 10% of the contract amount, including labor and material. The letter of credit must be kept in force during and (60) sixty days after the expiry of Maintenance Period and or (60) sixty days after the final assumption/billing of the project is completed whichever occurs later.

## **6. Representations and Warranties**

6.1 The Developer represents and warrants to the Corporation as follows:

- a) the Developer owns all rights, title and interest in and to the Lands;
- b) the Developer has the power to enter into and to exercise its rights and perform its obligations under this Agreement;
- c) the Developer has taken all necessary action to authorize the execution and performance of its obligations under this Agreement;
- d) except as otherwise expressly identified herein, no approvals from the Developer or any third parties are required to give effect to this Agreement;
- e) the obligations expressed to be assumed by the Developer hereunder are legal, valid, binding and enforceable;
- f) the execution, delivery and performance by the Developer of this Agreement does not contravene any provision of:
  - 1. any existing legislation or regulation binding the Developer;
  - 2. any order or decree of any court or arbitrator binding on the Developer; or
  - 3. any obligation, which is binding upon the Developer or upon any of its assets or revenues;
- g) to the best of the Developer's information, knowledge and belief, all information representations and other matters of fact committed in writing to the Corporation by the Developer in connection with the Electrical Plant are true and complete in all material respects;
- h) no claim is presently being assessed and no litigation, arbitration or other proceedings are presently in progress or, to the best of the knowledge of the Developer, pending or threatened against it or any of its assets or employees in connection with the construction maintenance or operation of the Electrical Plant or Expansion;
- i) the Developer is not subject to any other obligation or compliance which will or is likely to have a material adverse effect on the ability of the Developer to perform its obligations under this Agreement; and
- j) if the Developer has selected "Alternate Bid" in Section 3.1, the Developer shall warrant the Electrical Plant and Expansion to be free from defects for the duration of the Maintenance Period. The Corporation at the sole expense of the Developer shall complete any repairs or replacement of the Electrical Plant or the Expansion required during the Maintenance Period.

- 6.2 The Parties comprising the Mortgagee each represent and warrant to the Corporation as follows:
- a) to the best of the their knowledge, the Parties comprising the Mortgagee are the only mortgagees of the Lands and no person who is not a Party to this Agreement has any interest in the Lands; and
  - b) to the extent required (if applicable), the consent of the Mortgagee to the terms and provisions of this Agreement has been granted.
- 6.3 The Corporation represents and warrants to the Developer as follows:
- a) the Corporation has the power to enter into and to exercise its rights and perform its obligations under this Agreement;
  - b) the Corporation has taken all necessary action to authorize the execution and the performance of its obligations under this Agreement;
  - c) the obligations expressed to be assumed by the Corporation hereunder are legal, valid, binding and enforceable;
  - d) the execution, delivery and performance by the Corporation of this Agreement does not contravene any provision of:
    - 1. any order or decree of any court or arbitrator binding on the Corporation;or
    - 2. any obligation which is binding upon the Corporation or upon any of its assets or revenues;
  - e) no claim is presently being assessed and no litigation, arbitration or other proceedings are presently in progress or, to the best of the knowledge of the Corporation, pending or threatened against it or any of its assets or employees in connection with the construction maintenance or operation of the Electrical Plant;
  - f) the Corporation is not subject to any other obligation or compliance, which, will or is likely to have a material adverse effect on the ability of the Corporation to perform its obligations under this Agreement.

**7. Contractor Approval and Inspection Prior to Commencement of Installation**

- 7.1 Prior to entering into any contract with a Contractor for the installation of the Electrical Plant or Expansion, in part or in whole, the Developer shall employ a contractor, approved by the Corporation, who has the responsibility for others employed to install the Electrical Plant.

7.2 The Corporation will not commence or continue the Corporation's connection work unless:

- a) the Developer has made arrangements for an inspection;
- b) contractor approval has been obtained in accordance with the provisions of Section 0.1 above;
- c) the design of the Electrical Plant and Expansion has been completed in accordance with Section 4 above; and
- d) the Developer has paid the amounts specified in Section 3 as payable to the Corporation in accordance with this Agreement.

## **8. Liabilities and Indemnification**

8.1 The Developer does hereby assume all risk of damage, loss or injury to persons or property howsoever caused, and does for itself and its successors and assigns hereby release and forever discharge the Corporation, its successors and assigns, its employees, agents and representatives from all claims, actions, applications, or demands with respect thereto, except for any damages that arise directly out of the willful misconduct or gross negligence of the Corporation. The Developer does hereby fully indemnify and save harmless the Corporation, its successors and assigns, its employees, agents and representatives of, from and against all damage, loss or injury to persons or property which may be suffered or which may hereafter be sustained or incurred by reason of, or in any way relating to, arising from, or based upon the performance of, or purported performance of, or non-performance of the Developer of any of its obligations or covenants in this Agreement or arising from the design, construction, installation, operation, maintenance, repair and removal of the Electrical Plant or Expansion, and all manner of actions, suits, causes of action, proceedings, charges, expenses, risks, liabilities, debts, obligations, duties, claims, demands and costs (including legal fees and court costs) in connection therewith, except where the foregoing is caused by the willful misconduct or gross negligence of the Corporation.

8.2 Neither the Corporation nor the Developer shall be liable under any circumstances whatsoever for any loss of profits or revenues, business interruption losses, loss of contract or loss of goodwill, or for any indirect, consequential, incidental or special damages, including but not limited to punitive or exemplary damages, whether any of the said liability, loss or damages arise in contract, tort or otherwise.

8.3 The Parties acknowledge and agree that Sections 8.1 and 8.2 above shall survive the termination and expiry of this Agreement.

## **9. Term**

9.1 Unless otherwise terminated in accordance with this Agreement, this Agreement, when executed, shall remain in effect until the expiry of the final Maintenance Period, but in any event for a period of not less than two (2) years from the date of this Agreement, or until such time as the responsibility for the distribution of power in the area where the

Development is located is transferred to an authority other than the Corporation, whichever occurs first.

## **10. Termination**

- 10.1 In the event of a breach of any provision of this Agreement by the Developer, the Corporation may take such action as may be appropriate to correct the breach and recover the cost thereof from the Developer. Such costs are due immediately on demand.
- 10.2 In the event that installation of the Electrical Plant or Expansion has not commenced within six (6) months from the date of this Agreement. The Corporation may, at its option, on one month's written notice to the Developer, terminate this Agreement.
- 10.3 The Corporation shall be entitled, at its option, to immediately terminate this Agreement upon written notice to the Developer in the event that the Developer or the Mortgagee files a petition or a petition is filed by a third party against the Developer or the Mortgagee for the voluntary or involuntary bankruptcy, insolvency under the Bankruptcy and Insolvency Act (Canada), the Companies' Creditors Arrangement Act or any other similar legislation in any jurisdiction and the same is not dismissed within 10 days.
- 10.4 The Corporation shall be entitled to terminate this Agreement upon written notice to the Developer and the Mortgagee in the event there shall be entered an order, judgment or decree by a court of competent jurisdiction, upon the application of a creditor, approving a petition seeking re-organization or appointing a receiver, trustee or liquidator of all or a substantial part of the assets of either the Mortgagee or the Developer and such order, judgment or decree continues in effect for a period of thirty (30) consecutive days; provided, however, that such order, judgment or decree may remain in effect for longer than such thirty (30) days, if either the Developer or Mortgagee, as the case may be, is diligently appealing such order, judgment or decree.
- 10.5 Assuming the Corporation does not exercise its remedy under 10.1 the Corporation shall be entitled to terminate this Agreement if the Developer or the Mortgagee has committed any material breach of this Agreement and within 30 days of having received written notice of such breach failed to take steps satisfactory to the Corporation to remedy such breach.

## **11. Force Majeure**

- 11.1 Other than for any amounts due and payable by the Developer to the Corporation or by the Corporation to the Developer, neither the Corporation nor the Developer shall be held to have committed an event of default in respect of any obligation under the Corporation's Conditions of Service (as such term is defined in the Distribution System Code) or under this Agreement if prevented from performing that obligation, in whole or in part, because of a Force Majeure Event.

11.2 If a Force Majeure Event prevents either party from performing any of its obligations under this Agreement, that party shall:

- a) other than for Force Majeure Events related to acts of God, promptly notify all other parties of the Force Majeure Event and its assessment in good faith of the effect that the event will have on its ability to perform any of its obligations. Other than for Force Majeure Events related to acts of God, if the immediate notice is not in writing, it shall be confirmed in writing as soon as reasonably practical;
- b) not be entitled to suspend performance of any of its obligations under this Agreement to any greater extent or for any longer time than the Force Majeure Event requires it to do;
- c) use its best efforts to mitigate the effects of the Force Majeure Event, remedy its inability to perform, and resume full performance of its obligations;
- d) keep the other party informed of its efforts;
- e) other than for Force Majeure Events related to acts of God, provide written notice to the other party when it resumes performance of any obligations affected by the Force Majeure Event; and
- f) if the Force Majeure Event is a strike or a lock out of the Corporation’s employees, the Corporation shall be entitled to discharge its obligations to notify the Developer in writing by means of placing an advertisement in a local newspaper.

**12. Notices**

12.1 Any notice or other writing required or permitted to be given under this Agreement or for the purposes of it, to any Party, shall be valid only if delivered in writing in accordance with this section.

Notices shall be provided to the Developer as follows:

Address: \_\_\_\_\_

Fax No: \_\_\_\_\_

Notices shall be provided to the Corporation as follows:

Enersource Hydro Mississauga Inc.  
3240 Mavis Road  
Mississauga, Ontario L5C 3K1

Attention: Customer Engineering Department  
Fax: (905) 566-2737

Notices shall be provided to the Mortgagee(s) as follows:

Address: \_\_\_\_\_  
Fax No: \_\_\_\_\_

- 12.2 Any party may change its respective address for delivery by delivering notices of such changes as provided herein.
- 12.3 Notice shall be deemed to have been delivered and received:
- a) if delivered by hand or by courier, upon delivery if delivered before 4:00 pm on a business day, or otherwise on the next business day;
  - b) if delivered by fax, on the first business day following the date of receipt of the transmission;
  - c) if delivered by registered mail, four (4) business days after the mailing thereof, provided that if there is a labor dispute or threatened labor dispute affecting postal service, such notice shall be delivered by hand, courier or fax.

**13. Insurance**

- 13.1 The Developer shall, during the term of this Agreement, maintain:
- a) a policy or policies of insurance in which the Corporation, and any additional parties that the Corporation may reasonably designate are named as additional insured and which policy or policies shall contain a co-insurance clause in the amount of Two Million Dollars (\$2,000,000) or as otherwise may be agreed in writing between the Developer and the Corporation, against liability due to damage to the property of the Corporation or any other person or persons including a third party, and against liability due to injury to or death of any person or persons including a third party; and
  - b) automobile liability insurance, covering all licensed motor vehicles owned, non-owned, hired, rented or leased and used in connection with the Developer’s work under this Agreement covering bodily injury, including death, personal injury and property damage liability to a combined inclusive minimum limit of Two Million Dollars (\$2,000,000) and mandatory accident benefits.
- 13.2 The Developer shall provide the Corporation with a certificate of insurance confirming that the minimum coverage required hereunder is in effect and that the coverage will not be cancelled, non-renewed, or materially changed by endorsement or through issuance of other policy or policies of insurance which restricts or reduces coverage, without thirty (30) days advance written notice by registered mail, or courier, with a receipt required, to:

Customer Engineering Department  
Enersource Hydro Mississauga  
3240 Mavis Road,  
Mississauga, Ontario  
L5C 3K1



- 13.3 Failure of the Corporation to demand such certificate or other evidence of full compliance with these insurance requirements or failure of the Corporation to identify a deficiency from evidence provided will not be construed as a waiver of Developer's obligation to maintain such insurance.
- 13.4 Failure of the Corporation to demand such certificate or other evidence of full compliance with these insurance requirements or failure of the Corporation to identify a deficiency from evidence provided will not be construed as a waiver of Developer's obligation to maintain such insurance. The acceptance of delivery by the Corporation of any certificate of insurance evidencing the required coverage and limits does not constitute approval or agreement by the Corporation that the insurance requirements have been met or that the insurance policies shown in the certificates of insurance are in compliance with the requirements.
- 13.5 In the event that the Developer fails to arrange and /or maintain the agreed insurance coverage the Corporation may arrange such insurance and pay the premiums and shall be entitled to deduct such amounts from any monies due to the Developer and/or pursue an action for recovery of the debt. Alternatively, the Developer's failure to maintain the required insurance may result in termination of this Agreement at the Corporation's option.
- 13.6 All deductibles shall be to the account of the Developer.
- 13.7 With the exception of Section 13.1(0 (automobile liability), all insurance noted above shall specify that it is primary coverage and not contributory with or in excess of any other insurance that may be maintained by the Corporation.
- 13.8 Coverage provided for the Corporation shall not be invalidated or vitiated by actions or inactions of others.
- 13.9 Upon request by the Corporation, the Developer shall provide the Corporation with evidence, satisfactory to the Corporation, of the Developer's compliance and continued compliance with Section 13.1 in the form of a completed "Insurance Information" form attached hereto as Schedule "E".
- 13.10 The Developer agrees that the insurance described in Section 13.1 does not in any way limit the Developer's liability pursuant to the indemnity provisions of this Agreement.

#### **14. Non-Assignment by Developer**

- 14.1 Neither this Agreement, nor any rights, remedies, liabilities or obligations arising under it, shall be assignable by the Developer without the prior written consent of the Corporation, whose consent shall not be unreasonably withheld. The Corporation has the right to conduct due diligence to ensure that new assignee is capable of fulfilling all the obligations under this Agreement. The Developer further covenants and agrees to cause the assignee to execute a novation agreement thereby agreeing to be bound by the terms



and conditions of this Agreement. Subject to all of the foregoing, this Agreement shall extend to, be binding upon and enure to the benefit of the parties hereto and their respective successors and permitted assigns.

**15. Amendments**

15.1 Parties hereto may mutually, unless otherwise provided for in this Agreement, alter, amend, modify or vary the provisions of this Agreement or the schedules or substitute entirely new schedules therefore and such alteration, amendment, modification, variation or substitution shall be effected by an exchange of letters between the Corporation, the Developer and the Mortgagee, which letters shall be attached hereto and shall be deemed to form part hereof and shall, from the date agreed upon in the said letters, alter, amend, modify, vary or substitute the said Schedules in the manner and to the extent set forth in the said letters. Subject to the foregoing, no amendment, modification or supplement to this Agreement shall be valid or binding unless set out in writing and executed by the parties with the same degree of formality as the execution of this Agreement.

**16. Mortgagee**

16.1 The Mortgagee agrees that if the equity of redemption in the Lands is transferred to it or to any Party comprising the Mortgagee, in whole or in part, the title to the Lands shall be subject to the terms of this Agreement in the same manner as if the Mortgagee had executed this Agreement in the capacity of the Developer.

16.2 The Developer shall not mortgage, encumber, or convey any interest in the Lands to any party other than the Mortgagee or a Party comprising the Mortgagee unless:

- a) such party has executed, as Mortgagee, an agreement identical in content to this Agreement (which agreement shall also be executed by the Developer and the Corporation), and an originally-executed copy of such agreement has been delivered to the Corporation; or
- b) The Corporation has consented to such mortgage, encumbrance or interest in writing.

**17. General**

17.1 Entire Agreement. This Agreement, including the Schedules and Exhibits hereto, constitutes the entire agreement of the parties and supersedes and replaces all previous and contemporaneous communications, representations, understandings and agreements, both written and oral, express and implied, related to the subject matter hereof.

17.2 Waiver. No failure or delay on the part of a Party in exercising any right, power or remedy hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any such right, power or remedy preclude any other or further exercise thereof or the exercise of any other right, power or remedy. No waiver by a Party of a default hereunder shall operate against such Party as a waiver of such default unless made in writing and signed by the authorized representative of such Party.

- 17.3 Severability. Should any provision of this Agreement be found to be illegal, invalid or unenforceable, that provision shall be considered separate and severable from the remaining provisions of this Agreement, which shall remain in force and be binding upon the Parties.
- 17.4 Governing Law. This Agreement shall be governed by, construed and enforced in accordance with, the laws of the Province of Ontario and the Federal laws of Canada applicable therein. Each party hereby irrevocably and unconditionally submits to the exclusive jurisdiction of the courts of the Province of Ontario and all courts competent to hear appeals there from.
- 17.5 Further Assurances. Each of the Parties agrees from time to time hereafter and upon any reasonable request of any other Party, to make or cause to be made all such further acts, deeds, assurances and things as may be required to more effectually implement the true intent of this Agreement.
- 17.6 Time. Time shall be of the essence in this Agreement and no extension of time or amendment of this Agreement shall operate as a waiver of this provision.
- 17.7 Survival. Except where terminated expressly or by implication, the rights, obligations and remedies of the Parties contained herein shall survive the expiration or termination of this Agreement.
- 17.8 Enurement. This Agreement shall enure to the benefit of, and be binding upon, the Parties and their personal representatives, successors and permitted assigns.
- 17.9 Currency. All dollars expressed herein shall be payable in Canadian currency.
- 17.10 Counterparts. This Agreement may be executed in any number of counterparts with the same effect as if all parties hereto had signed the same document. All counterparts shall be construed together and shall constitute one and the same original agreement
- 17.11 Registrable Form of Documents. The Parties shall each execute and deliver all conveyances, deeds and other documents to be registered, in registrable form, so that the full intent of this Agreement may be fulfilled. It is understood by the parties hereto that this Agreement may be registered against the Lands, and that Enersource Hydro Mississauga will provide release upon the expiry of the final Warranty Period.
- 17.12 The Corporation's Decision Binding. Should there be any dispute between the Parties as to the meaning of any Specifications or design, or as to the quality or performance of the work, the Corporation's decision shall be final and binding upon all of the Parties.
- 17.13 IN WITNESS WHEREOF the Parties hereto have caused to be affixed their corporate seals duly attested by the hands of their respective proper signing officers authorized in that behalf.

**ENERSOURCE HYDRO MISSISSAUGA**  
**“Corporation”**

**By:** \_\_\_\_\_  
I have the authority to Bind the  
Corporation.

Name: \_\_\_\_\_  
Title: \_\_\_\_\_

\_\_\_\_\_  
**“Developer”**

**By:** \_\_\_\_\_  
I have the authority to bind the  
Developer.

Name: \_\_\_\_\_  
Title: \_\_\_\_\_

\_\_\_\_\_  
**“Mortgagee”**

**By:** \_\_\_\_\_  
I have the authority to bind the  
Mortgagee

Name: \_\_\_\_\_  
Title: \_\_\_\_\_

**SCHEDULE “A”**

Referred to in the annexed indenture made the \_\_\_\_\_ day of, 20 \_\_\_\_\_ .

**B E T W E E N:**

**ENERSOURCE HYDRO MISSISSAUGA INC.**

hereinafter called the “**Corporation**”

**OF THE FIRST PART**

\_\_\_\_\_  
hereinafter called the “**Developer**”

**OF THE SECOND PART**

ALL and SINGULAR that certain parcel or tract of land and premises situate, lying and being in the City of Mississauga, in the Regional Municipality of Peel in the Province of Ontario, and being composed of \_\_\_\_\_ on Registered Plan \_\_\_\_\_, being more particularly described as \_\_\_\_\_ on Plan 43R-\_\_\_\_\_ registered in the Land Titles Office for Land Titles Division of Peel (No. 43).

**SCHEDULE “B”**

Part of Lot(s) \_\_\_\_\_,  
Concession \_\_\_\_\_, W.H.S. / E.H.S. / S.D.S. / N.D.S., in the City of Mississauga,  
(Circle appropriate designations)

in the Regional Municipality of Peel, designated as Part(s) \_\_\_\_\_ on a  
Reference Plan deposited in the Land Registry Office for the Land Titles Division of Peel  
(No.43) as No. 43R-\_\_\_\_\_.

**SCHEDULE “C”**

**Table A**

<b>Offer to Connect – Enersource Hydro Mississauga Installs New Subdivision Electrical Plant and Expansion (GST excluded)</b>	
Estimated Cost of the Detailed Engineering	\$
Estimated cost to the Corporation for Labor and Equipment to connect and install the Electrical Plant and Expansion	\$
Estimated cost to the Corporation for Material required for the Electrical Plant and Expansion	\$
<b>Total Estimated Cost of Installation</b>	<b>\$</b>
<b>Total Estimated Capital Contribution</b>	<b>\$</b>
<b>Deposit</b>	<b>\$</b>

**Table B**

<b>Alternate Bid for Installation – Developer is responsible for supply of labor and material for the installation of the Electrical Plant and Expansion (GST excluded)</b>	
Estimated Cost of the Detailed Design Engineering	\$
Estimated Cost to the Corporation for Labor & Materials Required to Connect to Existing Circuits	\$
Cost to the Corporation for Inspection & Energization Charges	\$
<b>Total of Estimated Corporation Costs</b>	<b>\$</b>
<b>Deposit</b>	<b>\$</b>

**SCHEDULE “D”****PAYMENT SCHEDULE**

TABLE A – OFFER TO CONNECT

<b>Payment</b>	<b>Amount</b>	<b>Due Date</b>
Deposit	\$10,000.00	Prior to Review of Plans
Detailed Design Engineering		Acceptance of Offer to Connect
Materials		30 days prior to Construction
Labor and Equipment		30 days prior to Construction
Balance of Capital Contribution (if any)		30 days after Energization
Refund of Deposit to Developer	\$10,000.00	30 days after all the financial obligations are fulfilled.

**SCHEDULE “D”****PAYMENT SCHEDULE**

TABLE B - ALTERNATE BID

<b>Payment</b>	<b>Amount</b>	<b>Due Date</b>
Deposit	\$10,000.00	Prior to Review of Plans
Detailed Design Engineering		Acceptance of Alternate Bid
Materials		30 days prior to commencing construction
Corporation Labor		30 days prior to commencing construction
Inspection & Energization Charges		30 days prior to commencing construction
Capital Contribution Refunds		60 days after the developer has submitted statutory deceleration
Refund of Deposit	\$10,000.00	30 days after all the financial obligations are fulfilled.

**SCHEDULE “E”**

**INSURANCE INFORMATION  
(To be completed by Developer’s insurer)**

Insurance Company: \_\_\_\_\_  
Policy Number: \_\_\_\_\_  
Expiry Date: \_\_\_\_\_  
Certificate of Insurance delivered to  
Enersource Hydro Mississauga Inc. on : \_\_\_\_\_ , 20\_\_

The insurance policy described above is still in effect and has not been amended since the Certificate of Insurance was delivered to Enersource Hydro Mississauga Inc.

Signature: \_\_\_\_\_  
Name: \_\_\_\_\_  
Position: \_\_\_\_\_  
Company: \_\_\_\_\_  
Date: \_\_\_\_\_



## **APPENDIX D INFORMATION IN A CONNECTION AGREEMENT WITH A CUSTOMER**

A Connection Agreement must conform to the Distribution System Code and a distributor's conditions of Service. A Connection Agreement between a distributor and a customer connected to the distributor's distribution system, excluding embedded generators and connection with other distributors, should include the following information (examples provided in italics):

**Contact Information:**

- Date
- Account Number
- Date Customer's Responsibility Commences
- Name
- Service Address
- Mailing Address
- Home Phone No
- Business Phone No
- Type of Business
- SIC

**The following clauses are suggested as examples:**

The customer agrees to abide by the distributor's Conditions of Service, in effect and as amended from time to time.

The customer further agrees to:

1. Pay the distributor for the distribution services used by the customer at the location covered by this connection agreement from the date herein until such time as the customer no longer requires the service; and
2. To commence payment in accordance with the approved rates prescribed attributed to the appropriate class rating to which the service applies, on or before the due date shown on the first account rendered and to pay all accounts either monthly or bi-monthly or as specified, thereafter.

Signature of customer (after reading the above and the General Conditions)

Witness

Signature of distributor (upon accepting the contract)

Date

**General Conditions:**

Space and Access

*The customer agrees to provide suitable space the distributor's meters, wires and where necessary poles, cables, transformers and all other appliances and equipment on the said*

*premises and further agrees that no one who is not an agent of the distributor shall be permitted to remove, inspect or tamper with same, including seals and that the properly authorized agents of the distributor shall have reasonable access to the said premises for the purpose of reading, examining, preparing or removing their meters, wires, poles, cables, transformers and other appliances and equipment of the distributor and for the inspection of all the customer's appliances and wiring.*

#### Responsibility for Equipment

*Meters, wires, poles, cables, transformers and all other appliances and equipment of the distributor on the said premises shall be in the care and at the risk of the customer and if destroyed or damaged by fire or any other cause whatsoever other than ordinary wear and tear, the customer shall pay to the distributor the value of such meters, wires, poles, cables, transformers, appliances and equipment, or the cost of repairing or replacing same.*

#### Disconnection

*The customer hereby expressly authorizes and empowers the distributor at the distributor's option to remove the meter, wires, poles, cables, transformers and all other appliances and equipment installed at the distributor's expense and discontinue the supply of electricity and terminate this agreement whenever any bills for the said service are in arrears or upon violation by the customer of any of the terms and conditions of this agreement.*

#### Reliability

*The distributor agrees to use reasonable diligence in providing a regular and uninterrupted service but does not guarantee a constant service or the maintenance of unvaried frequency of voltage and will not be liable in damages to the customer by reason of any failure in respect thereof. It is the customer's responsibility to provide for the protection of his equipment. From voltage variations, transient operations and single phasing.*

#### Conditions of Service

*The building must be supplied with electrical energy according to the distributor's Condition of Supply.*

#### Binding

*This agreement shall not be binding upon the distributor until accepted by it through a designated officer and shall not be modified or affected by any promise, agreement or representation by any agent or employee of the distributor unless incorporated in writing into this agreement before such acceptance.*

#### Maintenance Requirements

*The customer shall maintain the installation in efficient condition with property devices, according to the requirements and rules of the Electrical Safety Authority (ESA). If the electrical installation is found to be inadequate, the supply of electricity shall be suspended until such time as the above requirements are complied with.*

Security Deposit

*The distributor reserves the right to require security for payment of future charges.*

Termination

*This agreement shall continue in force until terminated by notice in writing given by either party hereto thirty days in advance of termination.*

Successors

*It is agreed that the signatures of the parties hereto shall be binding upon their successors or assigns and that the vacating of the premises herein named shall not release the customer from this agreement except at the option and by written consent of the distributor.*

Approval of Equipment

*All electrical and mechanical equipment such as motors and welders used by the customer shall be subject to the reasonable approval of the distributor and the customer shall so take and use the electrical energy as not to endanger the apparatus of the distributor or cause any wide or abnormal fluctuations of its line voltage. Where practical, equipment with the highest power factor should be chosen and motors should be sized to match the load. Equipment performance characteristics shall be in accordance with the distributor's Conditions of Service.*

Fire or Other Casualty

*In case of a fire or other casualty occurs in said premises, rendering the premises wholly unfit for occupancy, the supply of electricity shall thereupon be suspended until such time, within said contract period, as the wiring shall have been repaired and approved by the ESA.*

## **APPENDIX E INFORMATION IN A CONNECTION AGREEMENT WITH A GENERATOR**

A Connection Agreement between a distributor and an embedded generator shall contain specific terms and conditions relating to connection and access to the distributor's distribution system. Such terms and conditions include, but are not limited to, the following:

1. Requirements for the inspection and testing of equipment
2. Requirements for maintenance of the equipment
3. Worker protection and safety considerations, and measures to protect the public and the environment
4. Requirements for protection systems associated with the connection and the need for periodic maintenance and testing
5. Requirements for reporting any change affecting connected equipment of the configuration of this equipment
6. Protocols for the provision of load forecast or forecasts of information
7. Terms and conditions for disconnection and reconnection, including as to the responsibility for the payment of costs associated with reconnection
8. Requirements for coordinating maintenance and operations
9. Duration and termination conditions
10. Details of the connection point, including the ownership of the facility
11. Connection service charges and payment conditions
12. Requirements for reporting changes affecting access to metering, monitoring and telemetry equipment
13. Circumstances that would require re-negotiation of the Connection Agreement
14. Exchange procedures for information requirements
15. Communication and operating protocols between distributor and generator for routine day-to-day operating matters and under emergency conditions
16. Access to connection facilities
17. Assignment of Controlling Authority
18. Work Protection

## APPENDIX F

### PROCESS FOR CONNECTING AN EMBEDDED GENERATOR

#### H.1 SUMMARY OF POTENTIAL CONTRACTS

Contract Name	Parties	Purposes
Construction Agreement	Distributor, Generator	Describes obligations of distributor and embedded generator to complete connections, including terms of cost recovery.
Construction Agreement	Distributor, Transmitter	In the event a transmission system requires modifications to connect embedded generator, this document describes the obligations of distributor and transmitter to complete the connection, including terms of cost recovery.
Conditions of Service	Distributor, transmitter	In the event the embedded generator is a load customer of distributor, this document describes terms and applicable rates
Connection Agreement	Distributor, Generator	Identifies language and procedures to be used for normal and emergency situations, installed protection equipment, ownership and operating control of equipment, expected levels of maintenance and testing by both parties, contact names and telephone numbers, definitions and containing all necessary schematic diagrams for proper communication between the distributor and embedded generator
Additional Operation Agreement (if required) <sup>3</sup>	Distributor, Transmitter	Modifications as necessary to existing Connection Agreement to include provisions for safe and effective operation in presence of embedded generator on distribution.

<sup>3</sup> Additional Operations Agreement(s) or construction Agreement(s) may be required where other parties are affected by generation connection, e.g.: embedded distributors.

---

## H.2 PROTECTION REQUIREMENTS GUIDE

### 1 Disclaimer

This guide is not intended to take the place of design and review of a proposed embedded generation installation by a competent person. Such design and review should include consideration of proposed power and protective equipment, and local conditions, including existing and future equipment, loading, and operating conditions. The requirements shall be included in the Connection Agreement.

### 2. Introduction

This guide outlines typical protection requirements for connecting an embedded generator to a distributor system to ensure safe and reliable distribution system operation. The guide focuses on protections required to detect and isolate the embedded generator from the distributor system when faults/disturbances occur on the distribution system, to protect the distribution system and other users of the distribution system. The embedded generator should consider these typical requirements when preparing the proposed protection package for a distributor's review. Normally, the distributor at the interface point requires the protection features, however, some protection features may be included in the generator protection package or at the distributor's sub-station.

The embedded generator should provide protection systems to cover the following conditions:

1. Internal faults to provide adequate protections to detect and isolate generator and station faults (details are not covered in this guide).
2. External faults such as distribution system or interconnected transmission system phase faults/ground faults.
3. Islanding/Abnormal Conditions.
4. Additional Protection Features, such as Remote Trip and Generator end open signal, may be required in some applications.

This guide addresses protection requirements associated with items 2, 3 and 4.

### 3 External Faults

The protection system should be designed to provide full feeder coverage complete with a reliable DC supply. In some cases redundancy in protection schemes may be required. Normally the following fault detection devices are required for synchronous generator(s) installation(s). For protection of induction generator, see section 4.1 in this document.

#### 3.1 Ground Faults

When the HV winding of the embedded generator station transformer is wye connected with the neutral solidly grounded, then ground over current (64) protection in the neutral is required to detect ground faults.

If the embedded generator station transformer HV winding connected to the Distributor system is ungrounded wye or delta, then ground under voltage 64-27 and ground over voltage 64-59 protections are required to detect ground faults.

Depending on the size, type of generator and point of connection, a distributor may

require the relaying system to be duplicated, complete with separate auxiliary trip relays and separately fused DC supplies to ensure reliable protection operation and successful isolation of the embedded generator.

### 3.2 Phase Faults

To detect phase faults, at least one of the following protections should be installed with acceptable redundancy where required depending on faults values:

- Distance (21)
- Phase directional over current (67)
- Voltage-restrained over current (51V)
- Under voltage (27)

Example:

To provide reliable phase fault protection and successful isolation of fault current from the embedded generator station 21 feature (set to cover 125 percent of the longest connected feeder) timed at (1.0s) will normally be acceptable together with generator voltage/frequency protections as back up.

## 4 Islanding/Abnormal Condition

Voltage and frequency protections are required to separate the embedded generator from the distribution system for an islanded condition and thus maintain the quality of supply to distribution system customers. This also will enable speedy restoration of the distribution system.

Typically, the protections required to detect islanding/abnormal conditions are:

- Over voltage (59)
- Under voltage (27)
- Over frequency (81O)
- Under frequency (81U)
- Voltage balance (60)

The above protections should be timed to allow them to ride through minor disturbances.

### 4.1 Induction Generator

Due to the operating characteristics of the induction generator the protection package required is normally less complex than the synchronous generator. An embedded generator should design the protection scheme to trip for the same conditions as stated for synchronous generators.

An induction generator is an asynchronous machine that requires an external source such as a healthy distribution system to produce normal 60 Hz power. An embedded generator should design the protection scheme to trip for the same conditions as stated for synchronous generators.

An induction generator is an asynchronous machine that requires an external source such as a health distribution system to reproduce normal 60 Hz power. Alternatively, if there is an outage in the distribution system then there is unlikely to be 60 Hz output from the induction generator. In certain instances, an induction generator may continue to generate electric power after the source is removed. This phenomenon, known as self-excitation, can occur whenever there is sufficient capacitance in parallel with the

induction generator to provide the necessary excitation and when the connected load has certain resistive characteristics.

## **5 DC Remote Tripping/Transfer Tripping Between Embedded Generator and Feeder Circuit Breaker**

Remote or transfer tripping may be required between the embedded generator and the feeder circuit breaker because the embedded generator is connected at a critical location in the distribution system. This feature will provide for isolation of the embedded generator when certain faults or system disturbances are detected at the feeder circuit breaker location. The use of this feature may be restricted by physical limitations or economics.

### **NOTES:**

1. The Embedded generator is responsible for providing suitable embedded generator equipment to protect his plant and equipment for any conditions on the distributor and interconnected transmission systems such as reclosing, faults and voltage unbalance.
2. To incorporate the connection of embedded generator to the distribution system, the line/feeder protection including settings and breaker reclosing circuits must be reviewed and modified if necessary by the distributor or transmission authority. This process may be complex and may require significant time.
3. The embedded generator must submit a proposed single line diagram and protections for review to the distributor contact as identified by the distributor.
4. Based on the transformer connection proposed by embedded generator additional significant protection cost may be incurred (e.g. delta HV transformer winding may require 3 phase HV breaker/recloser device). The embedded generator should not order the protection equipment and transformer until the station line diagram is reviewed and accepted by the distributor.
5. The protection schemes should incorporate adequate facilities for testing/maintenance.
6. Negative phase sequence (46) protection may be desirable for some applications to detect abnormal system condition as well as to protect the generator.
7. The embedded generator may be required to install utility grade relays for those protections, which could affect the distributor or transmission authority system.
8. The embedded generator may be required to submit a Ground Potential Rise study for review by the distributor, if telecommunications circuits are specified for remote transfer trip protection.



**Appendix G**  
**Technical Requirements for Interconnection of Independent**  
**Generators**

## 1 Introduction

The intent of this document is to provide the technical requirements for those wishing to connect an independent generator to the Enersource Hydro Mississauga electrical distribution system.

- This document supplements the requirements of:
- The “Distribution System Code” (DSC) published by the Ontario Energy Board

Enersource Hydro Mississauga’s “Conditions of Service”

The following principles underlie these requirements:

- a) The interconnection process provides competitive, fair and equitable access for all independent generators;
- b) The interconnection must not create a safety hazard to other customers, the public or operating personnel;
- c) The interconnection must not compromise the reliability or restrict the operation of the electric system;
- d) The interconnection does not degrade power quality below acceptable levels.

The independent generator must meet these requirements before being permitted to interconnect and operate in parallel with Enersource Hydro Mississauga grid.

Enersource Hydro Mississauga does not take any responsibility for the design, installation, protection, operation or maintenance of the independent generator’s generator or generators or of any portion of the independent generator’s electric equipment.

The independent generator is responsible for obtaining all necessary permits and licenses as required by applicable statutes and regulations.

### 1.1 Standards

The power distribution system of the independent generator shall be designed and built in accordance with all the ANSI/IEEE standards, CSA standards, as well as OEB regulations that prevail at the date of the execution of the project.

## 2 Abbreviations

ANSI	American National Standard Institute
CSA	Canadian Standard Association
CEA	Canadian Electrical Association
EHM	Enersource Hydro Mississauga

ESA	Electrical Safety Authority
EUSA	Electrical Utilities Safety Association of Ontario
IEEE	The institute of Electrical and Electronics Engineers, Inc
OEB	Ontario Energy Board
PCC	Point of Common Coupling

### **3 Safety**

The independent generator must operate and maintain its facility (facilities) in a manner that does not endanger the general public, the EHM system, or EHM employees, agents or customers.

The independent generator may use as references the following:

- a) EHM Work Protection Code;
- b) EHM Safe Work Procedures;
- c) EUSA Rule Book and Safe Work Practice Guides;
- d) Occupational Health and Safety Act

EHM may disconnect the customer's generator(s) from EHM power grid if in EHM's opinion the generator is posing a safety hazard.

#### **3.1 Electrical Safety Authority Plan Approval**

The ESA shall inspect and approve all generator installations up to the ownership demarcation point. The ESA's involvement is limited to inspecting customer owned generating equipment and confirming the electrical safety of the physical installation, determining whether the installation meets current electrical code requirements, and approving the design and installation of an appropriate grounding system. The Customer shall contact the local ESA and submit the appropriate application and fee for electrical inspection. EHM will not allow connection of any installation until ESA Plan Approval is granted and EHM receives ESA's written approval.

### **4 Mode of Operation**

Whenever an independent generator operates a parallel system, its generation can affect the overall electrical control and operation of EHM electrical system. Also its generation will be exposed to electrical disturbances originating on EHM electric system. These disturbances, including lightning or switching surges and grounded or broken conductors, result from the wide variety of natural and human hazards that EHM power grid is subject to.

The independent generator system must have adequate protection and control of its generation. It must be able to de-energize faulty equipment quickly, to maintain safe operation of the electrical system.

#### 4.1 Parallel Generation

An independent generator is operating a parallel system if its generation can be operated while connected to EHM's power system, either directly or through an intermediate facility. While in parallel with EHM power system, the generation will necessarily have the same frequency and the same voltage on EHM side of interconnection.

When the customer generator becomes isolated from the EHM system, its voltage and frequency will vary from EHM's voltage and frequency. If the generator continues to operate, it has become islanded.

Some independent generators only mean of controlling their frequency or voltage is to be connected in parallel with a larger electric system. Others may have only coarse control of frequency or voltage, or may rely on a larger power system to supply reactive power. Such generators have no stand-alone capability.

Other independent generators control their own generation frequency or voltage adequately for their own needs while islanded. Such independent generators have isolated-system capability.

An independent must automatically open its interconnection with EHM system any time the power generation becomes isolated from the EHM power grid. Its interconnection must open quickly, so that it is fully open before automatic-reclosing devices on EHM power system can operate.

### 5 Independent Generator System Requirements

The independent generator shall meet the following operating and performance characteristics:

- a) The independent generator facility shall not adversely affect the voltage and voltage regulation on any part of the EHM power system;
- b) Compliance with voltage control shall be demonstrated by statistical metering;
- c) The independent generator shall not cause an unacceptable level of voltage fluctuation during starting, operation or shutdown of its generating facility;
- d) The customer's generator(s) shall normally operate at a power factor of unity; EHM will accept generating sources operating at other power factors, provided that they do not place an excessive burden on EHM system capacity and Var availability in the region of interconnection. Power factor control will normally be demonstrated by statistical metering of power factor at the Point of interconnection;
- e) The independent generators shall not cause an unacceptable level of harmonics during operation of its generating facility. The independent generator system design shall be in full compliance with IEEE Standard 519-1992.

#### 5.1 Power Quality Requirements

In order to ensure the quality of power at the point of common coupling (PCC) the independent generator shall comply with IEEE Standard 519-1992.

The point of common coupling with the independent generator is the closest point on the EHM side of the customer's service where another EHM customer is or could be supplied.

## **6 Parallel Generation Approval Process**

The independent generator shall follow the steps shown in Figure 6.1 in order to obtain EHM approval for interconnection to the EHM power systems.

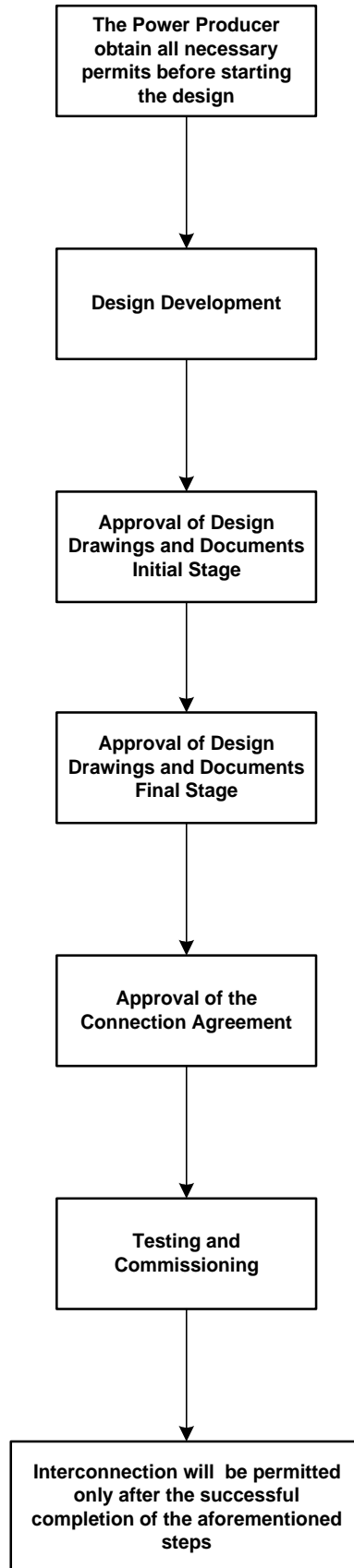


Figure 6.1

## **6.1 Project – Initial Stage**

It shall be the independent generator responsibility to obtain all necessary approvals and permits in order to start the design of the generating facility.

## **6.2 Design Development**

### **6.2.1 General**

Safety of personnel, the public and of equipment is of primary concern in the design of interconnection. The point of interconnection will be defined in the design. The independent generator is responsible for the design, construction, maintenance and operation of the facility on the generation side of the point of interconnection.

The design shall be in compliance with all CSA standards and ANSI/IEEE standards that prevail at the date of execution of the project.

### **6.2.2 Isolation Devices**

A disconnecting device shall be installed to isolate the generator from the EHM system.

The device is subject to the following requirements:

- a) The device is subject of approval by EHM;
- b) The device shall be physically located for ease of access and visibility to EHM personnel;
- c) The disconnect device operating mechanism shall be lockable in the open position with EHM padlock.

### **6.2.3 Circuit Breaker**

The independent generators shall install a circuit breaker as a means of electrically isolating the generator from the EHM system. The breaker shall have sufficient capability to interrupt maximum available fault current at its location.

### **6.2.4 Transformer Requirements**

An interface transformer may be required to transform the generator's voltage to a higher voltage to connect to EHM 13.8 kV, 27.6 kV or 44 kV circuits. It is recommended that the low voltage winding (generator side) of the step-up transformer to be delta connection and the high voltage winding (EHM side) to be wye-grounded connection.

### **6.2.5 Protection Devices**

The independent generator electrical system and EHM electrical system shall be protected at all times from damages or hazardous conditions related to parallel operations of the two systems.

The independent generator shall be able to determine after an incident, which device(s) initiated a particular trip. The protective relays shall be connected to an annunciator or event recorder.

The protective devices shall include but shall not be limited to the following:

- Device #25 - synchronizing or synchronism check relay;
- Device #27 - undervoltage relay;
- Device #32 – directional power relay;
- Device #47 – phase-sequence or phase balance voltage relay;
- Device #50 – instantaneous overcurrent relay;
- Device #51 – ac time overcurrent relay;
- Device #59 – overvoltage relay;
- Device #67 – ac directional overcurrent relay;
- Device #81U/O – under/over frequency relay;
- Device #87 – differential protective relay;

### **6.2.6 Enersource Hydro Mississauga Reclosing Scheme**

EHM employs an automatic reclosing scheme to reclose the feeder breaker in approximately half a second (30 cycles) after they have been tripped by feeder protection.

The embedded generation facility shall provide reliable means of disconnecting from the distribution system prior to the feeder breaker reclosing. The Customer shall agree in advance that EHM is not liable for damage to the Customer's generation facility due to any reclosures of a feeder breaker.

### **6.2.7 Transfer-Trip Protection Requirement**

Transfer-Trip protection shall be provided if the generation system can successfully operate in an islanded mode (it can maintain normal voltage and frequency).

### **6.2.8 Grounding**

The EHM power system is an effectively grounded system. The independent generator must install an appropriate ground grid. The grounding grid shall be in full compliance with the requirements stated in ANSI/IEEE Standard 142- and IEEE Standard 80-1986.

## **6.3 Approval of Design Drawings and Documents – Initial Stage**

The independent generator is required to submit for EHM record and approval at the beginning stage of the project, four copies of the site specific Single Line Diagram which shall include Project Name and Location in the Title Box, date and revision number, approval signature and shall show the quantity of each item, where more than one item is supplied, and a brief description of the proposed mode of operations.

The Single Line Diagram shall include but shall not be limited to the following:



- a) Generator size connection and impedance;
- b) Power transformers (primary and secondary voltage, power rating, impedance and phasor diagram);
- c) Voltage and current transformers (connections and ratios);
- d) Circuit breakers and load break disconnect switches (continuous current and status, synchronizing capability where applicable);
- e) Fuses and their ratings;
- f) Revenue metering transformers and phasing receptacles;
- g) Surge arrester characteristics;
- h) Bus and cable ratings;
- i) Protective devices – device No. and tripping direction;
- j) Interlocking (mechanical and electrical)

#### **6.4 Approval of Design Drawings and Documents – Final Stage**

At the final stage of the design the independent generator shall submit for EHM review the following:

- a) The revised single line diagram which shall include comments made on the initial submittal;
- b) The AC/DC schematic diagrams of the protection and control circuits;
- c) The Bill of Materials – including all relays, voltage & current transformers, fuses, etc.
- d) A relay coordination study and proposed protective relay settings;
- e) Metering compartment equipment showing the physical layout and clearances;
- f) Bus, cables and terminations (manufacturer's specifications);
- g) Equipment room layout;
- h) DC system one line diagram detailing the battery and charger type, distribution panel, transfer switches, relaying and alarms.
- i) Interlocking procedures.

##### **6.4.1 Testing and Commissioning**

It will be the independent generator responsibility to prepare the test procedures and to submit it to EHM for review (only the procedures for the interface tests with the EHM power grid, are required to be submitted).

The tests shall be conducted in accordance with the current versions of ANSI, IEEE and CSA standards.

As a minimum the test procedures shall include:

- a) The description of the tests;
- b) The required test equipment (model, calibration date);
- c) The detailed step by step procedure;
- d) The pass/fail criteria.

## 6.5 Connection Agreement

The connection agreement will be issued by the EHM (with input from the independent generator who shall provide the information specified in the paragraphs 6.5a and 6.5b) shall detail all operations under normal and contingency modes of operation.

The agreement will include, but not necessarily be limited to the following:

- a) A high level technical description of the generating facility, equipment and protection;
- b) A high level technical description of the distribution system and protection;
- c) The independent generator intent in operating the facility (i.e. sales, demand reduction);
- d) The name, title and phone number of the key personnel for each party to the agreement;
- e) Provision for EHM to disconnect the generating facility for failure to meet technical, power quality and/or safety requirements;
- f) Reference to safety procedures for joint work;
- g) Responsibility for maintaining current technical information (i.e. single line diagram);
- h) Notification requirements (i.e. before synchronization).

## 6.6 Requirements prior Energization

Prior to energization the customer shall resubmit all drawings corrected and marked Final. Also subject of EHM approval are the following:

- a) Certified relay test data including the date of test and all voltage and current transformer ratios;
- b) Certified high potential proof test; and
- c) Equipment operation test result;

EHM will require a utility representative to witness successful tests of the protection system as far as it affects the interconnection of the generator to the EHM distribution System; all results shall be documented in the Witness of Verification Report (See Appendix A).

### 6.6.1 Generating Facility Inspection

EHM personnel will inspect the project site, from time to time, to verify compliance with EHM specifications.

EHM will verify the following:

- a) Equipment nameplates and phase markings are as noted on the drawings;
- b) A laminated copy of the approved D06 or D18 single line diagram is posted in the appropriate location;
- c) The revenue metering system is in place and ready for operation;

**6.7 Interconnection**

The interconnection will be permitted only after the successful completion of the requirements stated in this document.

Following the successfully completion of the testing and interconnection the independent generator shall submit all documents including as built drawings for EHM review and record.

**Witness of Verification Report**

<b><i>Witness of Verification Report</i></b>	
<b>Name of Customer</b>	
<b>Name of Facility</b>	
<b>Distribution Identifier</b>	
<b>Distribution System Connection</b>	
<b>SIGNATURES</b>	
To be signed upon completion of all parts of this report	
I/we have completed the witness of verification tests as noted	I/we acknowledge the completion of the witness of verification tests and will undertake to rectify the deficiencies identified in the “Notes” section
_____ Signature of EHM Representative	_____ Signature of Customer Representative
Print Name:	Print Name:
Title:	Title:
Date:	Date:
<b>Distribution List (When all parts are completed)</b>	
<input type="checkbox"/> Substations	
<input type="checkbox"/> System Operations	
<input type="checkbox"/> Control Room	
<input type="checkbox"/> Customer	
<input type="checkbox"/> Hydro One	

<b>Witness Verification Protection and Control</b>				
Legend: Y=Yes; N=No; N/A= Not applicable				
	Legend	Initial	Date (mm/dd/yyyy)	Note#
1. Is commissioning in compliance with the submitted Commissioning Procedure?				
2. Are the approved relay settings applied?				
<b>Witness the following Protection Tests:</b>				
a) Interlocks to prevent out-of-sync closing				
b) Interlocks to prevent feeder parallel				
c) Overcurrent Protection that trips utility interface breakers (51, 51N, 67, 67N)				
d) Under and Over Voltage (27/59)				
e) Under and Over Frequency (81U/81O)				
f) Transfer Trip (85T)				
g) Remote Trip (85R)				
h) Directional Power (32)				
<b>Witness the following SCADA tests</b>				
a) MW – flows and direction				
b) Breakers Open / Close Status				
c) Switches Open / Close Status				
d) Breakers Open / Close Control				
e) Switches Open / Close Control				
f) Protection Trip Alarms				

**Metering in Place**

**YES**\_\_\_\_\_

**NO**\_\_\_\_\_

**Notes:**

Print Name:	Print Name:
Title:	Title:
Date:	Date:

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## APPENDIX H PROCESS FOR CONNECTING ANOTHER DISTRIBUTOR

### EXAMPLE OF A PROCESS FOR CONNECTIONS BETWEEN DISTRIBUTORS

#### **Step 1 – Connection Request**

- An embedded distributor submits its request to the host distributor, summarizing in writing the required initial and ultimate load requirements, the required in-service date and any other specific requirements.
- The host distributor carries out a preliminary review and determines the scope and estimated cost of preparing a System Impact Study.
- The host distributor responds in writing within 30 days of receiving the Embedded distributor's request.

#### **Step 2 – System Impact Study**

- Upon receipt of a purchase order or equivalent from the embedded distributor, the host distributor, in cooperating of the applicant, studies in detail all options and recommends the preferred option. The results of the study are documented in a system impact study report. This report provides the embedded distributor with preliminary information regarding the work required to provide the requested supply, the required capital contribution and the expected lead-time.
- The host distributor completes the system impact study within 60 days of receiving the embedded distributor's purchase order to proceed. If, despite the host distributor's best efforts, the 60-day target can not be met, the host distributor notifies the embedded distributor in writing and provides a new target completion date.

#### **Step 3 – Connection Application**

- The embedded distributor reviews the system impact study report and decides whether or not to proceed.
- To proceed, the embedded distributor submits a connection application, provides all necessary Registered Planning Information and issues a purchase order or equivalent for preparation of detailed engineering specifications.
- The embedded distributor submits a connection application to the host distributor within 30 days of receiving the system impact study report.

#### **Step 4 – Engineering Specifications and Cost Sharing Arrangements**

- Upon receipt of a purchase order or equivalent from the embedded distributor, the host distributor prepares detailed engineering specifications for required system enhancements, obtains cost estimates for the specified work and determines cost sharing arrangements.
- The host distributor provides, in writing, a project description and letter of intent that includes:
  - A description of the proposed project

- A summary of work to be performed by the host distributor
- A summary of work to be performed by the embedded distributor
- The host distributor's capital investment in the project
- The embedded distributor's financial contribution to the project
- The host distributor provides the required project description and letter of intent within 90 days of receiving the connection application from the embedded distributor.

#### **Step 5 – Formal Approval and Agreement**

- Upon receipt of a signed Letter of Intent from the embedded distributor, the host distributor seeks formal approval from its Executive and from the Ontario Energy Board (if necessary).
- The host distributor prepares a Connection Agreement that outlines the obligations of the host distributor and the embedded distributor. This Agreement will serve as a legally binding and enforceable agreement between the two parties.
- The host distributor obtains required approvals and drafts a Connection Agreement within 60 days (90 days if Regulatory approval is required) of receiving the signed Letter of Intent from the embedded distributor.

#### **Step 6 – Construction**

- Acquisition of any required property or property rights.
- Construction of the host distributor's new or modified system facilities.
- Modification of up-stream transmission facilities (if necessary).
- Construction of embedded distributor's approved connection facilities.
- Typical construction lead times include:
  - New or upgraded distribution lines: 6 months
  - Upgraded distribution Substations: 12 months
  - New Distribution Stations: 18 months for <50 kV; 24 months for >50kV.
  - New or upgraded transmission facilities: 24 months

If construction lead times differ from above, the host distributor will inform the embedded distributor, in writing, of the actual lead time requirements for the specified work.

#### **Step 7 - Connection**

- Commissioning and verification that all connection requirements have been met.
- Connection.

## APPENDIX I DEMARCATIION POINTS AND CHARGES FOR CONNECTION ASSETS

*Table 1 Charges for Connection Assets Customer Class*

<i>Customer Class</i>	<i>Standard Allowance (Basic Connection)</i>	<i>Variable Connection Fees</i>
<b><i>Residential</i></b>		
Single Service		
Overhead	Up to 30m overhead service wires from EHM pole lines. Include connections at pole or lines and customer's service mast. Basic Connection fee recovered through rates.	Customer charged estimated fixed costs for connection assets beyond standard allowance.
Underground	Equivalent O/H service cables from the closest connection point on EHM service lines. Does not include U/G road crossing. Basic Connection fee recovered through rates.	Customer charged estimated fixed costs for connection assets beyond standard allowance.
Townhouse Development	N/A	Customer charged actual costs for connection asset
New Residential Subdivisions (two or more lots)		
Development with two or more lots	N/A	N/A
<b><i>General Service</i></b>		
Overhead	N/A	Customer charged estimated fixed costs for connection asset
Underground	N/A	Customer charged estimated fixed costs for connection asset
Industrial/Commercial Subdivision	N/A	Customer charged estimated fixed costs for connection asset



## APPENDIX I UN-METERED CONNECTIONS POINT OF DEMARCATION & CONNECTION CHARGES

*Table 1 Un-metered Connections - Point of Demarcation and Ownership*

<i>Types of Customers</i>	<i>Ownership / Demarcation Point</i>	<i>Connection Fee</i>
<i>Street Lighting</i>		
	At feed to street light cable or at tap from overhead bus	Customer charged actual costs for connection of assets
<i>Others (Traffic Signals, Park Lights, Bus Shelters, Pay Phone Booths, Bell &amp; Cable Pedestal)</i>		
	All pedestal or first protective device	Customer charged actual costs for connection of assets

## APPENDIX J SCHEDULE OF RATES

### Enersource Hydro Mississauga Inc. Schedule of Distribution Rates and Charges

Implementation Date: May 1, 2006

#### Proration

Rates and charges are prorated where the bill to a customer is for a time period that is different from the normal billing period or where rates have been revised effective on a date not coincident with the customer's billing date.

#### Billing Determinants

##### Distribution Charge:

- For energy-only metered customers, the billing determinant is the customer's metered energy consumption.
- For a demand customer, the billing determinant is the greater of the customer's peak kW demand or 90% of the peak kVa demand at any time of the month.

##### Retail Transmission Charge – Network Service Rate

- For energy-only metered customers, the billing determinant is the customer's metered energy consumption.
- For a demand customer without an interval meter, the billing determinant is the greater of the customer's peak kW demand or 90% of the peak kVa demand at any time of the month.
- For a customer with an interval meter, the billing determinant is the greater of the customer's peak demand or 90% of the peak kVa demand in the month during the period defined as between 7 AM and 7 PM (local time) on weekdays that are not statutory holidays.

##### Retail Transmission Charge – Connection Service Rate

- For energy-only metered customers, the billing determinant is the customer's metered energy consumption.
- For all demand customers, the billing determinant is the greater of the customer's peak kW demand or 90% of the peak kVa demand at any time of the month.

##### Wholesale Market Service Rate:

- The billing determinant is the customer's metered energy consumption adjusted by the Total Loss Factor (Adjustment Factor)

##### Debt Retirement Charge:

- The billing determinant is the customer's metered energy consumption (exclusive of line losses)

**Enersource Hydro Mississauga Inc.**  
**Schedule of Distribution Rates and Charges**

Implementation Date: November 1, 2006  
Effective November 1, 2006 to April 30, 2007

**RESIDENTIAL**

Customer Charge	(per month)	\$11.43
Distribution Charge	(per kWh)	\$0.0148
Retail Transmission Charge	(per kWh)	\$0.0110

**SMALL COMMERCIAL**

<b>Customer Charge</b>	<b>(per month)</b>	<b>\$14.44</b>
<b>Distribution Charge</b>	<b>(per kWh)</b>	<b>\$0.0259</b>
<b>Retail Transmission Charge</b>	<b>(per kWh)</b>	<b>\$0.0099</b>

<b>UN-METERED SCATTERED LOADS (Billed as Small Commercial)</b>	<b>Customer Charge</b>
<b>(per month)</b>	<b>\$14.13</b>
<b>Distribution Charge</b>	<b>(per kWh)</b>
<b>Retail Transmission Charge</b>	<b>(per kWh)</b>
	<b>\$0.0259</b>
	<b>\$0.0099</b>

**GENERAL SERVICE - Demand of less than 50 kW**

<b>Customer Charge</b>	<b>(per month)</b>	<b>\$29.14</b>
<b>Distribution Charge</b>	<b>(per kWh)</b>	<b>\$0.0157</b>
<b>Retail Transmission Charge</b>	<b>(per kWh)</b>	<b>\$0.0099</b>

**4.1.1.1.1 GENERAL SERVICE - Demand between 50 kW and 499 kW**Non-Interval Meters

Customer Charge	(per month)	\$73.74
Distribution Charge	(per kW)	\$4.6858
Retail Transmission Charge	(per kW)	\$3.9245

Interval Meters

Customer Charge	(per month)	\$73.74
Distribution Charge	(per kW)	\$4.6858
Retail Transmission Charges:		
Network Service Rate	(per kW)	\$2.1136
Connection Service Rate	(per kW)	\$1.8109

**GENERAL SERVICE - Demand between 500 kW and 4999 kW****Non-Interval Meters**

<b>Customer Charge</b>	<b>(per month)</b>	<b>\$1,247.81</b>
<b>Distribution Charge</b>	<b>(per kW)</b>	<b>\$1.6429</b>
<b>Retail Transmission Charge</b>	<b>(per kW)</b>	<b>\$3.8168</b>

**Interval Meters**

<b>Customer Charge</b>	<b>(per month)</b>	<b>\$1,247.81</b>
------------------------	--------------------	-------------------

<b>Distribution Charge</b>	<b>(per kW)</b>	<b>\$1.6429</b>
<b>Retail Transmission Charges:</b>		
<b>Network Service Rate</b>	<b>(per kW)</b>	<b>\$2.0449</b>
<b>Connection Service Rate</b>	<b>(per kW)</b>	<b>\$1.7719</b>
<b>LARGE USERS – Demand of 5000 kW or more with an interval meter</b>		
<b>Customer Charge</b>	<b>(per month)</b>	<b>\$13,332.27</b>
<b>Distribution Charge</b>	<b>(per kW)</b>	<b>\$2.7794</b>
<b>Retail Transmission Charges:</b>		
<b>Network Service Rate</b>	<b>(per kW)</b>	<b>\$2.1820</b>
<b>Connection Service Rate</b>	<b>(per kW)</b>	<b>\$1.8924</b>
<b>STREET LIGHTING</b>		
<b>Customer Charge</b>	<b>(per connection/month)</b>	<b>\$0.36</b>
<b>Distribution Charge</b>	<b>(per kW)</b>	<b>\$2.9360</b>
<b>Retail Transmission Charge</b>	<b>(per kW)</b>	<b>\$2.7731</b>
<b>Other Charges</b>		
<b>Debt Retirement Charge:</b>	<b>(per kWh)</b>	<b>\$0.0070</b>
<b>This charge is to retire the debt of the former Ontario Hydro.</b>		
<b>Wholesale Market Service Charge:</b>	<b>(per kWh)</b>	<b>\$0.0062</b>
<b>This charge covers costs such as market regulation and the management of the system.</b>		
<b>Standard Supply Service (SSS) Rate:</b>		<b>Administration</b>
<b>Charge *</b>	<b>(per month)</b>	<b>\$0.25</b>
<b>* Administration Charge is added to the Customer Charge when billed. This service charge does not apply to customers that purchase their energy from a retailer.</b>		
<b>Statutory Holidays: New Year’s day, Good Friday, Victoria Day, Canada Day, Civic Holiday (as in Toronto), Labor Day, Thanksgiving Day, Christmas &amp; Boxing Days.</b>		
<b>RESIDENTIAL</b>		
<b>Customer Charge</b>	<b>(per month)</b>	<b>\$11.19</b>
<b>Distribution Charge</b>	<b>(per kWh)</b>	<b>\$0.0151</b>
<b>Retail Transmission Charge</b>	<b>(per kWh)</b>	<b>\$0.0110</b>
<b>SMALL COMMERCIAL</b>		
<b>Customer Charge</b>	<b>(per month)</b>	<b>\$14.14</b>
<b>Distribution Charge</b>	<b>(per kWh)</b>	<b>\$0.0268</b>
<b>Retail Transmission Charge</b>	<b>(per kWh)</b>	<b>\$0.0099</b>
<b>UN-METERED SCATTERED LOADS (Billed as Small Commercial)</b>		
<b>Customer Charge</b>	<b>(per month)</b>	<b>\$13.83</b>
<b>Distribution Charge</b>	<b>(per kWh)</b>	<b>\$0.0268</b>
<b>Retail Transmission Charge</b>	<b>(per kWh)</b>	<b>\$0.0099</b>
<b>GENERAL SERVICE - Demand of less than 50 kW</b>		
<b>Customer Charge</b>	<b>(per month)</b>	<b>\$28.54</b>
<b>Distribution Charge</b>	<b>(per kWh)</b>	<b>\$0.0160</b>
<b>Retail Transmission Charge</b>	<b>(per kWh)</b>	<b>\$0.0099</b>

**4.1.1.1.2 GENERAL SERVICE - Demand between 50 kW and 499 kW**Non-Interval Meters

Customer Charge	(per month)	\$72.18
Distribution Charge	(per kW)	\$4.7156
Retail Transmission Charge	(per kW)	\$3.9245

Interval Meters

Customer Charge	(per month)	\$72.18
Distribution Charge	(per kW)	\$4.7156
Retail Transmission Charges:		
Network Service Rate	(per kW)	\$2.1136
Connection Service Rate	(per kW)	\$1.8109

**GENERAL SERVICE - Demand between 500 kW and 4999 kW**Non-Interval Meters

Customer Charge	(per month)	\$1,221.31
Distribution Charge	(per kW)	\$1.6797
Retail Transmission Charge	(per kW)	\$3.8168

Interval Meters

Customer Charge	(per month)	\$1,221.31
Distribution Charge	(per kW)	\$1.6797
Retail Transmission Charges:		
Network Service Rate	(per kW)	\$2.0449
Connection Service Rate	(per kW)	\$1.7719

**LARGE USERS – Demand of 5000 kW or more with an interval meter**

Customer Charge	(per month)	\$13,049.13
Distribution Charge	(per kW)	\$2.8131
Retail Transmission Charges:		
Network Service Rate	(per kW)	\$2.1820
Connection Service Rate	(per kW)	\$1.8924

**STREET LIGHTING**

Customer Charge	(per connection/month)	\$0.36
Distribution Charge	(per kW)	\$2.9940
Retail Transmission Charge	(per kW)	\$2.7731

**Other Rates & Charges**

**Debt Retirement Charge:** (per kWh) \$0.0070

This charge is to retire the debt of the former Ontario Hydro.

**Wholesale Market Service Charge:** (per kWh) \$0.0062

This charge covers costs such as market regulation and the management of the system and includes rural and remote rate protection charges.

**Standard Supply Service (SSS) Rate:** Administration

Charge \* (per month) \$0.25

\*\* Administration Charge is added to the Customer Charge when billed. This service charge does not apply to customers that purchase their energy from a retailer.

**Adjustment Factor:** 1.0433

When electricity is delivered over a power line, it is normal for a small amount of power to be consumed or lost as heat. Equipment, such as wires and transformers, consumes power before it gets to the home or business. The adjustment factor accounts for these losses.

## APPENDIX K SPECIFIC SERVICE CHARGE

### Customer Administration

Arrear Certificate	\$15.00+GST
Easement Letter	\$15.00+GST
Request for other billing information	\$15.00+GST
Income Tax letter	\$15.00+GST
Credit reference/credit check (plus credit agency costs)	\$15.00+GST
Credit reference/credit check (plus credit agency costs – General Service)	\$25.00+GST
Returned cheque charge (plus bank charges)	\$12.50+GST
Account set up charge/change of occupancy charge (plus credit agency costs if applicable)	\$30.00+GST
Account set up charge/change of occupancy charge (plus credit agency costs if applicable – Residential)	\$20.00+GST
Special meter reads	\$30.00+GST
Non-payment of Account	
Late payment – per month	1.5%
Late payment – per annum	19.56%
Collection of account charge – no disconnection	\$9.00+GST
Disconnect/Reconnect at meter – during regular hours	\$20.00+GST
Disconnect/Reconnect at pole – during regular hours	\$185.00+GST
Disconnect/Reconnect at pole – after regular hours	\$415.00+GST
Meter dispute charge plus Measurement Canada fees (if meter found correct)	\$10.00+GST
Interval meter request change	\$30.00+GST
Temporary service install & remove – overhead – no transformer	\$400.00+GST
Specific Charge for Access to the Power Poles \$/pole/year	\$22.35+GST

### Connection Fee for Residential Customers:

Overhead to Overhead-Service	N/C for first 30m
------------------------------	-------------------

These costs do not include underground road crossing and estimated fixed costs for connection assets beyond standard allowance.

### Allowances:

Transfer allowance for ownership per kW of billing demand/month	(\$0.40)
Primary Mailing Allowance for Transformer losses – applied to measure demand and energy	(1.00%)

### Trouble Call due to Customer's Owned Equipment for:

Commercial\Industrial	\$571.35+GST
Residential	\$75.00+GST

**Power Quality Investigation due to Customer's problem for:**

Commercial\Industrial	\$500.00+GST
Residential	\$75.00+GST
Repeat Field Locates	\$50.00
Drawings for plant location	\$10.00+GST/Drawing



## Appendix L TRANSFORMATION & VOLTAGE AVAILABILITY TABLES

Table "A"

MAXIMUM TRANSFORMER SUPPLY CHART															
Primary Voltage  kV	Secondary Utilization  Voltage	Pole Transformers		Padmount Transformer						Vault Transformer					
				Fed radial from O/H Main feeder		Fed loop from U/G 1/0 Al. feeder		Fed radial from PMH Unit from U/G Main feeder loop		Fed radial from O/H Main Feeder		Fed loop from U/G 1/0 Al. feeder		Fed loop from U/G Main feeder	
		Maximum Service Size	Maximum Tx. Size	Maximum Service Size	Maximum Tx. Size	Maximum Service Size	Maximum Tx. Size	Maximum Service Size	Maximum Tx. Size	Maximum Service Size	Maximum Tx. Size	Maximum Service Size	Maximum Tx. Size	Maximum Service Size	Maximum Tx. Size
All	120/240V, 1ph, 3w	600 Amp	100 kVA	600 Amp	100 kVA	600 Amp	100 kVA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4.16 / 2.4kV	120/208V, 3ph, 4w	600 Amp	150 kVA	800 Amp	300 kVA	800 Amp	300 kVA	800 Amp	300 kVA	800 Amp	300 kVA	800 Amp	300 kVA	800 Amp	300 kVA
13.8 / 8.0kV	120/208V, 3ph, 4w	600 Amp	150 kVA	1600 Amp	500 kVA	1600 Amp	500 kVA	1600 Amp	500 kVA	1600 Amp	500 kVA	1600 Amp	500 kVA	1600 Amp	500 kVA
4.16 / 2.4kV	347/600V, 3ph, 4w	400 Amp	300 kVA	400 Amp	300 kVA	400 Amp	300 kVA	400 Amp	300 kVA	400 Amp	300 kVA	400 Amp	300 kVA	400 Amp	300 kVA
13.8 / 8.0kV	347/600V, 3ph, 4w	600 Amp	500 kVA	1600 Amp	1500 kVA	1200 Amp	1000 kVA	1600 Amp	1500 kVA	1600 Amp	1500 kVA	1200 Amp	1000 kVA	1600 Amp	1500 kVA
27.6 / 16kV	347/600V, 3ph, 4w	600 Amp	500 kVA	1600 Amp	1500 kVA	1600 Amp	1500 kVA	1600 Amp	1500 kVA	1600 Amp	1500 kVA	1600 Amp	1500 kVA	1600 Amp	1500 kVA

\* Values of Amperes based on Customer's Main Breaker rated at a full 100%

Note: All "Fed loop from U/G 1/0Al. Feeder" supply is subject to feeder loading analysis.

The above padmount transformers are standard practice cable supplied transformers. All secondary supplies to Customer's premise are to be made only with (Maximum 750MCM) cable.

Hydro Mississauga installs secondary cables up to and including 1600 Amp services (subject to discrepancies).

Table "B"

**MAXIMUM SUPPLY CHART for "CUSTOMER OWNED " EQUIPMENT**

Primary Voltage kV	Secondary Utilization Voltage	Radial Feed from O/H Main Feeder			Loop Feed from U/G Main Feeder			Loop Feed from U/G 1/0 Al. Feeder		
		Maximum Service Size	Metal-Enclosed Switchgear Configuration	Max. Transformation (kVA)	Maximum Service Size	Metal-Enclosed Switchgear Configuration	Max. Individual Tx. Size (kVA)	Maximum Service Size	Metal-Enclosed Switchgear Configuration	Max. Transformation (kVA)
4.16/2.4kV	120/208V,	800 Amp.	Single Fused Interrupter Cell	300	800 Amp.	Two Loop Feed Cells & Single Fused Interrupter Cell	300	800 Amp.	Two Loop Feed Cells & Single Fused Interrupter Cell	300
13.8/8.0kV	120/208V,	1600 Amp.	Single Fused Interrupter Cell	500	1600 Amp.	Two Loop Feed Cells & Single Fused Interrupter Cell	500	1600 Amp.	Two Loop Feed Cells & Single Fused Interrupter Cell	500
27.6/16kV	120/208V,	1600 Amp.	Single Fused Interrupter Cell	500	1600 Amp.	Two Loop Feed Cells & Single Fused Interrupter Cell	500	1600 Amp.	Two Loop Feed Cells & Single Fused Interrupter Cell	500
4.16/2.4kV	347/600V. 600V	400 Amp.	Single Fused Interrupter Cell	300	400 Amp.	Two Loop Feed Cells & Single Fused Interrupter Cell	300	400 Amp.	Two Loop Feed Cells & Single Fused Interrupter Cell	300
13.8/8.0kV	347/600V. 600V	4000 Amp.	Single Fused Interrupter Cell	3000	4000 Amp.	Two Loop Feed Cells & Single Fused Interrupter Cell	3000	1500 Amp.	Two Loop Feed Cells & Single Fused Interrupter Cell	1000
27.6/16kV	347/600V. 600V	8000 Amp.	Single Fused Interrupter Cell	6000**	2 @ 4000 Amp.	Two Loop Feed Cells & Single Fused Interrupter Cell	2 @ 3000 kVA*	3000 Amp.	Two Loop Feed Cells & Single Fused Interrupter Cell	2000

**Notes: MAXIMUM SERVICE SIZED BASED ON CUSTOMER'S MAIN BREAKER @ 100 % RATING FACTOR**

Customer's service size takes into account transformers fan cool rating @ 133 %

\* Two 3000 kVA Transformers should be applied rather than single 6000 kVA

\*\* Requires Engineering approval prior to proceeding with design

## APPENDIX M METER TYPES FOR RESIDENTIAL & INDUSTRIAL/COMMERCIAL CUSTOMERS

Mar-04

### METERING

The following is a list of Enersource Hydro Mississauga approved manufacturer's meter bases for Residential and Industrial / Commercial requirements. Please be informed that only these meter bases will be accepted for installation of Enersource Mississauga Hydro meters. If there are any discrepancies or queries, please contact our Metering Department at

(905) 283-4063

#### Residential

VOLTAGE	SERVICE SIZE (AMPS)	METER BASE (O/H)			METER CABINET
		Hydel	Cutler-Hammer	Micro-Electric	
120/240V  (4 Jaw)  1 Phase, 3 wire	UP TO 200	SLC400RW	LM2	BS2-TCV	-
	SERVICE SIZE (AMPS)	METER BASE (U/G)			METER CABINET
		Hydel	Cutler-Hammer	Micro-Electric	
	UP TO 200	MSC400TW	CLX	M02-V0	-
	400	-	-	JS4B-R	-
	600 (with 20A remote meter)	-	-	-	-
	20 Amp Remote Meter	CTS408PW	TCC4L4-0	CL4V-LRW	36X36X12
	MULTIPLE POSITION	METER BASE (U/G)			METER CABINET
		Hydel	Cutler-Hammer	Micro-Electric	
	2 position, 200A/position, 200A Main	MSC22R	2KU2CLX	BDC2-V	-
3 position, 200A/position, 200A Main	MSC23R	3KU2CLX	BDC3-V	-	

**Industrial / Commercial**

VOLTAGE	SERVICE SIZE (AMPS)	METER BASE (O/H) LOCATED OUTSIDE			METER CABINET
		Hydel	Cutler-Hammer	Micro-Electric	
120/240V 1 Ph, 3 Wire (4 JAW)	UP TO 200	SLC400RW	LM2	BS2-TCV	-
		METER BASE (U/G) LOCATED OUTSIDE			
120/240V 1Ph, 3 Wire (4 JAW)	UP TO 200	MSC400TW	CLX	MO2-VO	-
	400	-	-	JS4B-4	-
347/600V & 120/208V  (7 JAW)  3 Phase, 4 Wire		METER BASE (U/G) LOCATED INSIDE			
	100	SFC703PW	P17-0-IN1	PL17-IN-TCV	-
	200	STC703RK	P27-IN2	PL27-IN-TCV	-
	400 and up	-	-	-	48"x48"x1 2"
120/208V 2 Ph, 3 Wire (5 JAW*)	UP TO 200	MSC400TW*	CLX*	MO2-VO*	-
600V  3 Phase, 3 Wire	100	-	-	-	20"x30"x1 0"
	200	-	-	-	36"x36"x1 2"
	400 and up	-	-	-	48"x48"x1 2"
<b>SWITCHBOARD</b>	<b>CT's in compartment</b>	1 ¼" CONDUIT REQUIRED TO METER CABINET			36"x36"x1 2"
* Must have 5th jaw installed at 9 o'clock position. A sample application is at apartment condominium.  800Amp and larger-Customer to install a 12.7mm (1/2") conduit and a dedicated telephone line from meter cabinet to main telephone panel.					

## **APPENDIX N ENERSOURCE HYDRO MISSISSAUGA'S POLICIES ON PLANNED OUTAGES**

### **A. PLANNED INTERRUPTIONS WITH NOTIFICATION TO CUSTOMERS**

Planned power interruptions to Customers shall be arranged during Enersource Hydro Mississauga's regular working hours under the following conditions:

1. Notice

Minimum advance notice to Customers:

- General Service : 7 calendar days
- Residential : 3 calendar days

2. Duration

Maximum planning length:

- General Service : 4 hours
- Residential : 6 hours

3. Frequency

Maximum number of planned interruptions per Customer:

- three in one year
- one in one month

4. Number of Customers

Maximum number of General Service Customers in a single interruption:

- three

Where the above conditions apply and the customer requests an interruption outside of Enersource Hydro Mississauga's regular hours, the Customer shall pay extra costs involved.

Where any of the above conditions does not apply, and the Customer requests that an interruption take place outside of Enersource Hydro Mississauga's regular hours, the Customer will pay its extra costs involved.

**B. PLANNED INTERRUPTIONS WITHOUT NOTIFICATION**

Planned power interruptions to Customers may be carried out without notification under the following conditions:

1. Residential Customers:
  - up to 15 minutes duration
  - regular working days, Tuesday to Thursday
  - 9:00 to 11:00 a.m. or 1:30 to 3:30 p.m.
  - not repeated more than one day per month
  - not affecting known sensitive situations, e.g. health care, traffic signals, computers.
  
2. Residential Customers:
  - up to 1 hour duration
  - between midnight and 6:00 a.m. any day
  - not repeated more than one day per month
  - not affecting known sensitive situations, e.g. health care, traffic signals, computers.
  
3. All Customers – emergency conditions only:
  - where danger to life and limb is imminent
  - where major equipment failure is imminent
  
4. Residential Customers in New Subdivisions:
  - up to 15 minutes duration
  - anytime until all new Customers are initially connected to a pad-mounted transformer.

**APPENDIX O**  
**ENERSOURCE HYDRO MISSISSAUGA'S STANDARD**  
**CONNECTION AGREEMENT**

**THIS CONNECTION AGREEMENT** made as of the 1 of November 2003

**BETWEEN:**

**ENERSOURCE HYDRO MISSISSAUGA**  
**("EHM")**

- and -

**XXXXX CANADA INC**  
**(" the Customer")**

**RECITALS:**

1. The Customer owns and operates **X XXXX kW** generators (the "Generating Equipment") located at and within the facility at **XXXX Mavis Road**, Mississauga, Ontario ("the Facility");
2. The EHM electric distribution system (the "Distribution System") is designed to provide a unidirectional flow of electrical power from its supply stations to its customers' loads;
3. The connection of embedded generation (such as the Generating Equipment) to and operated in parallel with the Distribution System may alter the character of the Distribution System which raises various issues and concerns including the following:
  - (1) potential back feeding of electrical power into the Distribution System (including system fault infeed);
  - (2) start up transients;
  - (3) improper synchronizing;
  - (4) induced voltage fluctuations and harmonic content; and
  - (5) isolation of the Generating Equipment on an EHM circuit;
4. The Ontario Energy Board Distribution System Code (the "Distribution System Code") requires the Parties to enter into a connection agreement containing certain provisions relating to connection and access to the Distribution System, including provisions relating to the matters as set out in Appendix E to the Distribution Code;
5. In order to promote public safety, to protect the employees and assets of EHM and the Customer, to maintain quality of electrical distribution services to EHM customers and to comply with the Distribution Code, the Parties wish to enter into this Agreement;



**FOR TEN (10) DOLLARS AND OTHER VALUABLE CONSIDERATION**, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

**ARTICLE 1  
INTERPRETATION**

- 1.1 Capitalized terms used in this Agreement and not defined in it shall have the meanings set out in Schedule A, Definitions
- 1.2 The division of this Agreement into Articles, Sections and Subsections, the insertion of headings and the provision of any table of contents are for convenience of reference only and shall not affect the construction or interpretation of this Agreement.
- 1.3 Unless the context requires otherwise, words importing the singular include the plural and vice versa and words importing gender include all genders.
- 1.4 Subject to any provision contained herein which requires immediate action, if any payment is required or other action required to be taken pursuant to this Agreement on a day that is not a Business Day then such payment or action shall be made or taken on the next Business Day.
- 1.5 Any reference in this Agreement to any statute, order or code or any section thereof shall, unless otherwise expressly stated, be deemed to be a reference to such statute or section as amended, restated or re-enacted from time to time.
- 1.6 Unless the context requires otherwise, references in this Agreement to Sections or Schedules are to Sections or Schedules of this Agreement.
- 1.7 The following Schedules shall be attached to and form part of this Agreement:

Schedule A – Definitions

1. Schedule B – Operation and Protection Procedures
2. Schedule C – Operating Contacts
3. Schedule D – Protection Settings

**ARTICLE 2  
OWNERSHIP AND JURISDICTION**

- 2.1 The Customer's electrical service connects to EHM's Distribution System at **XXXX Mavis Road**, Mississauga, Ontario, according to the One-Line diagram contained in Schedule E.
- 2.2 EHM owns the underground distribution circuits up to and including the cable terminations within the customer's high voltage ( XX.XkV ) switchgear.
- 2.3 The Customer owns all electrical equipment downstream from the cable terminations within the high voltage switchgear.
- 2.4 Each Party shall have exclusive jurisdiction over the operation and control of its own assets except as otherwise set out in this Agreement.
- 2.5 EHM shall, at all times, have unfettered control of primary XX.XkV switches within the customer's electrical vault.

**ARTICLE 3  
REPRESENTATIONS AND WARRANTIES**

**3.1 Representations and Warranties of EHM**

EHM represents and warrants to the Customer as follows and acknowledges that, except as otherwise expressly provided herein, the Customer is relying on such representations and warranties in connection with this Agreement and the connection and operation of the Generating Equipment and the Facility to the Distribution System.

- a) EHM is a corporation duly incorporated and validly subsisting under the Laws of Ontario and has the corporate power, capacity and authority to enter into this Agreement and perform its commitments and obligations under this Agreement and any other agreement or document to be delivered pursuant hereto. EHM has taken, or has caused to be taken all action required to be taken by EHM to authorize the execution and delivery of this Agreement.
- b) This Agreement has been duly executed by EHM and will, upon delivery, constitute a valid and binding obligation of EHM, enforceable against it in accordance with its terms.
- c) All of the foregoing representations and warranties of EHM will continue to be true and correct during the Term.

### 3.2 Representations and Warranties of the Customer

The Customer represents and warrants to EHM as follows and acknowledges that, except as otherwise expressly provided herein, EHM is relying on such representations and warranties in connection with this Agreement and the connection and operation of the Generating Equipment and the Facility.

- a) The Customer is a corporation duly incorporated and validly subsisting under the Laws of Ontario and has the corporate] power, capacity and authority to enter into this Agreement and perform its commitments and obligations under this Agreement and any other agreement or document to be delivered pursuant hereto. The Customer has taken, or has caused to be taken all action required to be taken by the Customer to authorize the execution and delivery of this Agreement.
- b) This Agreement has been duly executed by the Customer and will, upon delivery, constitute a valid and binding obligation of the Customer, enforceable against it in accordance with its terms.
- c) All the Generating Equipment is located within the legal boundaries of the Real Property.
- d) The Customer is the legal and beneficial titleholder to the Facility, the Real Property and the Generating Equipment, free and clear of all encumbrances.
- e) The Customer is in material compliance with all Applicable Law relating to the Real Property, the Facility and the Generating Equipment.
- f) All of the foregoing representations and warranties of the Customer will continue to be true and correct during the Term.

## ARTICLE 4 INTERCONNECTION

- 4.1 Subject to the terms and conditions set out in this Agreement and specifically Schedule B, the Customer is hereby granted the right to connect the Generating Equipment to and operate the Generating Equipment in parallel with, the Distribution System.
- 4.2 The Generating Equipment shall not connect to and be operated in parallel with the Distribution System for the first parallel operation without the prior written approval of EHM, which shall not be unreasonably withheld or delayed. Subject to EHM's right to disconnect and maintain a state of disconnection between the Generating Equipment and the Distribution System, the Customer may reconnect the Generating Equipment to the Distribution System (following disconnection) at any time following EHM's written approval of the initial connection of the Generating Equipment to the Distribution System.
- 4.3 In determining whether to grant approval for connection of the Generating Equipment to the Distribution System, EHM will consider various matters and facts including the following:

- a) whether the Customer has complied with the terms and conditions of the EHM Conditions of Service Standard of December 31, 2001 as amended or restated from time to time;
- b) integrity of the Generating Equipment protection and control system including the Customer's submission of a one-line diagram of the Generating Equipment illustrating, among other things, all protection and control devices and settings as set out in Schedule D;
- c) inspection of the Facility and the Generating Equipment by EHM;
- d) results of a co-ordination study submitted for review to EHM by the Customer;
- e) payment of all outstanding costs due and payable by the Customer to EHM relating to the connection of the Generating Equipment to the Distribution System;
- f) whether the Customer has complied with all Applicable Law;
- g) whether the Generating Equipment is fitted with suitable switching and protective equipment (in the opinion of EHM) including automatic synchronizing equipment;
- h) whether the Customer has Qualified Personnel, operating procedures and protocol in place to ensure the safe operation of the Generating Equipment in parallel with the Distribution System;
- i) whether the Generating Equipment has been approved by the Ontario Electrical Safety Authority; and
- j) whether all materials required to be submitted to EHM for review and approval are in their final form and have not been altered or amended without notification to and approval from EHM.

**ARTICLE 5  
COMMUNICATION AND NOTICES**

5.1 Subject to Schedule B, any notice, certificate, consent, determination, payment or other communication required or permitted to be given or made in writing under this Agreement shall be in writing and shall be effectively given and made if (i) delivered personally, (ii) sent by prepaid courier service or mail, or (iii) sent prepaid by fax or other similar means of electronic communication, in each case to the applicable address set out below:

to EHM, to:

3240 Mavis Road

Mississauga, Ontario

L5C 3K1

Attn: XXXXXXXXXX

Fax No: 905-866-2731

Email: XXXXXXXXXXXXXXXXXXXXX

to the Customer, to:

Mississauga, Ontario

Attn: ●

Fax No: ●

Email: ●

Any such communication so given or made shall be deemed to have been given or made and to have been received on the day of delivery if delivered, or on the day of faxing or sending by other means of recorded electronic communication, provided that such day in either event is a Business Day and the communication is so delivered, faxed or sent prior to 4:30 p.m. on such day. Otherwise, such communication shall be deemed to have been given and made and to have been received on the next following Business Day. Any such communication sent by mail shall be deemed to have been given and made and to have been received on the fifth Business Day following the mailing thereof, provided however that no such communication shall be mailed during any actual or apprehended disruption of postal services.

Any such communication given or made in any other manner shall be deemed to have been given or made and to have been received only upon actual receipt.

Any Party may from time to time change its address under this Section by prior written notice to the other Party given in the manner provided by this Section.

- 5.2 All other notice or communication required or permitted under this Agreement shall be made by facsimile, telephone call or other simultaneous voice communication at the number(s) and to the persons and/or departments set out in Schedule C. The deposit of a voice message shall not be considered prior notice under this Agreement where such notice is required.
- 5.3 Each Party shall be able to contact the other party by telephone or other simultaneous voice communication at the number(s) as set out in Schedule C on a twenty-four (24) hour basis at all times.
- 5.4 In no circumstances shall the Parties make any change to the contact information contained in Schedule C without (a) delivering prior written notice to the other Party in accordance with Section 5.1 and (b) receiving written confirmation back of receipt of such written notice. The Parties hereby acknowledge that the nature of the operation of the Generating Equipment and the Distribution System is that instantaneous and/or Emergency communication may be required from time to time and therefore, the contact information contained in Schedule C must always be current order to safeguard life and property.

**ARTICLE 6  
INFORMATION REQUIREMENTS AND EXCHANGE**

- 6.1 EHM and the Customer shall use reasonable efforts to keep each other informed of conditions and events within their respective jurisdictions that may affect any assets of either Party that may be impacted by the connection of the Generating Equipment to the Distribution System or the performance of each Party's obligations under this Agreement. Each Party shall consider the importance of any information in its possession relating to the safe and prudent operation of the Generating Equipment in parallel with the Distribution System when interpreting the words "reasonable efforts" set forth in this Agreement.
- 6.2 In this section, "Confidential Information" shall mean collectively, all information in any form or medium of a confidential or proprietary nature relating to the customer, its business or operations, the Facility or Generating Equipment which is provided to EHM in connection with or pursuant to this Agreement which it may acquire as a result of this Agreement, but shall not include information that: (i) at the time of disclosure to EHM is already known by it; (ii) at the time of disclosure to EHM is publicly known to other than through wrongful act or omission of EHM; or (iii) is rightfully received by EHM from a third party having no obligation to hold such information in confidence. Except as otherwise permitted by this Agreement, EHM agrees to maintain the confidentiality of the Confidential Information, not to disclose any of the Confidential Information to any other person, and not to use any of the Confidential Information for any purpose other than as contemplated by this Agreement, without the prior written consent of the Customer.

**ARTICLE 7  
ACCESS AND SECURITY**

- 7.1 During the term of this Agreement, the Customer shall provide to authorized employees or representatives of EHM designated by it full access to the facility with immediate access to the Facility and the Generating Equipment on 24-hour basis at all times in the event of an Emergency. EHM agrees that it and all of its employees, representatives and agents shall provide comply with all security, safety and administrative procedures applicable to the Facility.
- 7.2 The Customer shall provide EHM with immediate access to all EHM equipment and Generating equipment located within the Facility including all metering, monitoring and telemetry equipment on a 24-hour basis at all times.
- 7.3 The Customer shall provide to EHM reasonable access to the Facility to enable EHM's to inspect the Facility and the Generating equipment to ensure the safe and efficient operation of the Distribution System.
- 7.4 The Customer shall provide written notice to EHM prior to any modification to the electrical room, entrance way or security of the Facility which affects the ability of EHM to gain access to the Facility on the same basis as set out above in Section 7.1

- 7.5 Subject to Schedule B, all EHM personnel shall contact the Customer to gain access to the Facility pursuant to Section 7.1 and 7.2.
- 7.6 The Customer shall ensure that the Generating Equipment is secure and shall take measures to prevent damage to or interference with the Generating Equipment by third parties.

**ARTICLE 8  
INDEMNIFICATION**

- 8.1 Each of the Customer and EHM shall be liable to and shall indemnify the other of them to the extent and only to the extent provided for in Section 2.2 of the Distribution System Code (as approved and published by the Ontario Energy Board on July 14, 2000). For greater certainty, neither the Customer nor EHM shall be liable pursuant to this provisions under any circumstances whatsoever for any loss of profits or revenues, business interruption losses, loss of contract or loss of goodwill, or for any indirect, consequential, incidental or special damages, including but not limited to punitive or exemplary damages, whether any of the said liability., loss or damages arise in contract, tort or otherwise.
- 8.2 The Customer shall insure the Facility and the Generating Equipment with a reputable insurer against accidents as a prudent operator of the Facility and the Generating Equipment would insure. The insurance policy shall carry limits of liability in an amount not less than \$15,000,000 inclusive per occurrence for bodily injury, death and damage to property including loss of use of such property (such insurance shall be separate from standard automobile policies for any vehicle(s), providing third party liability and accident benefits insurance) and shall name EHM as an additional insured with a cross-liability clause attached to the policy. The policy shall cover risks of environmental damage or loss as a result of the operation by the Customer of the Facility, the Real Property and the Generating Equipment. If requested by EHM, the Customer shall provide evidence to EHM that the policy of insurance is in effect, that EHM has been named as an additional insured and/or the premiums on the policy have been paid and are up to date and are in full force and effect.

**ARTICLE 9  
PAYMENTS AND CHARGES**

- 9.1 EHM shall charge the Customer and the Customer shall pay EHM for services performed relating to the Facility and the Generating Equipment including the following:
- a) all costs reasonably incurred in reviewing and approving proposed generator connection; and
  - b) all reasonable costs for connection, re-connection or disconnection of the Generating Equipment to the Distribution System.



- 9.2 Unless agreed otherwise, EHM shall invoice the Customer for all products and services provided and the Customer shall pay in full all amounts owing in connection with such invoices within 35 days of the invoice date.

**ARTICLE 10  
TERM AND TERMINATION**

- 10.1 The term of this Agreement (the “Term”) will begin on the date first written above and continue until terminated in accordance with this Article.
- 10.2 The Customer may terminate this Agreement for any reason whatsoever on at least ninety (90) days prior written notice by the Customer to EHM provided that any and all payments due to EHM at the date of termination shall be made forthwith by the Customer.
- 10.3 EHM may, in its sole discretion, terminate this Agreement upon the occurrence of one or more of the following at which time any and all payments due to EHM shall be made forthwith by the Customer:
- a) the Customer breaches the terms of this Agreement and fails to remedy the breach within the time frame set out by EHM in EHM’s written notice of breach to the customer following its receipt of written notice of the breach from EHM;
  - b) a petition for relief under any bankruptcy legislation is filed by or against the Customer, or the Customer makes an assignment for the benefit of creditors, or a receiver is appointed for any reason, and the petition, assignment or appointment is not dismissed or vacated within the period specified by EHM in its notice; or
  - c) the Customer sells, transfers or assigns the Generating Equipment to a third party unless, upon such sale, transfer or assignment of the Generating Equipment, this Agreement is assigned by the Customer to the transferee of the Generating Equipment and such transferee assumes the obligations and liabilities of the Customer hereunder pursuant to and as provided for in Section 12.4 below.
- 10.4 Any obligation of either Party to the other pursuant to the terms and conditions of this Agreement which is outstanding or due upon the termination of this Agreement shall survive such termination including any obligation to indemnify hereunder.

**ARTICLE 11  
ENVIRONMENTAL REQUIREMENTS AND INDEMNITY**

- 11.1 The Customer shall store and handle regulated and hazardous wastes and all other substances in accordance with Applicable Law including Ontario Regulation 347 - Waste Management Regulation of the Environmental Protection Act (Ontario). The Customer shall take immediate action in accordance with Applicable Law to clean up a spill of any hazardous, toxic or regulated waste on or in connection with the Real Property, the Facility and the Generating Equipment.



**ARTICLE 12**  
**GENERAL**

- 12.1 The purchase and sale of electricity between the Customer and EHM, if any, in relation to the operation of the Facility and the Generating Equipment shall be the subject matter of a separate agreement between the Parties.
- 12.2 Any provision of this Agreement which is prohibited or unenforceable in any jurisdiction will, as to that jurisdiction, be ineffective to the extent of such prohibition or unenforceability and will be severed from the balance of this Agreement, all without affecting the remaining provisions of this Agreement or affecting the validity or enforceability of such provision in any other jurisdiction.
- 12.3 This Agreement, constitutes the entire Agreement between the Parties pertaining to the subject matter of this Agreement and supersedes all prior agreements, understandings, negotiations and discussions, whether oral or written. There are no conditions, warranties, representations or other agreements between the Parties in connection with the subject matter of this Agreement (whether oral or written, express or implied, statutory or otherwise) except as specifically set out in this Agreement.
- 12.4 Neither Party may assign this Agreement without the prior written consent of the other Party except that EHM shall have the right when not in default hereunder to assign this Agreement to a purchaser of all or substantially all of the assets comprising the Distribution System upon notice in writing to the Customer and the Customer shall have the right when not in default hereunder to assign this Agreement to a purchaser of the Generating Equipment upon notice in writing to EHM, provided in either case that on or before the date of such assignment the assignee executes and delivers to the other party hereto an agreement by which it assumes all of the obligations and liabilities of the assignor hereunder as of and from the date of such assignment, and in the event of an assignment pursuant to and in accordance with this section, the assignor shall be released from any and all further liability and obligations hereunder and after the date of such assignment.
- 12.5 This Agreement will be construed in accordance with the laws of the Province of Ontario. The Parties hereby attorn to the exclusive jurisdiction of the courts of Ontario with respect to the adjudication of any dispute arising from the Agreement.
- 12.6 Time will be of the essence of this Agreement in all respects.
- 12.7 Each Party will, promptly do, execute, deliver or cause to be done, executed and delivered all further acts, documents and things in connection with this Agreement that the other Party may reasonably require, for the purposes of giving effect to this Agreement and the spirit and intent of this Agreement.

- 12.8 No amendment of this Agreement will be effective unless made in writing and signed by the Parties.
- 12.9 A waiver of any default, breach or non-compliance under this Agreement is not effective unless in writing and signed by the Party to be bound by the waiver. No waiver shall be inferred from or implied by any failure to act or delay in acting by a Party in respect of any default, breach or non-observance or by anything done or omitted to be done by the other Party. The waiver by a Party of any default, breach or non-compliance under this Agreement will not operate as a waiver of that Party's rights under this Agreement in respect of any continuing or subsequent default, breach or non-observance (whether of the same or any other nature).
- 12.10 This Agreement will enure to the benefit of, and be binding on, the Parties and their respective successors and permitted assigns.
- 12.11 This Agreement may be executed in any number of counterparts, each of which will be deemed to be an original and all of which taken together shall be deemed to constitute one and the same instrument. Counterparts may be executed either in original or faxed form and the Parties adopt any signatures received by a receiving fax machine as original signatures of the Parties; provided, however, that any Party providing its signature in such manner shall promptly forward to the other Party an original of the signed copy of this Agreement which was so faxed.
- 12.12 Neither Party shall be responsible for any breach of this Agreement, or any resulting loss or damage, caused by revolution, insurrection, riot, war, act of enemies, national emergency, labor dispute, strike, lock-out or other labor disruption, flood, fire, act of God, interruption or disruption in the operation of communication systems, or other cause not within the control of that Party, provided it has exercised reasonable diligence to prevent such breach, loss or damage and provided it gives the other Party prompt notice of such inability and reasonable particulars thereof. The Party experiencing the force majeure will use reasonable efforts to remedy the situation and remove, so far as possible with reasonable dispatch, the cause of the force majeure, provided, however, that settlement of labor disruptions shall be within the discretion of such Party.

**IN WITNESS WHEREOF** the Parties hereto by their duly authorized representatives have executed this Agreement as of the date first written above.

**ENERSOURCE HYDRO MISSISSAUGA INC.**

\_\_\_\_\_ c/s  
Name:

Title:  
I have authority to bind the Corporation

**XXXXX CANADA INC.,**

\_\_\_\_\_ c/s  
Name:

Title:  
I have authority to bind the Corporation

**SCHEDULE A****DEFINITIONS**

In this Agreement, the following terms shall have the meanings set out below unless the context requires otherwise.

“Agreement” means this Connection Agreement including the Schedules to this Connection Agreement as it or they may be amended or supplemented from time to time, and the expressions “hereof”, “herein”, “hereto”, “hereunder”, “hereby” and similar expressions refer to this Connection Agreement and not to any particular Section or other portion of this Connection Agreement.

“Applicable Law” means with respect to any person, property, transaction, event or other matter, any law, rule, statute, regulation, order, judgment, decree, treaty, guideline or other requirement having the force of law (collectively the “Law”) relating or applicable to a person, property, transaction, event or other matter. Applicable Law also includes, where appropriate, any interpretation of the Law (or any part) by any person having jurisdiction over it, or charged with its administration or interpretation.

“Bi-Annual Review” shall have the meaning set out in the Recitals hereto;

“Business Day” means any day except Saturday, Sunday or any day on which banks are generally not open for business in the City of Mississauga.

“Condition Guarantee” is a guarantee issued in support of EHM’s Work Protection Code, which shall set out in detail the terms of the Work Protection. For example, the period for which specified electrical equipment shall remain in a de-energized state in order that maintenance work can be performed by Qualified Personnel. The Condition Guarantee will state that the Condition Guarantee shall continue for the period until the Party in whose favor it was given surrenders such Condition Guarantee. It is intended that a Work Protection shall ensure that apparatus specified in the Work Protection will remain in a given position for the length of time the Work Protection is in effect.

“Distribution System Code” shall have the meaning set out in the Recitals hereto.

“Distribution System” shall have the meaning set out in the Recitals.

“Emergency” means an imminent or existing condition or situation, which in the reasonable judgment of EHM or the Customer, as applicable, will affect the ability of either Party to maintain a condition of safety in relation to the Generating Equipment and the Distribution Facility.

“Facility” shall have the meaning set out in the Recitals hereto. For greater certainty, the Facility shall include all assets and equipment located at, on or within the Facility including the Generating Equipment.

“Generating Equipment” shall have the meaning set out in the Recitals hereto, which includes an embedded generator whose generation facility is not directly connected to the IMO-controlled grid but instead is connected to a distribution system.

“Good Utility Practice” means any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry in North America during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum

practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods or acts generally accepted in North America.

“including” means including without limitation, and “includes” means includes without limitation.

“Indemnified Party” shall have the meaning set out in Sections 8.1 and 12.2.

“Isolated” means a condition in which electrical equipment is disconnected or separated from sources of energy by industry accepted devices and procedures.

“Party” means a party to this Agreement and any reference to a Party includes its successors and permitted assigns; “Parties” means every Party.

“Qualified Personnel” means persons with all required licences and the level of skill and training that would be reasonably required by a prudent operator to control and operate the Generating Equipment in a safe and reliable manner in accordance with the terms and conditions of this Agreement.

“Real Property” shall have the meaning set out in Subsection 12.2(a).

“Term” shall have the meaning set out in Section 10.1.

“Work Protection” is a state or condition whereby an Isolated state or condition has been established for work to be performed on specified equipment.

**SCHEDULE B****OPERATION AND PROTECTION PROCEDURES**

1. The Customer shall operate or cause to be operated at all times during the Term of this Agreement the Facility and the Generating equipment in accordance with all applicable Laws relating to the Facility, the Real Estate and the Generating Equipment, including, but not limited to the Electrical Safety Code and the Occupational Health and Safety Act (Ontario). The Customer shall operate or cause to be operated at all times the Facility and the Generating Equipment in accordance with the terms and conditions of this Agreement and in accordance with Good Utility Practice.
2. The Customer shall provide prior written notice to EHM of any changes to the Facility or the Generating Equipment, which may have any impact on the Distribution System. The notice shall provide a detailed description of the proposed changes and the steps being taken by the Customer to prevent any damage or injury to the Distribution System, life and other property. No change shall be made to the Generating Equipment in the foregoing circumstances without the prior written approval of EHM, acting reasonably.
3. The Customer shall ensure that the safety, reliability and efficiency of the Distribution System is not negatively impacted by connection of the Generation Equipment to the system.
4. The Customer shall be permitted the flow of electricity into the Distribution System at any time.
5. The Customer shall provide EHM with at least seven (7) days notice of the planned re-verification of the Generating Equipment protective relaying and shall subsequently provide to EHM documentation confirming that any such re-verification has been completed. Upon request by EHM from time to time, acting reasonably, the Customer shall demonstrate to EHM the integrity of the protection and control system(s) relating to the Generating Equipment.
6. The Customer shall maintain, at all times, Qualified Personnel as listed in Schedule C either at the Facility or available to attend at the Facility if required to operate the Generating Equipment in accordance with the terms and conditions set out in this Agreement. Any proposed changes to the qualified employees shall be submitted by the Customer in writing to EHM.
7. The Customer shall contact and advise EHM immediately of any material abnormal operating conditions relating to the Generating Equipment including over or under voltage conditions, frequency conditions or voltage unbalance. The Customer shall take immediate steps to correct such material abnormal operating conditions shall not continue to operate the Generating Equipment in parallel until such material abnormal operating conditions have been rectified.
8. The Customer shall maintain the following equipment related to the Generating Equipment in full functioning service at all times during the Term:
  - a. interface protection devices,
  - b. control facilities and settings
  - c. station services.
9. The Customer shall advise EHM of any local or trade specific procedures that may have an impact on the overall operation and maintenance of the Generating Equipment.

10. In the event that the Customer is not operating or not causing the Generating Equipment to be operated in accordance with the Schedule B, in the discretion of EHM, acting reasonably, EHM may provide notice of the deficiency in operation to the Customer (with reasonable particulars of the deficiency in order that it may be identified and corrected by the Customer) and the Customer shall forthwith take reasonable steps to correct such deficiency within such reasonable period as is specified by EHM in its notice, failing which EHM may disconnect immediately the Generating Equipment from the Distribution System for an indefinite period pending resolution of the deficiency in operation satisfactory to EHM, acting reasonably. This provision is in addition to EHM's other rights under this Agreement including the right to terminate the Agreement and the connection of the Generating Equipment to the Distribution System.
11. The Customer shall ensure the closing of the Generating Equipment onto the EHM feeder is synchronized at all times.
12. A copy of the latest version of the attached D06-XX-X operating schematic shall be posted in the Generator operations control room at all times and shall form the basis of communication between the EHM System Control Centre Operator and the fully qualified employee of the Customer. All main operating devices (switches, breakers) associated with the Generation Equipment shall have nomenclature installed in agreement with the operating schematic.
13. During an Emergency, either Party may take whatever immediate action is reasonably necessary in the circumstances and is qualified to perform, to safeguard life and property. The Party taking action in an emergency shall report such action to the other Party as soon as reasonably possible.
14. All work on the Generating Equipment shall be carried out by the Customer in accordance with the Customer's practices and procedures which practices and procedures shall be consistent with Good Utility Practice. At a minimum, the Customer shall meet the standards set forth in the Occupational Health and Safety Act (Ontario), the Electrical Safety Code and with the EUSA (Electrical Utility Safety Association) Rule Book.
15. In the event the Generating Equipment must be isolated from the Distribution System, the Customer shall request EHM to provide a Condition Guarantee on the terms requested by the Customer, acting reasonably. The Customer shall then establish its own Work Protection in accordance with the Customer's Work Protection practices. A request for a Condition Guarantee shall be verbally transmitted to EHM and made with a minimum three Business Days advance notice.
16. The Customer shall conduct routine and emergency maintenance on all equipment owned or controlled by it and related to the Generating Equipment and/or to the protection of the Distribution System. The Customer shall conduct the maintenance in a manner and at intervals as a prudent operator would conduct maintenance in similar circumstances. The maintenance shall include the inspection and testing of equipment and the replacement of old or damaged equipment.
17. The Customer shall make upgrades and rehabilitate equipment to ensure there is no degradation in equipment performance that would lead to unacceptable increases in equipment failure rates that would impact negatively on the Generating Equipment, the Facility and the Distribution System.

18. EHM and the Customer may elect to conduct maintenance on their respective equipment during normal working hours even though this may prevent the parallel operation of the Generating Equipment.
19. The Customer shall maintain its relaying and control facilities and shall perform routine verification of its relaying and control facilities in accordance with the test schedule set out in Schedule C. The Customer shall retain records of such tests and re-verifications for inspection by EHM.
20. Faults and disturbances on the electrical supply system must be sensed in a timely manner by the Customer's generation equipment and the Customer's generation disconnected from the supply system accordingly to avoid an out-of-synchronism condition. **In this regard the Customer must be cognizant that the supply system circuit breaker Auto-Reclose operation is timed to re-energize the supply in approximately 250 msec.**
21. The Customer shall provide an RS485 communication port to allow EHM the ability to monitor analog and digital status points of the parallel generation system. Some of the required data would include breaker(s) status, generator controller operating mode, relay status and voltage/amps/kW output of the generator (s).
22. The Customer shall arrange to have a telephone in the generator operations control room, which will act as a dedicated hot line with the EHM System Control Operator during any parallel operation.
23. The Customer shall maintain a daily operation log relating to the Generating Equipment which shall include:
  - a. general operating information on the Generating Equipment;
  - b. scheduled maintenance;
  - c. forced outages;
  - d. circuit breaker trip operations that require manual reset;
  - e. EHM requested switching operations;
  - f. material events related to the operation of the Generating Equipment;
  - g. customer loading;
  - h. information related to verification of relaying and control facilities in accordance with the test schedule set out in Schedule C;
  - i. time of connection and disconnection of the Generating Equipment; and
  - j. such other information as EHM may reasonably request from time to time.
  - k. The Customer shall retain the records concerning, or copies of the records generated by the daily operations log on file for a minimum of the previous five (5) years, and upon request shall provide information or copies from the daily operations log to EHM.



**SCHEDULE C**

**CONTACTS**

**EHM**

Control Centre (24 hr.): 905-283-4300  
Control Centre Supervisor: 905-283-4051  
Control Centre Facsimile: 905-279-1896

**Customer**

The XXXXX CANADA INC telephone number is (905) 555 1212. In the case of a system emergency, the following individuals should be contacted, listed in order of priority:

Mr. XYZ	Operations Manager
Office	(905) 555 5555
Cell	(905) 555 5555
Home	(905) 555 5555
Mr. YYZ	Assistant Operations Manager
Office	(905) 555 5512
Cell	(416) 555 0575
Home	(905) 555 5523
Mr. ZZZ	General Manager
Office	(905) 555 1111
Cell	(416) 555 1923
Home	(905) 555 2432

**SCHEDULE D**

**VERIFICATION OF PROTECTION AND CONTROL SYSTEMS AND DEVICES**

1. The Generating Equipment protection systems that may impact on the Distribution System shall be re-verified every four (4) years by the Customer.

Function	Settings
25	
32R	
67	
50/51	
50N/51N	
27	
59	
81U	
81O	

1 **Service Quality and Reliability Information**  
2  
3 Enersource's achieved levels of service quality for the years 2002 – 2007, year to date, are  
4 provided at ExA/Sched17/Tabs2-8.

**ENERSOURCE HYDRO MISSISSAUGA INC.  
 PERFORMANCE BASED REGULATION  
 SERVICE RELIABILITY INDICES (2002 - 2006)**

2006						
OEB Approved Standard: Within the range of 3 years historical performance.						
	Total Customer Hours of Interruptions (1)	Total Customer Interruptions (2)	Total Number of Customer (3)	SAIDI (1) / (3)	SAIFI (2) / (3)	CAIDI (4) / (5)
Jan	1,935	4,000	179,895	0.01	0.02	0.48
Feb	2,844	10,599	179,895	0.02	0.06	0.27
Mar	4,116	10,837	179,895	0.02	0.06	0.38
Apr	2,601	2,955	179,895	0.01	0.02	0.88
May	8,290	12,930	179,895	0.05	0.07	0.64
Jun	13,890	13,604	179,895	0.08	0.08	1.02
Jul	13,236	13,574	179,895	0.07	0.08	0.98
Aug	11,651	13,643	179,895	0.06	0.08	0.85
Sep	6,072	7,256	179,895	0.03	0.04	0.84
Oct	4,675	8,954	179,895	0.03	0.05	0.52
Nov	3,752	13,821	179,895	0.02	0.08	0.27
Dec	8,464	19,632	179,895	0.05	0.11	0.43
<b>Annual Total</b>	<b>81,527</b>	<b>131,805</b>	<b>179,895</b>	<b>0.45</b>	<b>0.73</b>	<b>0.62</b>

2005						
OEB Approved Standard: Within the range of 3 years historical performance.						
	Total Customer Hours of Interruptions (1)	Total Customer Interruptions (2)	Total Number of Customer (3)	SAIDI (1) / (3)	SAIFI (2) / (3)	CAIDI (4) / (5)
Jan	3,048	10,674	177,465	0.02	0.06	0.29
Feb	2,595	5,208	177,465	0.01	0.03	0.50
Mar	1,692	2,459	177,465	0.01	0.01	0.69
Apr	4,493	28,813	177,465	0.03	0.16	0.16
May	8,465	15,411	177,465	0.05	0.09	0.55
Jun	12,449	16,530	177,465	0.07	0.09	0.75
Jul	22,599	30,414	177,465	0.13	0.17	0.74
Aug	16,803	23,217	177,465	0.09	0.13	0.72
Sep	7,837	11,750	177,465	0.04	0.07	0.67
Oct	6,663	7,236	177,465	0.04	0.04	0.92
Nov	6,251	8,838	177,465	0.04	0.05	0.71
Dec	1,049	5,281	177,465	0.01	0.03	0.20
<b>Annual Total</b>	<b>93,944</b>	<b>165,831</b>	<b>177,465</b>	<b>0.53</b>	<b>0.93</b>	<b>0.57</b>

2004						
OEB Approved Standard: Within the range of 3 years historical performance.						
	Total Customer Hours of Interruptions (1)	Total Customer Interruptions (2)	Total Number of Customer (3)	SAIDI (1) / (3)	SAIFI (2) / (3)	CAIDI (4) / (5)
Jan	10,874	13,121	175,323	0.06	0.07	0.83
Feb	1,203	1,779	175,323	0.01	0.01	0.68
Mar	2,834	6,472	175,323	0.02	0.04	0.44
Apr	1,335	4,520	175,323	0.01	0.03	0.30
May	5,507	8,969	175,323	0.03	0.05	0.61
Jun	7,221	18,932	175,323	0.04	0.11	0.38
Jul	5,687	4,870	175,323	0.03	0.03	1.17
Aug	6,218	7,972	175,323	0.04	0.05	0.78
Sep	4,017	12,623	175,323	0.02	0.07	0.32
Oct	1,328	4,416	175,323	0.01	0.03	0.30
Nov	1,455	4,571	175,323	0.01	0.03	0.32
Dec	16,906	20,888	175,323	0.10	0.12	0.81
<b>Annual Total</b>	<b>64,585</b>	<b>109,133</b>	<b>175,323</b>	<b>0.37</b>	<b>0.62</b>	<b>0.59</b>

2003						
OEB Approved Standard: Within the range of 3 years historical performance.						
	Total Customer Hours of Interruptions (1)	Total Customer Interruptions (2)	Total Number of Customer (3)	SAIDI (1) / (3)	SAIFI (2) / (3)	CAIDI (4) / (5)
Jan	2,446	7,359	171,763	0.01	0.04	0.33
Feb	1,684	3,819	171,763	0.01	0.02	0.44
Mar	4,305	6,862	171,763	0.03	0.04	0.63
Apr	1,961	1,089	171,763	0.01	0.01	1.80
May	2,296	2,956	171,763	0.01	0.02	0.78
Jun	9,723	20,295	171,763	0.06	0.12	0.48
Jul	11,184	16,888	171,763	0.07	0.10	0.66
Aug	8,358	9,726	171,763	0.05	0.06	0.86
Sep	5,424	10,567	171,763	0.03	0.06	0.51
Oct	13,454	38,793	171,763	0.08	0.23	0.35
Nov	3,900	9,307	171,763	0.02	0.05	0.42
Dec	2,221	2,705	171,763	0.01	0.02	0.82
<b>Annual Total</b>	<b>66,956</b>	<b>130,366</b>	<b>171,763</b>	<b>0.39</b>	<b>0.76</b>	<b>0.51</b>

2002						
OEB Approved Standard: Within the range of 3 years historical performance.						
	Total Customer Hours of Interruptions (1)	Total Customer Interruptions (2)	Total Number of Customer (3)	SAIDI (1) / (3)	SAIFI (2) / (3)	CAIDI (4) / (5)
Jan	3219	7750	166622	0.02	0.05	0.42
Feb	2849	5023	166622	0.02	0.03	0.57
Mar	3144	12860	166622	0.02	0.08	0.24
Apr	6815	8028	166622	0.04	0.05	0.85
May	6261	11127	166622	0.04	0.07	0.56
Jun	6489	10216	166622	0.04	0.06	0.64
Jul	10464	9733	166622	0.06	0.06	1.08
Aug	7414	9659	166622	0.04	0.06	0.77
Sep	6403	10838	166622	0.04	0.07	0.59
Oct	4081	6047	166622	0.02	0.04	0.67
Nov	3865	5371	166622	0.02	0.03	0.72
Dec	4415	10780	166622	0.03	0.06	0.41
<b>Annual Total</b>	<b>65420</b>	<b>107432</b>	<b>166622</b>	<b>0.393</b>	<b>0.645</b>	<b>0.609</b>

**ENERSOURCE HYDRO MISSISSAUGA INC.  
 PERFORMANCE BASED REGULATION  
 APPOINTMENTS (2002 - 2006)**

Month/Year	No. of Appointments		% of Appointments Met
	Made	Met	
Jan, 2006	4	4	100%
Feb, 2006	0	0	0%
Mar, 2006	3	3	100%
Apr, 2006	10	10	100%
May, 2006	5	5	100%
June, 2006	4	4	100%
July, 2006	1	1	100%
Aug, 2006	6	6	100%
Sept, 2006	12	12	100%
Oct, 2006	16	16	100%
Nov, 2006	15	15	100%
Dec, 2006	3	3	100%
<b>Totals for 2006</b>	<b>79</b>	<b>79</b>	<b>100%</b>

Month/Year	No. of Appointments		% of Appointments Met
	Made	Met	
Jan, 2005	2	2	100%
Feb, 2005	1	1	100%
Mar, 2005	3	3	100%
Apr, 2005	9	9	100%
May, 2005	3	3	100%
June, 2005	4	4	100%
July, 2005	3	3	100%
Aug, 2005	4	4	100%
Sept, 2005	5	5	100%
Oct, 2005	5	5	100%
Nov, 2005	6	6	100%
Dec, 2005	2	2	100%
<b>Totals for 2005</b>	<b>47</b>	<b>47</b>	<b>100%</b>

Month/Year	No. of Appointments		% of Appointments Met
	Made	Met	
Jan, 2004	3	2	67%
Feb, 2004	2	2	100%
Mar, 2004	2	2	100%
Apr, 2004	11	11	100%
May, 2004	5	5	100%
Jun, 2004	9	9	100%
Jul, 2004	2	2	100%
Aug, 2004	4	4	100%
Sep, 2004	5	5	100%
Oct, 2004	4	4	100%
Nov, 2004	2	2	100%
Dec, 2004	3	3	100%
<b>Totals for 2004</b>	<b>52</b>	<b>51</b>	<b>98%</b>

Month/Year	No. of Appointments		% of Appointments Met
	Made	Met	
Jan, 2003	2	2	100%
Feb, 2003	2	2	100%
Mar, 2003	-	-	100%
Apr, 2003	1	1	100%
May, 2003	1	1	100%
Jun, 2003	4	4	100%
Jul, 2003	1	1	100%
Aug, 2003	1	1	100%
Sep, 2003	2	2	100%
Oct, 2003	2	2	100%
Nov, 2003	4	4	100%
Dec, 2003	-	-	100%
<b>Totals for 2003</b>	<b>20</b>	<b>20</b>	<b>100%</b>

Month/Year	No. of Appointments		% of Appointments Met
	Made	Met	
Jan, 2002	13	11	85%
Feb, 2002	11	11	100%
Mar, 2002	3	3	100%
Apr, 2002	10	10	100%
May, 2002	7	7	100%
Jun, 2002	3	3	100%
Jul, 2002	2	2	100%
Aug, 2002	6	5	83%
Sep, 2002	10	10	100%
Oct, 2002	10	10	100%
Nov, 2002	4	4	100%
Dec, 2002	2	2	100%
<b>Totals for 2002</b>	<b>81</b>	<b>78</b>	<b>96%</b>

**ENERSOURCE HYDRO MISSISSAUGA INC.  
 PERFORMANCE BASED REGULATION  
 CONNECTION OF NEW SERVICES (2002 - 2006)**

Month/Year	Total No. of Connections <750 volts	No. of Connections within 5 working days <750 volts	Total No. of Connections >750 volts	No. of Connections within 10 working days >750 volts	%
Jan, 2006	541	523	0	0	97%
Feb, 2006	349	345	2	2	99%
Mar, 2006	229	226	0	0	99%
Apr, 2006	230	230	1	1	100%
May, 2006	381	377	1	1	99%
Jun, 2006	684	682	1	1	100%
Jul, 2006	426	422	1	1	99%
Aug, 2006	203	202	2	2	100%
Sep, 2006	192	189	0	0	98%
Oct, 2006	239	237	0	0	99%
Nov, 2006	278	274	0	0	99%
Dec, 2006	175	173	0	0	99%
<b>Totals for 2006</b>	<b>3927</b>	<b>3880</b>	<b>8</b>	<b>8</b>	<b>99%</b>

Month/Year	Total No. of Connections <750 volts	No. of Connections within 5 working days <750 volts	Total No. of Connections >750 volts	No. of Connections within 10 working days >750 volts	%
Jan, 2005	113	111	0	0	98%
Feb, 2005	175	169	1	1	97%
Mar, 2005	187	186	2	2	99%
Apr, 2005	228	226	1	1	99%
May, 2005	391	390	1	1	100%
Jun, 2005	233	229	3	3	98%
Jul, 2005	289	283	0	0	98%
Aug, 2005	279	276	0	0	99%
Sep, 2005	191	165	0	0	86%
Oct, 2005	279	276	0	0	99%
Nov, 2005	283	266	2	2	94%
Dec, 2005	322	314	0	0	98%
<b>Totals for 2005</b>	<b>2970</b>	<b>2891</b>	<b>10</b>	<b>10</b>	<b>97%</b>

Month/Year	Total No. of Connections <750 volts	No. of Connections within 5 working days <750 volts	Total No. of Connections >750 volts	No. of Connections within 10 working days >750 volts	%
Jan, 2004	239	237			99%
Feb, 2004	186	185			99%
Mar, 2004	244	243			100%
Apr, 2004	200	200	1	1	100%
May, 2004	349	346			99%
Jun, 2004	331	327			99%
Jul, 2004	307	301	1	1	98%
Aug, 2004	335	334	1	1	100%
Sep, 2004	278	277			100%
Oct, 2004	388	384			99%
Nov, 2004	508	507			100%
Dec, 2004	198	195			98%
<b>Totals for 2004</b>	<b>3,563</b>	<b>3,536</b>	<b>3</b>	<b>3</b>	<b>99%</b>

Month/Year	Total No. of Connections <750 volts	No. of Connections within 5 working days <750 volts	Total No. of Connections >750 volts	No. of Connections within 10 working days >750 volts	%
Jan, 2003	362	355			98%
Feb, 2003	290	288			99%
Mar, 2003	305	305			100%
Apr, 2003	378	377	1	1	100%
May, 2003	421	420			100%
Jun, 2003	440	434			99%
Jul, 2003	540	539	1	1	100%
Aug, 2003	470	469	1	1	100%
Sep, 2003	407	401			99%
Oct, 2003	474	473			100%
Nov, 2003	393	389			99%
Dec, 2003	440	438			100%
<b>Totals for 2003</b>	<b>4,920</b>	<b>4,888</b>	<b>3</b>	<b>3</b>	<b>99%</b>

Month/Year	Total No. of Connections <750 volts	No. of Connections within 5 working days <750 volts	Total No. of Connections >750 volts	No. of Connections within 10 working days >750 volts	%
Jan, 2002	487	469			96%
Feb, 2002	453	444			98%
Mar, 2002	497	487			98%
Apr, 2002	386	371			96%
May, 2002	489	353	2	2	72%
Jun, 2002	546	521			95%
Jul, 2002	622	615			99%
Aug, 2002	794	786			99%
Sep, 2002	648	633			98%
Oct, 2002	655	347			53%
Nov, 2002	629	618	1	1	98%
Dec, 2002	456	454			100%
<b>Totals for 2002</b>	<b>6,662</b>	<b>6,098</b>	<b>3</b>	<b>3</b>	<b>92%</b>

**ENERSOURCE HYDRO MISSISSAUGA INC.  
 PERFORMANCE BASED REGULATION  
 CUSTOMER SERVICE (Telephone Accessibility) - (2002 - 2006)**

Month/Year	No. of calls	No. of on time	% of Incoming Calls
			Answered within 30 seconds
Jan, 2006	11,867.00	9,704.00	82%
Feb, 2006	10,415.00	9,391.00	90%
Mar, 2006	12,824.00	11,126.00	87%
Apr, 2006	10,387.00	9,170.00	88%
May, 2006	13,767.00	11,350.00	82%
June, 2006	12,754.00	10,639.00	83%
July, 2006	13,346.00	10,544.00	79%
Aug, 2006	14,943.00	10,744.00	72%
Sept, 2006	13,917.00	10,306.00	74%
Oct, 2006	15,078.00	11,375.00	75%
Nov, 2006	14,678.00	10,835.00	74%
Dec, 2006	8,942.00	6,902.00	77%
<b>Average for 2006</b>			<b>80%</b>

Month/Year	No. of calls	No. of on time	% of Incoming Calls
			Answered within 30 seconds
Jan, 2005	11,961.00	10,045.00	84%
Feb, 2005	10,500.00	9,095.00	87%
Mar, 2005	11,527.00	9,929.00	86%
Apr, 2005	12,318.00	10,620.00	86%
May, 2005	11,725.00	10,165.00	87%
June, 2005	12,068.00	10,249.00	85%
July, 2005	11,225.00	8,927.00	80%
Aug, 2005	15,275.00	11,919.00	78%
Sept, 2005	15,215.00	11,958.00	79%
Oct, 2005	14,409.00	11,148.00	77%
Nov, 2005	14,853.00	10,981.00	74%
Dec, 2005	9,120.00	7,687.00	84%
<b>Average for 2005</b>			<b>82%</b>

Month/Year	No. of calls	No. of on time	% of Incoming Calls
			Answered within 30 seconds
Jan, 2004	11,973.00	10,477.00	88%
Feb, 2004	12,309.00	9,064.00	74%
Mar, 2004	12,788.00	11,344.00	89%
Apr, 2004	11,640.00	9,332.00	80%
May, 2004	12,142.00	9,662.00	80%
Jun, 2004	13,065.00	10,347.00	79%
Jul, 2004	14,314.00	11,106.00	78%
Aug, 2004	15,132.00	11,569.00	76%
Sep, 2004	14,169.00	11,534.00	81%
Oct, 2004	13,225.00	11,213.00	85%
Nov, 2004	13,632.00	11,576.00	85%
Dec, 2004	9,886.00	8,661.00	88%
<b>Average for 2004</b>			<b>82%</b>

Month/Year	No. of calls	No. of on time	% of Incoming Calls
			Answered within 30 seconds
Jan, 2003	21,841.00	16,162.00	74%
Feb, 2003	16,583.00	12,437.00	75%
Mar, 2003	15,750.00	12,600.00	80%
Apr, 2003	12,754.00	10,713.00	84%
May, 2003	13,309.00	11,712.00	88%
Jun, 2003	10,239.00	8,908.00	87%
Jul, 2003	9,621.00	7,793.00	81%
Aug, 2003	13,786.00	10,891.00	79%
Sep, 2003	15,297.00	11,932.00	78%
Oct, 2003	15,207.00	11,709.00	77%
Nov, 2003	10,828.00	8,662.00	80%
Dec, 2003	11,711.00	10,036.00	86%
<b>Average for 2003</b>			<b>81%</b>

Month/Year	No. of calls	No. of on time	% of Incoming Calls
			Answered within 30 seconds
Jan, 2002	13,617.00	10,077.00	74%
Feb, 2002	11,746.00	9,397.00	80%
Mar, 2002	11,740.00	9,040.00	77%
Apr, 2002	11,835.00	8,995.00	76%
May, 2002	10,771.00	8,186.00	76%
Jun, 2002	14,574.00	11,659.00	80%
Jul, 2002	15,738.00	12,590.00	80%
Aug, 2002	16,781.00	12,250.00	73%
Sep, 2002	20,887.00	15,039.00	72%
Oct, 2002	23,404.00	18,255.00	78%
Nov, 2002	20,190.00	17,363.00	86%
Dec, 2002	14,219.00	11,375.00	80%
<b>Average for 2002</b>			<b>78%</b>

**ENERSOURCE HYDRO MISSISSAUGA INC.  
 PERFORMANCE BASED REGULATION  
 EMERGENCY RESPONSE (2002 - 2006)**

Month/Year	Total No. of Emergency Calls	No. of Emergency Calls responded within 60 minutes	%
Jan, 2006	12	12	100%
Feb, 2006	15	15	100%
Mar, 2006	11	11	100%
Apr, 2006	10	10	100%
May, 2006	14	14	100%
Jun, 2006	17	17	100%
Jul, 2006	26	25	96%
Aug, 2006	7	7	100%
Sep, 2006	22	22	100%
Oct, 2006	24	23	96%
Nov, 2006	15	15	100%
Dec, 2006	16	16	100%

**Totals for 2006**      **189**              **187**              **99%**

Month/Year	Total No. of Emergency Calls	No. of Emergency Calls responded within 60 minutes	%
Jan, 2005	23	23	100%
Feb, 2005	20	20	100%
Mar, 2005	9	9	100%
Apr, 2005	12	12	100%
May, 2005	14	14	100%
Jun, 2005	21	21	100%
Jul, 2005	19	19	100%
Aug, 2005	16	16	100%
Sep, 2005	14	14	100%
Oct, 2005	13	13	100%
Nov, 2005	24	24	100%
Dec, 2005	15	15	100%

**Totals for 2005**      **200**              **200**              **100%**

Month/Year	Total No. of Emergency Calls	No. of Emergency Calls responded within 60 minutes	%
Jan, 2004	7	7	100%
Feb, 2004	3	3	100%
Mar, 2004	4	4	100%
Apr, 2004	4	4	100%
May, 2004	6	6	100%
Jun, 2004	13	13	100%
Jul, 2004	12	12	100%
Aug, 2004	2	2	100%
Sep, 2004	8	8	100%
Oct, 2004	10	10	100%
Nov, 2004	11	11	100%
Dec, 2004	9	9	100%

**Totals for 2004**      **89**              **89**              **100%**

Month/Year	Total No. of Emergency Calls	No. of Emergency Calls responded within 60 minutes	%
Jan, 2003	10	10	100%
Feb, 2003	16	14	88%
Mar, 2003	13	12	92%
Apr, 2003	4	4	100%
May, 2003	9	9	100%
Jun, 2003	11	11	100%
Jul, 2003	4	4	100%
Aug, 2003	2	2	100%
Sep, 2003	4	4	100%
Oct, 2003	2	2	100%
Nov, 2003	1	1	100%
Dec, 2003	6	6	100%

**Totals for 2003**      **82**              **79**              **96%**

Month/Year	Total No. of Emergency Calls	No. of Emergency Calls responded within 60 minutes	%
Jan, 2002	9	9	100%
Feb, 2002	13	13	100%
Mar, 2002	14	13	93%
Apr, 2002	11	11	100%
May, 2002	15	14	93%
Jun, 2002	7	7	100%
Jul, 2002	16	16	100%
Aug, 2002	10	10	100%
Sep, 2002	13	12	92%
Oct, 2002	15	15	100%
Nov, 2002	4	4	100%
Dec, 2002	7	6	86%

**Totals for 2002**      **134**              **130**              **97%**



**ENERSOURCE HYDRO MISSISSAUGA INC.  
 PERFORMANCE BASED REGULATION  
 WRITTEN RESPONSES TO INQUIRIES (2002 - 2006)**

Month/Year	No. of Requests for Written Responses	No. of Requests for Written Responses provided within 10 working days	%
Jan, 2006	872	849	97.4%
Feb, 2006	695	679	97.7%
Mar, 2006	822	813	98.9%
Apr, 2006	698	691	99.0%
May, 2006	773	765	99.0%
June, 2006	761	760	99.9%
July, 2006	965	962	99.7%
Aug, 2006	4822	4817	99.9%
Sept, 2006	852	850	99.8%
Oct, 2006	821	819	99.8%
Nov, 2006	839	836	99.6%
Dec, 2006	542	541	99.8%
<b>Totals for 2006</b>	<b>13462</b>	<b>13382</b>	<b>99.4%</b>

Month/Year	No. of Requests for Written Responses	No. of Requests for Written Responses provided within 10 working days	%
Jan, 2005	361	350	97.0%
Feb, 2005	279	273	97.8%
Mar, 2005	266	253	95.1%
Apr, 2005	171	171	100.0%
May, 2005	158	157	99.4%
June, 2005	538	538	100.0%
July, 2005	340	336	98.8%
Aug, 2005	344	343	99.7%
Sept, 2005	216	215	99.5%
Oct, 2005	280	279	99.6%
Nov, 2005	298	296	99.3%
Dec, 2005	181	181	100.0%
<b>Totals for 2005</b>	<b>3432</b>	<b>3392</b>	<b>98.8%</b>

Month/Year	No. of Requests for Written Responses	No. of Requests for Written Responses provided within 10 working days	%
Jan, 2004	127	125	98.4%
Feb, 2004	153	153	100.0%
Mar, 2004	225	223	99.1%
Apr, 2004	250	250	100.0%
May, 2004	293	290	99.0%
June, 2004	207	204	98.6%
July, 2004	182	181	99.5%
Aug, 2004	176	172	97.7%
Sept, 2004	180	178	98.9%
Oct, 2004	299	296	99.0%
Nov, 2004	425	420	98.8%
Dec, 2004	297	286	96.3%
<b>Totals for 2004</b>	<b>2814</b>	<b>2778</b>	<b>98.7%</b>

Month/Year	No. of Requests for Written Responses	No. of Requests for Written Responses provided within 10 working days	%
Jan, 2003	301	264	87.7%
Feb, 2003	116	112	96.6%
Mar, 2003	139	128	92.1%
Apr, 2003	133	125	94.0%
May, 2003	93	92	98.9%
Jun, 2003	120	118	98.3%
Jul, 2003	109	107	98.2%
Aug, 2003	173	171	98.8%
Sep, 2003	160	150	93.8%
Oct, 2003	471	468	99.4%
Nov, 2003	134	133	99.3%
Dec, 2003	153	153	100.0%
<b>Totals for 2003</b>	<b>2102</b>	<b>2021</b>	<b>96.1%</b>

Month/Year	No. of Requests for Written Responses	No. of Requests for Written Responses provided within 10 working days	%
Jan, 2002	422	416	98.6%
Feb, 2002	327	326	99.7%
Mar, 2002	435	432	99.3%
Apr, 2002	375	365	97.3%
May, 2002	267	263	98.5%
Jun, 2002	185	174	94.1%
Jul, 2002	216	206	95.4%
Aug, 2002	207	190	91.8%
Sep, 2002	241	233	96.7%
Oct, 2002	227	213	93.8%
Nov, 2002	283	283	100.0%
Dec, 2002	95	91	95.8%
<b>Totals for 2002</b>	<b>3280</b>	<b>3192</b>	<b>97.3%</b>

1 **List of Witnesses**

2

3 This document will be filed prior to the commencement of any oral hearing the Board may order.

- 1 **Curricula Vitae**
- 2
- 3 To be filed at a later date, as may be required.

1 **2008 Test Year Revenues**

2  
3 Enersource projects that it will recover approximately \$110.182 million in revenue in the 2008  
4 Test Year through existing distribution rates and other regulated distribution charges. This  
5 amount includes:

- 6 • \$109.708 million recovered through fixed and variable distribution rates;
- 7 • \$0.477 million recovered through administration charge;
- 8 • \$2.814 million recovered through approved Specific Service Charges;
- 9 • \$(2.817) million recovered through other regulated charges.

10  
11 At these existing distribution rates, Enersource's 2008 Test Year gross revenue deficiency is  
12 approximately \$12.357 million. It is derived at ExF/Sched2/Tab1.

13  
14 **Determination of distribution revenues recovered through base distribution rates**

15  
16 Enersource estimated the \$109.708 million of distribution revenues recovered through base  
17 distribution rates by applying the current Board-approved rates authorized (ExA/Sched15/Tab1),  
18 excluding rate riders and the 2007 Smart Meter Rate Adder, to Enersource's forecasted charge  
19 parameters for the 2008 Test Year. The charge parameters were forecasted using the  
20 methodology described in Enersource's Short Term Load Forecast (Ex B/Sched3/Tab2); this is  
21 consistent with Enersource's Demand Forecast Report 2007-2031 (ExB/Sched3/Tab3). The  
22 following exhibits provide further information on the detailed forecast charge parameters.

23

Charge Parameter Forecast	Exhibit Reference
Number of Customers	ExB/Sched2/Tab1
Energy Deliveries	ExB/Sched2/Tab2
Demand	ExB/Sched2/Tab3

1  
2 The forecast 2008 Test Year charge parameters are applied to the currently approved base  
3 distribution rates to estimate the revenues recovered through existing rates. The detailed  
4 calculation is provided at ExB/Sched2/Tab4.

5  
6 Determination of Revenues recovered through Specific Service Charges

7  
8 Enersource forecasts that it will recover \$2.814 million through other regulated rates and charges  
9 in the 2008 Test Year. This amount includes:

- 10 – Revenue recovered through Specific Service Charges of \$1.282 million;
- 11 – Revenue recovered through Late Payment Charges of \$0.420 million;
- 12 – Retailer Transaction charge revenue of \$0.329 million;
- 13 – Return on Assets of \$0.358 million; and
- 14 – Other regulated revenues of \$0.425 million

15  
16 Enersource applied its currently approved Specific Service Charges to trended or correlated  
17 charge parameters to estimate the revenues recovered through Specific Service Charges in the  
18 2008 Test Year. Further information and the derivation of Specific Service Charge revenue for  
19 the 2008 Test Year are provided at ExB/Sched2/Tab5b.

20  
21 Determination of Revenues Recovered through Other Regulated Rates and Charges

22  
23 Enersource estimated its revenue recovered through other regulated rates by applying trended  
24 charge parameter data to currently authorized rates and charges. Further information is provided  
25 at ExB/Sched2/Tab5a.

**Forecast Charge Parameters**

**Number of Customers**

Enersource’s forecast of the number of customers by customer class for the 2008 Test Year is set out in the table below.

**Average Number of Customers (Connections)**

<b>RATE CLASS</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
Residential	159,692	161,217	166,825
Less than 50 kW	15,764	15,946	16,081
Small Commercial	3,245	3,265	3,288
GS 50-499 kW	3,920	3,960	3,986
GS 500-4999 kW	461	466	470
Large User	9	9	9
Street Lighting	47,588	47,981	48,255
<b>TOTAL</b>	<b>230,679</b>	<b>232,844</b>	<b>238,914</b>

Enersource’s forecasting methodology is summarized below. A detailed description of the forecasting methodology is found at ExB/Sched3/Tab2 and ExB/Sched3/Tab3.

Enersource relied on past experience of customer additions to forecast customer additions in the 2008 Test Year. Upon initial occupation, premises in Enersource’s service area tend to be continually occupied. As a result, Enersource typically does not lose end users at specific sites. This number of connected premises is referred to as the number of customers.

Enersource uses the number of customers as of the end of the previous period as a proxy for the number of customers at the beginning of the next period. For the purposes of forecasting the number of customers in the 2008 Test Year, Enersource adopted the number of customers at the end of the 2007 Bridge Year as the opening number of customers in the Test Year. Consistent

1 with the City of Mississauga's economic planning forecasts and with past experience,  
2 Enersource assumed a 1% average growth rate in the number of customers.

3

4 A specific adjustment has been made to the number of residential customers to take into account  
5 the number of new customers residing in condominium units who will take delivery service  
6 during the 2008 Test Year. Enersource has projected serving an additional 3,315 residential  
7 customers residing in condominium units. This adjustment did not require a compensating  
8 adjustment to any other customer class.

**Forecast Charge Parameters**

**Energy Deliveries**

Enersource’s forecast of the energy deliveries by customer class for the 2008 Test Year is set out in the table below.

Energy Deliveries Data in kWh (excluding Losses)

	<b>2006</b>	<b>2007</b>	<b>2008</b>
<b>RATE CLASS</b>	kWh	kWh	kWh
Residential	1,539,170,115	1,539,401,054	1,547,398,184
Less than 50 kW	656,887,198	663,266,083	646,726,132
Small Commercial	11,841,869	11,786,693	11,905,587
GS 50-499 kW	2,254,730,232	2,270,706,435	2,326,693,969
GS 500-4999 kW	2,366,145,258	2,357,307,265	2,372,693,557
Large User	966,057,966	990,826,184	1,003,079,374
Street Lighting	38,362,229	39,949,712	40,800,231
<b>TOTAL</b>	<b>7,833,194,867</b>	<b>7,873,243,427</b>	<b>7,949,297,033</b>

Note: 2008 data includes Conservation and Demand Management.

Enersource’s forecasting methodology is summarized below. A detailed description of the forecasting methodology is found at ExB/Sched3/Tab2 and ExB/Sched3/Tab3.

Enersource’s electricity deliveries forecast requires two inputs:

- A quantitative description of normal weather conditions; and
- Econometric information – e.g., population, economic conditions.

A description of the process relied on to quantitatively estimate normal weather is provided at ExB/Sched3/Tab1. The model is forged using past econometric, calendar and weather data inputs as well as past energy consumption data. The time period of the past actual data utilized in



1 creating the model was 10 years starting from 1996. Once the translation relationships are  
 2 forged based on actual data inputs, the model is run forward based on the quantification of  
 3 normal weather scenario and forecast econometric data to yield energy consumption and demand  
 4 forecast for the 2008 Test Year period.

5  
 6 For the 2008 Test Year it was necessary to further adjust the forecast to explicitly incorporate the  
 7 effects of the initiatives underway to create a “Conservation Culture”. Enersource’s  
 8 Conservation and Demand Management staff provided estimates of the energy savings  
 9 anticipated to be observed in the service area in the 2008 Test Year. This forecast is provided at  
 10 ExB/Sched2/Tab2.1.

11  
 12 The observed trend in annual energy consumption per customer is set out in the table below.

Average kWh / Customer Connection

<b>RATE CLASS</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>3 Yr Avg.</b>
Residential	9,638	9,549	9,276	9,488
Less than 50 kW	41,670	41,595	40,217	41,160
Small Commercial	3,649	3,610	3,621	3,627
GS 50-499 kW	575,186	573,411	583,717	577,438
GS 500-4999 kW	5,132,636	5,036,981	5,048,284	5,072,634
Large User	107,339,774	110,091,798	111,453,264	109,628,279
Street Lighting	806	833	846	828
<b>Total</b>	<b>113,103,360</b>	<b>115,757,776</b>	<b>117,139,223</b>	<b>115,333,453</b>

15  
 16 Note: 2006 data represents actual weather.  
 17

18 Enersource has not adjusted the energy delivery forecast to reflect the effect of either Net  
 19 Metering or of the OPA’s Standard Offer Program (“SOP”). To date, Enersource has had only  
 20 one residential customer participate in the Net Metering program. This customer subsequently  
 21 switched to the OPA’s SOP. The other projects in Enersource’s service area that are under

1 contract to the OPA pursuant to the SOP are long standing embedded generators. Because these  
2 generators have existed in the service area for periods longer than a year their impact has already  
3 been captured in historic electricity delivery data and in the econometric models. As a result  
4 there is no need to incorporate an adjustment for these embedded generators.

5

6 Enersource has no reliable information on any new embedded generators coming into service  
7 during the 2008 Test Year. As a result there is insufficient information to support any  
8 adjustment for such developments and therefore, Enersource is not proposing an adjustment.

**2008 Units CDM Savings**

**INPUT CDM SAVINGS**

**Forecast Units/kWh/KW 2008**

Res	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	CDM Savings 2008 Budget
Customer chgs units													-
Distribution	2,843,410	2,843,410	2,843,410	2,843,410	3,791,213	4,265,115	4,265,115	4,739,016	4,739,016	4,739,016	4,739,016	4,739,016	47,390,163
Administration Charge units													-
Energy	2,966,529	2,966,529	2,966,529	2,966,529	3,927,697	4,418,659	4,418,659	4,909,621	4,909,621	4,909,621	4,909,621	4,909,621	49,179,236
Wholesale Market Srvc Rate	2,966,529	2,966,529	2,966,529	2,966,529	3,927,697	4,418,659	4,418,659	4,909,621	4,909,621	4,909,621	4,909,621	4,909,621	49,179,236
Network	2,843,410	2,843,410	2,843,410	2,843,410	3,791,213	4,265,115	4,265,115	4,739,016	4,739,016	4,739,016	4,739,016	4,739,016	47,390,163
Connection	2,843,410	2,843,410	2,843,410	2,843,410	3,791,213	4,265,115	4,265,115	4,739,016	4,739,016	4,739,016	4,739,016	4,739,016	47,390,163
<b>0-50</b>													
Customer chgs units													-
Distribution	617,311	617,311	617,311	617,311	823,081	925,966	925,966	1,028,851	1,028,851	1,028,851	1,028,851	1,028,851	10,288,510
Administration Charge units													-
Energy	644,040	644,040	644,040	644,040	852,712	959,301	959,301	1,065,890	1,065,890	1,065,890	1,065,890	1,065,890	10,734,002
Wholesale Market Srvc Rate	644,040	644,040	644,040	644,040	852,712	959,301	959,301	1,065,890	1,065,890	1,065,890	1,065,890	1,065,890	10,734,002
Network	617,311	617,311	617,311	617,311	823,081	925,966	925,966	1,028,851	1,028,851	1,028,851	1,028,851	1,028,851	10,288,510
Connection	617,311	617,311	617,311	617,311	823,081	925,966	925,966	1,028,851	1,028,851	1,028,851	1,028,851	1,028,851	10,288,510
<b>50-499</b>													
Customer chgs units													-
Distribution	156	156	156	156	208	234	234	260	260	260	260	260	2,600
Administration Charge units													-
Metered kWh													-
Energy	163	163	163	163	215	242	242	269	269	269	269	269	2,713
Wholesale Market Srvc Rate	163	163	163	163	215	242	242	269	269	269	269	269	2,713
Network	156	156	156	156	208	234	234	260	260	260	260	260	2,600
Connection	156	156	156	156	208	234	234	260	260	260	260	260	2,600

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**Forecast Charge Parameters**

**Demand**

Enersource’s forecast of the demand charge parameter for the 2008 Test Year is set out in the tables below.

**kW (excluding Transformer Ownership)**

<b>RATE CLASS</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
GS 50-499 kW	6,330,451	6,359,236	6,415,732
GS 500-4999 kW	5,263,110	5,320,662	5,310,121
Large User	1,739,090	1,728,319	1,720,956
Street Lighting	99,436	112,258	115,190
<b>TOTALS</b>	<b>13,432,086</b>	<b>13,520,475</b>	<b>13,561,999</b>

**kW (Transformer Ownership)**

<b>RATE CLASS</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
GS 50-499 kW	456,765	463,942	465,032
GS 500-4999 kW	2,902,498	2,907,427	2,917,353
Large User	1,738,824	1,717,540	1,720,944
<b>TOTALS</b>	<b>5,099,110</b>	<b>5,089,967</b>	<b>5,104,380</b>

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10  
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13

Enersource’s forecasting methodology is summarized below. A detailed description of the forecasting methodology is found at ExB/Sched3/Tab2 and ExB/Sched3/Tab3.

1 Enersource's methodology relies on two input data series:

- 2       • Forecast energy deliveries by customer class; and  
3       • Past observed load factors by customer class.

4

5 For each customer class, Enersource applies the observed load factor of the month to the  
6 forecast energy deliveries of that month to estimate the forecast demand. This is repeated  
7 for all other months and these calculations are made for all customer classes.

**Revenues Recovered at Existing Rates (\$ 000's)**

Customer Class	2008 Projected Data with CDM			Current Rates \$			Revenue @ Current Rates (000's)		
	Connections	kWh	kW	\$ / Month	\$ / kWh	\$ / kW	Fixed	Variable	Total
Residential	166,825	1,547,395,184		11.05	0.0111		\$22,121	\$17,176	\$39,297
Less than 50 kW	16,081	646,726,132		28.65	0.0149		\$5,529	\$9,636	\$15,165
Small Commercial	3,288	11,905,587		14.04	0.0257		\$554	\$306	\$860
GS 50-499 kW	3,986		6,415,732	72.96		4.3900	\$3,490	\$28,165	\$31,655
GS 500-4999 kW	470		5,310,121	1,239.48		1.6906	\$6,991	\$8,977	\$15,968
Large User	9		1,720,956	13,246.26		2.7937	\$1,431	\$4,808	\$6,238
Street Lighting	48,255		115,190	0.36		2.7462	\$208	\$316	\$525
<b>Total</b>	<b>238,914</b>						<b>\$40,323</b>	<b>\$69,385</b>	<b>\$109,708</b>

1           **Derivation of Revenue recovered through other regulated rates and charges**

2  
3   Enersource recovers revenues through a number of regulated rates and charges. They are:

- 4       – Revenue recovered through Specific Service Charges of \$1.282 million;  
5       – Revenue recovered through Late Payment Charges of \$0.420 million;  
6       – Return on Assets Charge of \$0.358 million;  
7       – Retailer (RCVA) charges revenue of \$0.329 million; and  
8       – Other regulated revenues of \$0.425 million.

9  
10   Before preparing a forecast of the revenue recovered through Specific Service Charges (“SSC”) and other regulated rates and charges, each authorized rate or charge was reviewed to verify its ongoing applicability and relevance. Existing SSCs are shown in Exb/Sched2/Tab5b. Enersource proposes to continue to charge all of the previously authorized SSCs and other regulated rates and charges because they appropriately allocates costs to those parties who cause the cost to be incurred or act as a deterrent for such behaviours as late payment.

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12  
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16  
17   Having verified that it is appropriate to continue these amounts in the 2008 Test Year, Enersource then developed a forecast of the number of times each charge would be applied. This forecast relied on past experience. Trend data was developed and verified by Customer Service staff and management.

18  
19  
20  
21  
22   The following SSC revenue estimates were not based on a trending of charge parameter data from prior periods:

- 23  
24  
25       • Account set up revenues: The number of accounts that will be set up in the 2008 Test Year correlates with the number of new customers; as a result the estimate of the revenue recovered through this SSC is based on data that is correlated with the number of customers.

- 1       • Temporary Service revenue: the number of temporary services is also correlated with the  
2       number of new customers.

3  
4       The revenues recovered through the application of the SSS Administration charge were  
5       estimated using the currently authorized \$0.25/SSS-customer/month to the observed trend in the  
6       number of SSS customers on a monthly basis (ExB/Sched2/Tab6).

7  
8       Late Payment charges were estimated based on past experience in 2006 and to date in 2007.  
9       Enersource has recently introduced new payment mechanisms and may experience a reduction in  
10      revenues recovered through Late Payment Charges in the 2008 Test Year.

11  
12      Revenues related to:

- 13       • Return on Assets Charge of \$0.358 million;  
14       • Retailer (RCVA) Charges Revenue (\$0.329) million; and  
15       • Other Regulated Revenues (\$0.425) million

16      were estimated based on past experience and observed trends. These estimates are set out at  
17      ExB/Sched2/Tab5a.



**OTHER REVENUE (\$ 000's)**

	<b>2008</b>	<b>2007</b>	<b>2006</b>
	<b>BUDGET</b>	<b>FORECAST</b>	<b>ACTUAL</b>
LATE PAYMENT CHARGES	420	420	351
CUSTOMER SERVICE CHARGES	1,282	1,269	1,166
RETAIL TRANSACTION HUB/MKT PARTIPANT CHG	329	323	285
RETURN ON ASSETS CHARGE	358	275	196
MISCELLANEOUS REVENUE	425	318	317
<b>TOTAL OTHER REVENUE</b>	<b>2,814</b>	<b>2,604</b>	<b>2,315</b>
<u>CUSTOMER SERVICE CHARGES</u>			
RENTAL INCOME	463	463	358
COLLECTION CHARGES	149	145	135
RECONNECTION CHARGES	32	30	29
SET UP CHARGES - RESIDENTIAL	461	458	468
NSF SERVICE CHARGES	29	29	26
TEMPORARY SERVICE INSTALLATION	60	58	60
LETTER OF REFERENCE	23	22	25
CREDIT CHECK	51	49	49
OTHER MISCELLANEOUS CHARGES	16	15	15
	1,282	1,269	1,166

Note: all amounts in \$ 000's

**EHM - Specific Service Charges 2006 - 2008**

Rate Code	Description	Standard Amount (Rate) \$	Applicable?	Updated Amt. (if applic.) \$	Actual 2006 Volume	Bridge 2007 Volume	Forecast 2008 Volume	2006 Calc'd. Amt. - Std. Formula \$	2007 Calc'd. Amt. - Std. Formula \$	2008 Calc'd. Amt. - Std. Formula \$	Alternate Amount (if applic.) \$	Calc. Method (attach. calc. & justification)	Amount for Rate Calculations \$
1	Arrears certificate / Easement Letter	15.00	Y	15.00	368	380	400	5,520.00	5,700.00	6,000.00		Standard	6,000.00
2	Request for other billing information (including Letter of Reference)	15.00	Y	15.00	1,653	1,485	1,500	24,795.00	22,275.00	22,500.00		Standard	22,500.00
3	Income tax letter	15.00	Y	15.00	61	74	75	915.00	1,116.00	1,125.00		Standard	1,125.00
4	Credit reference/credit check (plus credit agency costs) - Residential	15.00	Y	15.00	3,214	3,200	3,335	48,210.00	48,000.00	50,025.00		Standard	50,025.00
5	Returned cheque charge (plus bank charges)	15.00	Y	12.50	2,070	2,285	2,285	25,875.00	28,560.00	28,560.00		Standard	28,560.00
6	Account set up charge/change of occupancy charge (plus credit agency costs if applicable) - General Service	30.00	Y	30.00	3,329	3,466	3,700	99,870.00	103,968.00	111,000.00		Standard	111,000.00
7	Special meter reads	30.00	Y	30.00				0.00	0.00	0.00		Standard	0.00
8	Collection of account charge - no disconnection	30.00	Y	9.00	14,982	16,111	16,500	134,838.00	144,999.00	148,500.00		Standard	148,500.00
9	Disconnect/Reconnect at meter - during regular hours	65.00	Y	20.00	1,201	1,200	1,284	24,020.00	24,000.00	25,680.00		Standard	25,680.00
10	Disconnect/Reconnect at meter - after regular hours	185.00	Y	32.00	170	179	180	5,440.00	5,728.00	5,760.00		Standard	5,760.00
11	Disconnect/Reconnect at pole - during regular hours	185.00	Y	185.00	0	3	3	0.00	555.00	555.00		Standard	555.00
12	Disconnect/Reconnect at pole - after regular hours	415.00	Y	415.00				0.00	0.00	0.00		Standard	0.00
13	Meter dispute charge plus Measurement Canada fees (if meter found correct)	30.00	Y	10.00	16	15	15	160.00	150.00	150.00		Standard	150.00
14	Temporary service install & remove - overhead - no transformer	500.00	Y	400.00	149	144	150	59,600.00	57,600.00	60,000.00		Standard	60,000.00
15	Specific Charge for Access to the Power Poles \$/pole/year	22.35	Y		16,025	20,715	20,716	358,158.75	462,980.25	463,002.60		Standard	463,002.60
Additional Charges - Please be Specific													
16	Account set up charge/change of occupancy charge (plus credit agency costs if applicable) - Residential	N/A	Y	20.00	18,428	17,699	17,500	368,560.00	353,970.00	350,000.00		addnl. charge	350,000.00
17	Interval Meter Request Change	N/A	Y	40.00	1	1	1	40.00	40.00	40.00		addnl. charge	40.00
18	Credit reference/credit check (plus credit agency costs) - Gen. Service - See section 2.4.11 b of DSC	N/A	Y	25.00	44	32	40	1,100.00	800.00	1,000.00		addnl. charge	1,000.00
19	Standby Charges - Britania	N/A	Y	200.00	12	12	12	2,400.00	2,400.00	2,400.00		addnl. charge	2,400.00
20	Standby Charges - GTAA	N/A	Y	500.00	12	12	12	6,000.00	6,000.00	6,000.00		addnl. charge	6,000.00
<b>Total Specific Service Charge Revenue</b>								<b>1,165,501.75</b>	<b>1,268,841.25</b>	<b>1,282,297.60</b>			<b>1,282,297.60</b>

Enersource Hydro Mississauga Inc.  
 EB-2007-0706  
 2008 Electricity Distribution Rates Application  
 Filed: August 22, 2007  
 Exhibit B  
 Schedule 2  
 Tab 6

2008 Test Year  
 Revenues Recovered through SSS Administration Charge

Customer Class			Current Rates	Admin Revenue \$ (000's)
	Connections	SSS Connections	\$ / Month	Fixed
Residential	166,825	139,902	0.25	\$420
Less than 50 kW	16,081	13,043	0.25	\$39
Small Commercial	3,288	2,985	0.25	\$9
GS 50-499 kW	3,986	2864	0.25	\$9
GS 500-4999 kW	470	356	0.25	\$1
Large User	9	9	0.25	\$0
Street Lighting	48,255	0	0.25	\$0
<b>Total</b>	<b>238,914</b>	<b>159,159</b>		<b>\$477</b>

1                                   **Enersource’s Weather Normalization for Load Forecasting**

2  
3   Since forecasting long term weather with confidence is not possible, weather scenarios are  
4   generated based on historical data. For the purposes of assessing the adequacy of the system, the  
5   Enersource Load Forecasting system utilizes daily load forecasts under two weather scenarios:  
6   Normal and Extreme. The weather scenarios are applied to the total Enersource load. The  
7   extreme weather scenario is valuable for analysis of the Enersource distribution system under  
8   duress. The extreme scenario is useful in undertaking peak demand conditions but is unrealistic  
9   from an energy usage standpoint, as severe weather conditions do not persist over a long time  
10   period. Although the actual weather may vary day to day, the normal weather scenario is  
11   historically statistically more correlative over the entire period of the forecast.

12  
13   Enersource utilizes hourly weather information from the Lester B. Pearson International Airport  
14   weather station. The data used for review, analysis and forecasting was attained from the  
15   National Climate Data Archives at Environment Canada. The study of normal and extreme  
16   weather data, hourly time stamped data for Pearson Airport beginning January 1<sup>st</sup> 1970 was used.

17  
18   **Process to Derive Normal Weather Scenario**

19  
20   For each day over the past 35 years, the daily mean (arithmetic average) of the hourly  
21   temperature was calculated based on 24 hour temperatures. The data was indexed based on the  
22   similar days in their respective week of the year. Each day of the week was assigned a number  
23   such that all the Mondays, Tuesdays, Wednesdays, etc. were indexed. For each day of each  
24   week, the data was sorted from the lowest (minimum) average temperature to the highest  
25   (maximum) average temperature. For the Normal weather scenario, the median was selected.  
26   Table 1 below shows the methodology as applied to Saturdays in the first week of January.

1 Table 1: Sort of Average Daily Temperatures for Saturdays in first week of January

2

Day of Week	Week	Year	Month	Day	Ave Temp
Sat	1	1988	1	2	-17.1
Sat	1	1983	1	1	-15.1
Sat	1	1978	1	7	-10.9
Sat	1	1984	1	7	-9.72
Sat	1	2002	1	5	-8.32
Sat	1	1975	1	4	-7.12
Sat	1	1977	1	1	-6.96
Sat	1	1973	1	6	-5.96
Sat	1	1979	1	6	-5.72
Sat	1	1980	1	5	-5.16
Sat	1	1970	1	3	-5
Sat	1	1982	1	2	-4.16
Sat	1	1991	1	5	-4
Sat	1	1974	1	5	-3.52
Sat	1	1987	1	3	-2.2
Sat	1	2003	1	4	-1.76
Sat	1	1997	1	4	-1.2
Sat	1	1985	1	5	-1.04
Sat	1	2001	1	6	-0.96
Sat	1	1971	1	2	-0.84
Sat	1	1981	1	3	-0.44
Sat	1	1998	1	3	-0.4
Sat	1	1976	1	3	-0.24
Sat	1	1995	1	7	2.08

Sat	1	1996	1	6	3
Sat	1	1999	1	2	3.04
Sat	1	1986	1	4	3.52
Sat	1	1972	1	1	3.76
Sat	1	1990	1	6	4.12
Sat	1	1992	1	4	5.12
Sat	1	2000	1	1	5.32
Sat	1	1994	1	1	5.84
Sat	1	1993	1	2	7.96
Sat	1	1989	1	7	10.6
Sat	1	2004	1	3	12.52

1

2 Process for Weather Normalization of Actual Data

3

4 The process for correcting actual energy consumption for weather is completed in three steps:

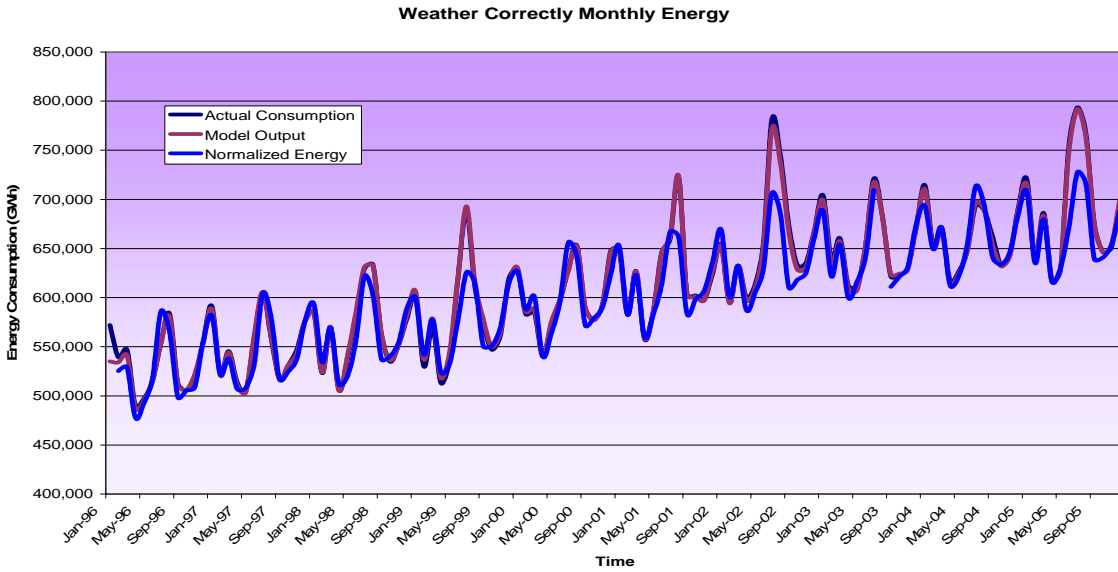
- 5 1) Creating a model of Enersource based on actual energy usage data, actual weather
- 6 conditions, actual economic drivers and calendar.
- 7 2) Creating a Normal Weather Scenario based on 35 years of weather data
- 8 3) Running the model of Enersource Energy consumption based on normal weather
- 9 conditions, actual historical economic drivers and calendar.

10

11 Thus, by creating the model based on actual energy usage and actual drivers and then running the  
 12 model based on normal weather rather than actual weather, the outputs of the model represent  
 13 how the Enersource System Load would have performed if normal weather was experienced.

14 The difference between the actual energy consumption and the energy consumption based on the  
 15 model running on normal weather is the weather correction. For example, if the summer weather  
 16 is hot relative to the normal, the model running on normal weather yields a lower energy

1 consumption output compared to the actual energy consumption. Figure 1 illustrates the weather  
 2 corrected energy consumption from 1996.



3  
4

Figure 1: EHM Weather Corrected Monthly Energy



***enersource***

*Hydro Mississauga*

# ***Short Term Load Forecast***

**From May 2007 to Dec 2009**





## Executive Summary

Actual energy usage and peak demand experienced an average annual growth rate of 2.32% and 3.49% respectively over the 1997 to 2006 time frame. Energy and peak demand growth is a function of the level of weather factors, economic activity, rate of population growth and increase in the number of housing and commercial units. This time period represented an era of high economic activity in the City of Mississauga.

The forecasting system adapted uses econometric equations to estimate the relationships between energy and peak demand and a number of analytical factors and drivers. The drivers that the system includes are weather effects, economic data and calendar variables. Using regression techniques, the model estimates the relationship between these drivers with energy usage and peak demand.

For the purpose of this analysis, the weather is not forecasted but instead two scenarios are considered. Normal weather and Extreme weather are used to forecast peak demand and energy usage. The Normal weather is the average temperature values of a 35-year history. For the Extreme weather scenario, the historical data is ranked similar to Normal weather. However, rather than taking the average of the ranked data, the Extreme weather scenario is based on the maximum temperature values for the summer and the minimum temperature values for the winter. Forecasted economic drivers such as housing and employment were provided by the City of Mississauga Planning and Building Department.

For system expansion purposes, the load forecast results using the Extreme weather scenario would be used as the basis to develop strategies to expand the EHM distribution network at the least cost. The reason is that the peak demand occurs over a short time period (hours) and statistically, the likelihood of short extreme weather conditions occurring during the year is high. Forecasted results for peak demand show an average annual growth rate of 1.53 % between 2007 and 2009.

<b>Monthly Peak Demand (MW)</b>			
<b>Year</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>Annual Peak</b>	<b>1,635</b>	<b>1,666</b>	<b>1,685</b>
<b>Annual Growth</b>	<b>1.55%</b>	<b>1.90%</b>	<b>1.14%</b>

For revenue planning process, the growth in energy demand is best addressed with the use of monthly and annual forecasted values under normal weather scenario. Statistically during the year, normal weather occurs within 80-90% of the time. Since energy is time

based, the total annual forecasted energy usage will be based on normal weather. Forecasted results for energy usage shows an average annual growth rate of 1.16% from 2006 to 2009. This moderate growth rate indicates that the growth in energy usage is constrained by the dwindling supply of available land in the City of Mississauga. In the middle stages of this short term forecast, the city will transition from a fast growing municipality to a mature urban community. Thus, Mississauga will shift from expansion growth into intensification and redevelopment growth.

<b>Monthly Energy (MWh) Normal Weather</b>			
<b>Month</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
January	710,693	743,340	743,410
February	669,195	689,192	670,378
March	683,992	696,623	711,465
April	630,838	648,598	649,987
May	654,424	658,467	660,657
June	675,982	679,732	691,085
July	742,332	753,380	758,593
August	723,439	725,365	728,650
September	645,955	659,036	664,272
October	665,464	672,357	674,940
November	674,176	674,504	682,427
December	711,355	724,195	728,821
<b>Annual Total</b>	<b>8,187,845</b>	<b>8,324,789</b>	<b>8,364,685</b>
<b>Annual Growth</b>	<b>1.32%</b>	<b>1.67%</b>	<b>0.48%</b>

## **1. Introduction**

This document provides a Short Term Forecast of electricity demand for the Enersource Hydro Mississauga Distribution System ('System Load'), based on stated assumptions and methodology described in Section 3. Readers may envision other possible scenarios, recognizing the uncertainties associated with various input assumptions, and are encouraged to use their own judgment in considering possible future scenarios. This forecast provides a base upon which changes in assumptions can be considered.

The Enersource Hydro Mississauga demand is the sum of the system loads plus the losses as purchased from the IESO controlled grid. This demand forecast was based on actual demand, weather and economic data ending the trading month of April 2007.

Section 2 reviews the actual data from 2006 and discusses the factors which shape it. Assumptions used in the forecast are described in section 3 and is followed up energy demand and peak demand forecast for May 2007 to December 2009.

## **2. Actual Data 1997-2006**

Energy usage represents the total consumption of electricity over a specified period of time, typically over a month or year. Peak demand represents the maximum requirement for electricity over an hour. This section of the report reviews the recent historical energy and peak demand in monthly formats.

### **Historical Energy Usage 1997-2006**

Over the 1997 to 2006 time frame, the Enersource Hydro Mississauga system load has experienced an average annual growth rate of 2.32%. Energy usage is a function of weather conditions, economic activity in the city, population growth and housing units. Monthly energy peaked in July 2005 at 793,725 MWh largely due to extreme weather conditions but also the strong housing and population growth. Energy usage in the summer of 2003 was substantially reduced due the August Blackout.

From 1997 to 2006 time frame, the City of Mississauga's economy expanded consistently, adding nearly 94,500 new jobs and 46,500 new housing units. Mississauga has a large amount of land for office space and has managed to attract the majority of new office development from 1999 till the present. Major office nodes include Airport Corporate Centre, Meadowvale Business Park and the City Centre.

**Table 1: Actual Energy (MWh) from 1997-2006**

Actual Energy (MWh)								
Month	1999	2000	2001	2002	2003	2004	2005	2006
January	600,424	629,285	649,509	654,337	704,264	714,721	721,089	691,196
February	529,880	583,255	582,294	594,862	639,371	653,440	639,696	640,324
March	570,446	585,126	627,174	632,565	660,612	671,008	686,331	684,235
April	512,921	540,107	557,728	599,937	612,394	617,241	616,175	601,033
May	536,202	572,602	584,419	613,199	611,207	626,305	627,752	650,016
June	620,353	595,751	645,564	654,990	651,350	647,295	755,352	696,320
July	687,947	628,485	659,492	781,059	721,223	693,708	793,725	785,520
August	611,838	652,999	722,902	745,061	683,386**	689,041	766,859	738476.8
September	573,254	589,437	602,684	673,569	621,515	661,780	674,409	629,090
October	547,026	576,968	602,304	632,948	622,719	632,872	646,612	643,496
November	561,078	592,190	597,480	635,185	630,346	642,602	651,141	649,379
December	619,204	647,661	624,215	668,269	670,992	690,656	698,177	671,891
<b>Total</b>	<b>6,970,573</b>	<b>7,193,867</b>	<b>7,455,765</b>	<b>7,885,981</b>	<b>7,829,380</b>	<b>7,940,668</b>	<b>8,277,318</b>	<b>8,080,977</b>
<b>Growth</b>	<b>2.53%</b>	<b>3.10%</b>	<b>3.51%</b>	<b>5.46%</b>	<b>-0.72%</b>	<b>1.40%</b>	<b>4.24%</b>	<b>-2.37%</b>

\*\* August 2003 energy not adjusted due to Blackout.

Figure 1 illustrates the annual moving average and weather corrected energy in MWh for Enersource Hydro Mississauga from 1997 – 2006. Numerical Data for Figure 1 are located in Appendix A. Please note from Figure 1 that if the Actual Energy is greater than Weather Corrected Energy, the actual weather was above the normal condition. Closer analysis of the weather corrected energy moving average indicates a consistent growth of the City of Mississauga accounting to 16,490 MWh per annum, equivalent to an average annual growth rate of 2.84%, slightly greater than the actual load growth rate of 2.76%. The slight discrepancy is due to the actual load growth includes growth rate from 1996 to 2004.

The weather corrected numbers are generated based on Normal weather. Weather corrected demand for August 2003 has been adjusted to incorporate an estimate of the demand lost over the period from August 14<sup>th</sup> to August 24<sup>th</sup>. Actual figures for August 2003 represent the true consumption for that time period.

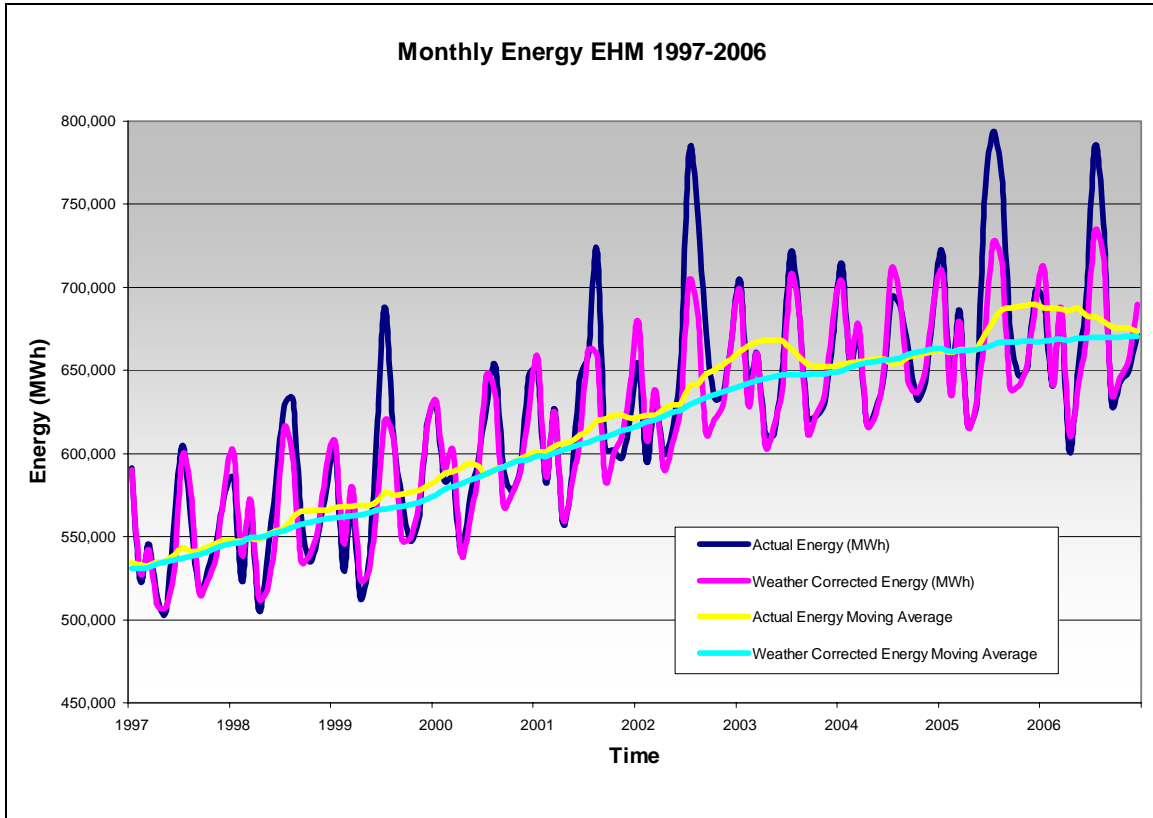


Figure 1: Monthly Energy (MWh) for EHM 1997-2006

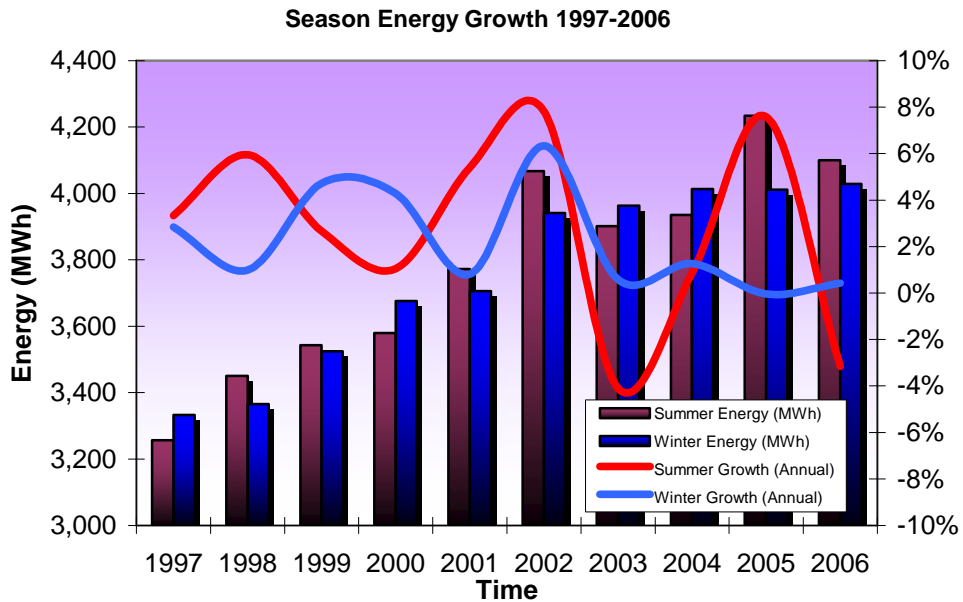


Figure 2: Season Energy Growth 1997-2006

Although analysis of the peak demand indicates that Mississauga is a summer peaking utility, closer examination of the season energy usage indicates a consistent growth in both seasons. As indicated in Table 2: Seasonal Energy Growth 1997-2006 and Figure 2: Season Energy Growth 1997-2006, the average energy growth of 2.74% in the summer period is slightly greater than the 2.20% growth in the winter months. Energy growth in the winter months is attributed to shorter daylight periods and colder weather increasing inside activities. The greater growth in the summer periods is attributed to the increasing cooling load due to air conditioners.

**Table 2: Seasonal Energy Growth 1997-2006**

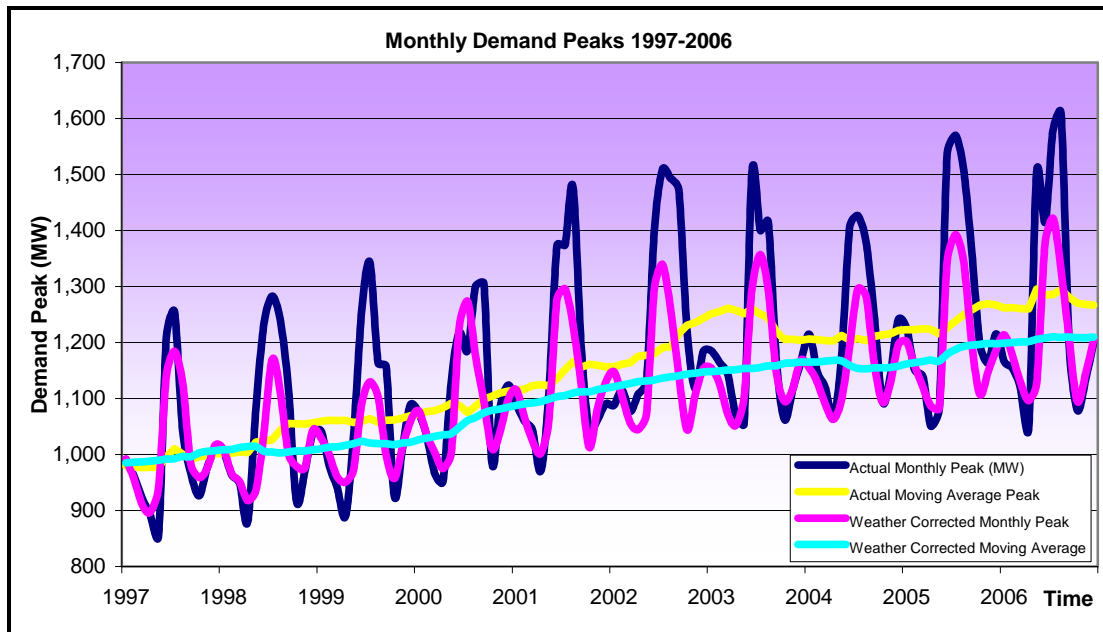
<b>Year</b>	<b>Summer Energy (MWh)</b>	<b>Summer Energy Growth (%)</b>	<b>Winter Energy (MWh)</b>	<b>Winter Energy Growth (%)</b>
1997	3,256,718	3.33%	3,332,746	2.84%
1998	3,450,678	5.96%	3,365,819	0.99%
1999	3,542,515	2.66%	3,524,976	4.73%
2000	3,579,381	1.04%	3,675,797	4.28%
2001	3,772,790	5.40%	3,705,762	0.82%
2002	4,067,815	7.82%	3,940,649	6.34%
2003	3,901,075	-4.10%	3,963,226	0.57%
2004	3,935,370	0.88%	4,003,066	1.01%
2005	4,234,272	7.60%	4,011,685	-0.04%
2006	4,100,456	-3.16%	4,028,646	0.42%
<b>AVE</b>	<b>3,784,107</b>	<b>2.74%</b>	<b>3,755,237</b>	<b>2.20%</b>

### ***Historical Peak Demand 1997-2006***

Peak demand is more heavily influenced by weather than energy and therefore shows a greater degree of variability. Enersource Hydro Mississauga is a summer peaking utility, with the continuing reduction of electric heat load and growth in cooling load translating to a system with seasonal peaks growing at different rates. Influencing separate seasonal peak demand is the different systems response to weather conditions, in general the system is more sensitive to hot weather conditions but the load is more consistent in the winter season. Average annual growth from 1999-2006 was 3.05%. Table 3: Monthly Demand Peaks (MW) 1999-2000 document the monthly peaks and annual growth rate.

**Table 3: Monthly Demand Peaks (MW) 1999-2006**

Monthly Peaks (MW)								
Month	1999	2000	2001	2002	2003	2004	2005	2006
January	1,042	1,074	1,091	1,088	1,185	1,215	1,226	1,166
February	980	1,034	1,060	1,115	1,164	1,149	1,151	1,154
March	941	965	1,044	1,077	1,143	1,120	1,139	1,119
April	890	952	970	1,108	1,071	1,064	1,050	1,047
May	1,032	1,129	1,105	1,130	1,055	1,173	1,081	1,505
June	1,259	1,218	1,373	1,402	<b>1,505</b>	1,408	1,539	1,415
July	<b>1,344</b>	1,186	1,373	<b>1,509</b>	1,400	<b>1,427</b>	<b>1,570</b>	1,580
August	1,163	1,300	<b>1,477</b>	1,493	1,416	1,379	1,510	<b>1,610</b>
September	1,157	<b>1,305</b>	1,189	1,474	1,164	1,250	1,360	1,191
October	926	986	1,045	1,221	1,062	1,095	1,197	1,079
November	1,008	1,082	1,062	1,117	1,117	1,141	1,163	1,134
December	1,088	1,124	1,090	1,185	1,165	1,241	1,216	1,200
<b>Annual Peak</b>	<b>1,344</b>	<b>1,305</b>	<b>1,477</b>	<b>1,509</b>	<b>1,505</b>	<b>1,427</b>	<b>1,570</b>	<b>1,610</b>
<b>Growth</b>	<b>4.76%</b>	<b>-2.87%</b>	<b>13.16%</b>	<b>2.20%</b>	<b>-0.26%</b>	<b>-5.22%</b>	<b>10.03%</b>	<b>2.56%</b>



**Figure 3: Monthly Energy Demand Peaks (1997-2006)**

Figure 3: Monthly Energy Demand Peaks (1997-2006) illustrates that EHM is a summer peaking utility; furthermore the rate of the summer peak growth is greater than the rate of the winter peak. This is explained by the increased response of the system during hotter days as indicated and discussed below in Figure 5: Scatter Plot Daily Peaks vs. Average Temp 1996-2006.

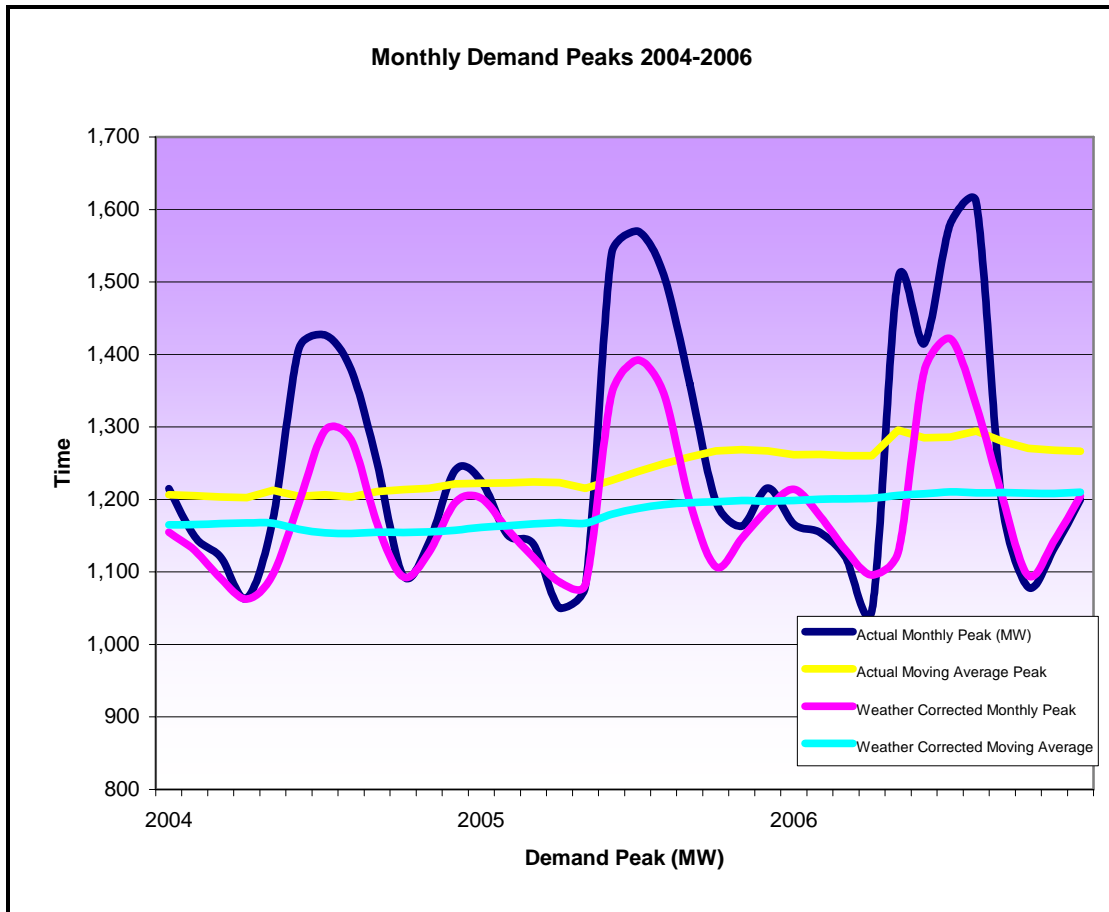
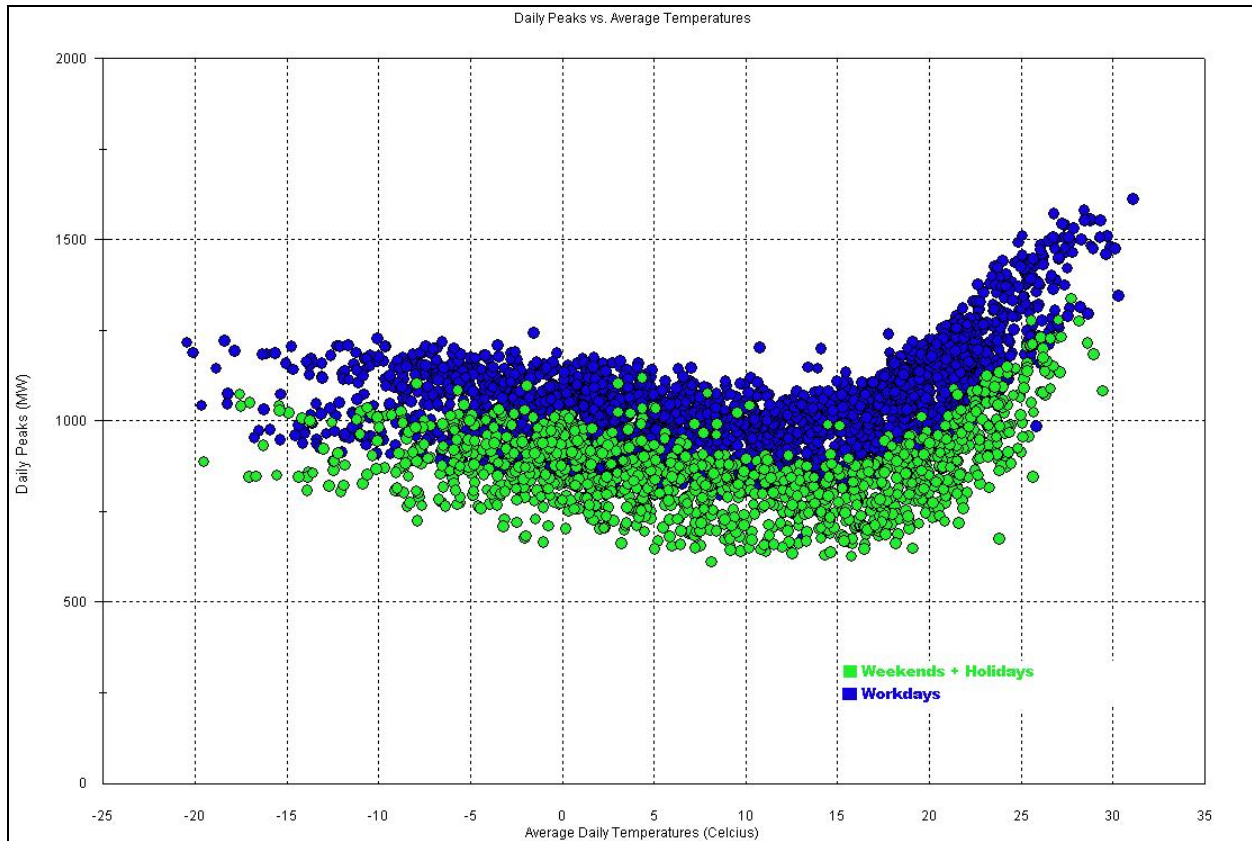


Figure 4: Monthly Demand Peaks 2004 - 2006

A closer investigation of the peaks from 2004 to 2006 as demonstrated in Figure 4 presents several intriguing characteristics of the EHM system load. For one, EHM experienced an all-time peak demand of 1,610 MW in the summer of 2006 due to extreme weather, the impact of which flowed over into the shoulder months of September and October of that year. Secondly, EHM was on pace to match and surmount the peak from 2002 in the summer of 2003 until the August 2003 blackout. Thirdly, of importance was the prolonged winter in 2003, which is consistent with the decreasing length of the shoulder period months. The consequence of the decreasing shoulder time is a move towards two prominent seasons: winter and summer, with decreased length of spring and fall. It is important to note that shoulder months have reduced energy usage and peak demand compared to the summer and winter months.





**Figure 5: Scatter Plot Daily Peaks vs. Average Temp 1996-2006**

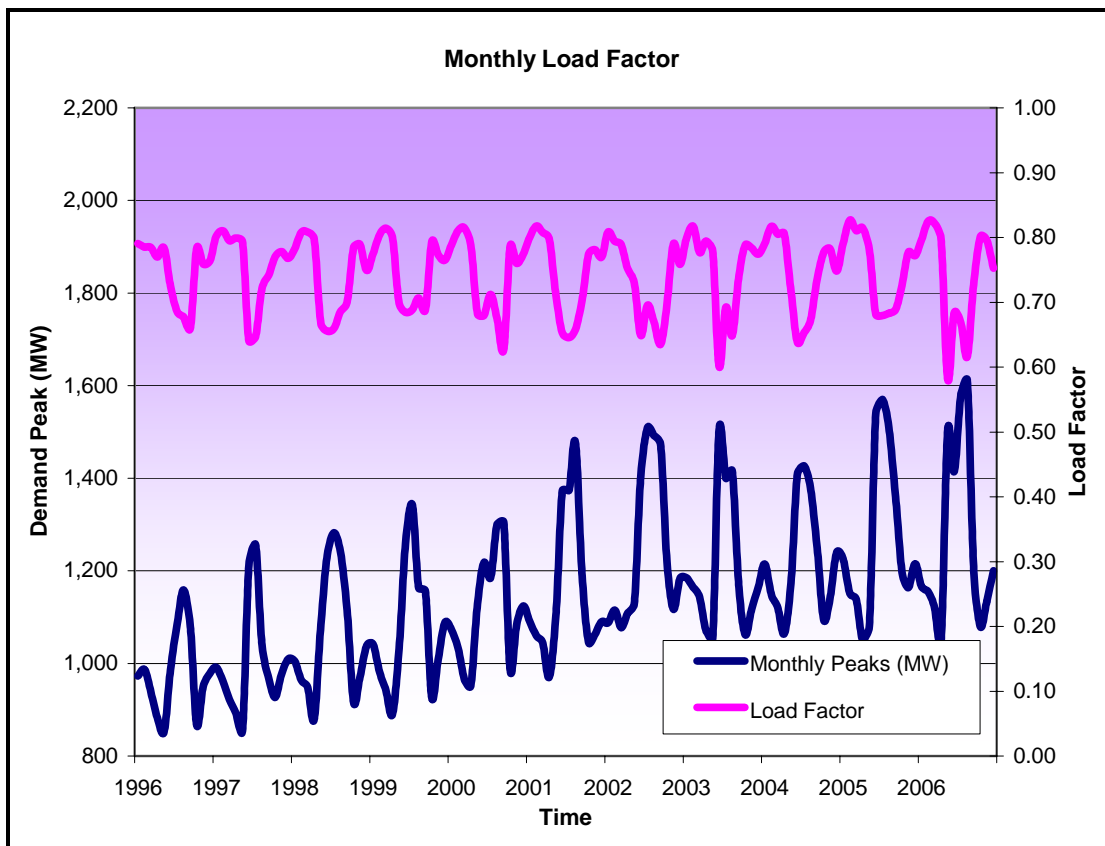
Figure 5: Scatter Plot Daily Peaks vs. Average Temp 1996-2006 illustrates the relationship between daily peaks to daily average temperatures. Of importance is the separation of the workdays from weekdays and holidays and the maximum weather responses. On the coldest days (left side of scatter plot), the system saturates at 1,250 MW with little or no increase in peak lower than -10 °C. On the opposite scale, the system load during the hottest days of average temperatures greater than +20 °C an increase demand of +40 MW per 1 °C. Comparing the peaks of the coldest weather to the system peaks during the hottest weather generates a greater cooling peak that is greater by 250 MW. This difference is attributed to the sizeable and immediate response of cooling load during a heat wave.

### Monthly Load Factor 1997-2006

The load factor is the ratio of the average demand to the peak demand. The average load is the total energy used during the month divided by the number of hours in the month. The load factor provides an indication of the efficiency of the system. The range of the load factor is from 0 to 1, the lower the factor the less efficient the system. Consistent with the rapid growth of the summer peak rate, the load factor is at a minimum during the summer months. In May 2006, EHM experienced an all time low load factor of 0.58. A low load factor suggests opportunity for conservation and peak shaving.

**Table 4: Monthly Load Factor 1997-2006**

Month	1998	1999	2000	2001	2002	2003	2004	2005	2006
January	0.8	0.78	0.77	0.79	0.8	0.81	0.8	0.79	0.80
February	0.81	0.81	0.8	0.81	0.82	0.79	0.82	0.83	0.83
March	0.8	0.81	0.81	0.81	0.81	0.79	0.78	0.81	0.82
April	0.8	0.8	0.8	0.79	0.8	0.75	0.79	0.81	0.80
May	0.79	0.67	0.7	0.68	0.71	0.73	0.78	0.78	0.58
June	0.64	0.66	0.68	0.68	0.65	0.65	0.6	0.68	0.68
July	0.65	0.66	0.69	0.71	0.65	0.7	0.69	0.68	0.67
August	0.72	0.69	0.71	0.67	0.66	0.67	0.65	0.68	0.62
September	0.74	0.7	0.69	0.63	0.7	0.63	0.74	0.69	0.73
October	0.77	0.78	0.79	0.79	0.77	0.7	0.79	0.73	0.80
November	0.78	0.79	0.77	0.76	0.78	0.79	0.78	0.78	0.80
December	0.77	0.75	0.76	0.77	0.77	0.76	0.77	0.77	0.75
<b>Min</b>	<b>0.64</b>	<b>0.66</b>	<b>0.68</b>	<b>0.63</b>	<b>0.65</b>	<b>0.63</b>	<b>0.6</b>	<b>0.68</b>	<b>0.58</b>
<b>Max</b>	<b>0.81</b>	<b>0.81</b>	<b>0.81</b>	<b>0.81</b>	<b>0.82</b>	<b>0.81</b>	<b>0.82</b>	<b>0.83</b>	<b>0.83</b>



**Figure 6: Monthly Load Factor 1996-2006**

### 3. Updates from Previous Outlook - Backcast

Inherent to every forecast are three types of error: measurement error, weather error and model error. Measurement error results from data management and meter reading errors, measurement error is minimized by validating model input data. Model error results from the statistical modeling process. Weather error results from use of incorrect weather forecast scenario; this is the most likely source of error of forecasted values. By removing the weather error from the comparison, we are able to isolate the model error and evaluate the accuracy of the model. To isolate the model error, this report provides a 'backcast', which removes the influence of weather by completing a model run using the actual weather. Thus, an accurate model run on actual data produces low % error. For the year 2006, the short term modeling error is evaluated to be 0.4%.

$$Error_t = \frac{|Actual_t - Forecast_t|}{Actual_t}$$

Month	Actual Energy (MWh) + Emb.Gen.	Original Forecast (12/19/05)	Backcast (01/29/07)	Updated Backcast (06/14/05)	Absolute Percent Difference
Jan 2006	691,202	727,864	694,288	694,288	0.4%
Feb 2006	640,334	653,568	642,907	642,907	0.4%
Mar 2006	684,468	697,484	686,280	686,280	0.3%
Apr 2006	600,552	627,393	607,296	607,296	1.1%
May 2006	650,068	650,074	653,539	653,539	0.5%
Jun 2006	696,319	675,351	699,840	699,840	0.5%
Jul 2006	784,045	733,847	779,985	779,985	0.5%
Aug 2006	738,473	720,626	742,040	742,040	0.5%
Sep 2006	635,356	647,567	636,483	636,483	0.2%
Oct 2006	643,460	658,296	647,541	647,541	0.6%
Nov 2006	649,601	671,568	653,759	653,759	0.6%
Dec 2006	671,816	711,464	676,372	676,372	0.7%
<b>Total 2006</b>	<b>8,085,693</b>	<b>8,175,104</b>	<b>8,120,330</b>	<b>8,120,330</b>	<b>0.4%</b>

Month	Actual Energy (MWh) + Emb.Gen.	Original Forecast (08/31/06)	Backcast (04/15/07)	Updated Backcast (05/16/07)	Absolute Percent Difference
Jan 2007	710,722	739,010	713,368	713,368	0.4%
Feb 2007	669,216	661,762	669,888	669,888	0.1%
Mar 2007	683,985	703,626	690,030	690,030	0.9%
Apr 2007	630,841	637,217	637,217	634,480	0.6%
May 2007		659,165	659,165	659,165	
Jun 2007		680,528	680,528	680,528	
Jul 2007		747,023	747,023	747,023	
Aug 2007		730,082	730,082	730,082	
Sep 2007		653,015	653,015	653,015	
Oct 2007		671,725	671,725	671,725	
Nov 2007		680,434	680,434	680,434	
Dec 2007		717,789	717,789	717,789	
<b>Total 2007</b>	<b>8,265,006</b>	<b>8,281,376</b>	<b>8,251,157</b>	<b>8,247,482</b>	<b>0.6%</b>

## 4. Demand Forecast Methodology

### Demand Forecasting System

The Enersource Hydro Mississauga demand is the sum of coincident loads plus the losses on the EHM sub-transmission and distribution grid. EHM uses the MetrixND load forecasting software to develop forecast models for peak demand and energy. The system uses econometric equations to estimate the relationships between energy and peak demand and a number of analytical factors or drivers. The drivers that the system includes are weather effects, economic data and calendar variables. Using regression techniques, the model estimates the relationship between these drivers and energy and peak demand.

For the purpose of this analysis, two weather scenarios are used: normal weather and extreme weather scenarios. The base case energy forecast is used with the City of Mississauga economic forecast in conjunction with Normal weather. The base case peak demand forecast is used with the City of Mississauga economic forecast in conjunction with extreme weather.

### Demand Forecast Drivers

Consumption of energy is modeled using three sets of forecast drivers: calendar variables, weather effects and economic conditions. Each of these drivers is embedded in the forecasting system (MetrixND) and each plays a role in shaping the results.

### **Calendar Drivers**

Calendar variables include the days of the week and holidays, both of which impact energy consumption. Generally, electric consumption is higher during the week than that of weekends. There is a pattern determined by the specific day of the workweek with Sundays being treated as a reference since usage is the lowest compared to the rest of the week. Holidays act similar to weekends, in that the energy consumption is lower on holidays. The reason for this relationship is that industrial and commercial loads are lower on holidays and weekends as fewer facilities are open and operating.

One improvement to the short term forecast was the differentiation of retail holidays from non-retail holidays. Holidays where retail business was legally closed were grouped into one class and separated from holidays where retail business remained opened.

The hours of daylight are also important factors in shaping peak demand. For example, after the sun has set, electricity demand is higher due to the need for electric lighting. This is particularly important during the winter months, when the sunset coincides with increased load associated with cooking, lighting and return home activities.

### **Weather Drivers**

Since forecasting weather with confidence is not possible, weather scenarios are generated based on historical data. For the purposes of assessing the adequacy of the system, EHM Load Forecasting uses daily normalized for two weather scenarios – Normal and Extreme.

Weather effects include the measure of temperature and dew point. Both energy and peak demand are weather sensitive. The length and severity of a season's weather affects the overall peak demand. Consistent weather buildup, especially during the summer months, usually leads to extreme energy consumption.

An improvement of the short term forecast was building models using hourly data as opposed to daily data as used in long term forecasts. Furthermore, hourly data was grouped into morning, afternoon, evening and nighttime for workdays as well as weekend providing the model with increased granularity to correctly model the impact of weather.

### **Economic Drivers**

To produce an energy and peak demand forecast, an economic forecast of various drivers is required. Employment data used in EHM Load Forecasting is derived from the City of Mississauga Employment Database and 2004 City of Mississauga Employment Survey. Employment is broken down into three subclasses: i) Land Related, ii) Population Related and iii) Office. Land related employment refers to business such as manufacturing, wholesale trade, warehousing. Population related employment refers to services provided to the population of Mississauga such as schools, hospitals and food services. Office related employment refers to larger business with office space surpassing 20,000 square feet. As the city's green space reduces, land availability for land related employment becomes scarce. Compounded with increasing value of property and taxes, land related employment is no longer growing as manufacturing as manufacturing businesses choose to build outside of Mississauga.

From 2007 to 2009, the population of Mississauga is expected to grow an average of 0.8% per year. This growth is closely matched with employment growth in the population related employment. Compounded with Mississauga's aging population which places a higher demand on services, population related employment is expected to grow an average of 1.24% per year.

Increasing taxes in the Toronto's downtown core and taking into account Mississauga's close proximity to the 6 major highways and well educated population, many large corporations are now selecting Mississauga as the location of their head offices for Canada. Growth in regions such as the Airport Corporate Centre (Dixie & Eglinton) and Meadowvale Business Park (Mississauga Road & 401) are adding to annual average growth of 3.2% for office employment.

The City of Mississauga has two major green spaces available for residential expansion development, Churchill Meadows and Meadowvale. Future growth of Mississauga will be constrained by dwindling supply of land. As construction on green space completes, Mississauga's growth will shift from expansion to intensification and redevelopment. Intensification growth such as construction of condominiums in the City Centre area and redevelopment growth such as Port Credit contribute to the growth of apartment and town units and reduced growth of detached homes.

## **5.0 Energy Usage & Peak Demand Short Term Forecast**

The short term load forecast is presented in two parts, energy usage forecast and the peak demand forecast. This section provides information on the total EHM system load.

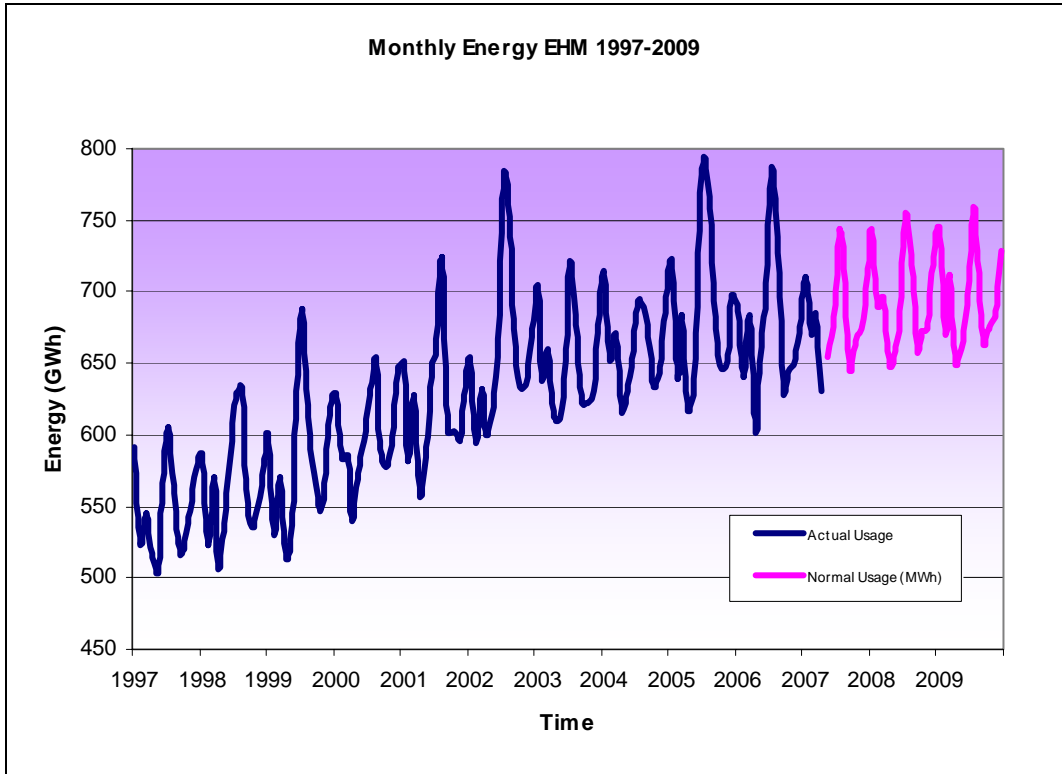
## **Energy Usage Forecast – March 2005 to December 2007**

The predicted monthly system energy usage is contained in Table 5. These tables contain the forecast of energy usage under Normal and Extreme weather scenarios. Economic growth and cooling loads are driving energy demand. It is noticeable for the Normal weather scenario that the forecasted energy demand is significantly lower than the Extreme weather scenarios.

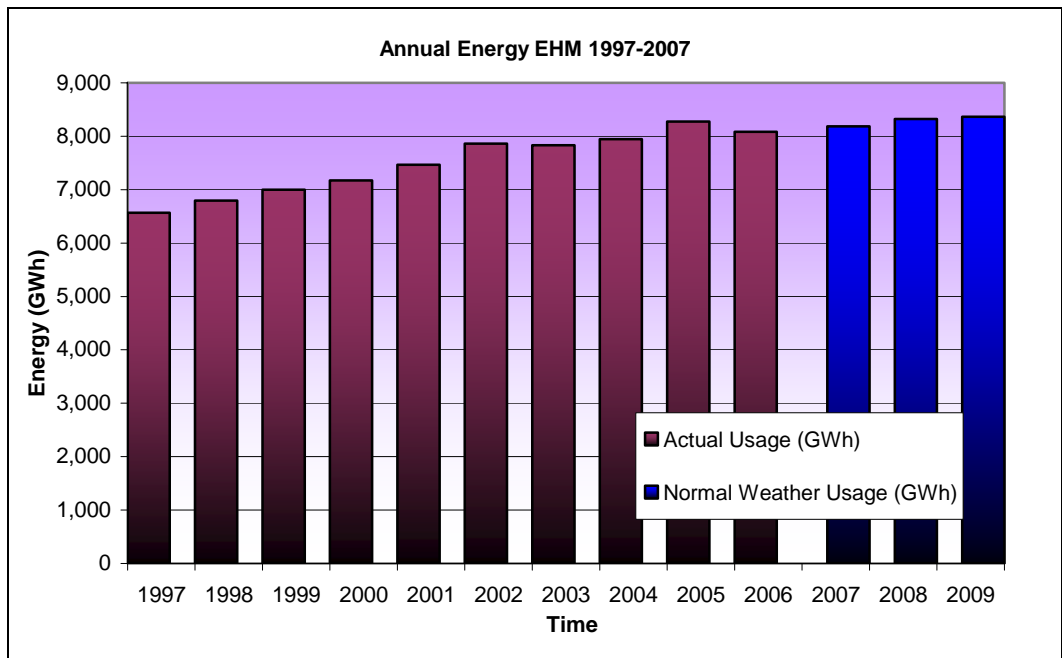
Statistically, the considerable improvements were made in short term model compared to the long term model. Significantly, inputs into the short term forecasts provide more accuracy and greater confidence compared to long term average growth trends used in the long term forecast. The short term energy model used contains regression statistics of adjusted R-squared of 0.974 and Mean Absolute % Error (MAPE) of 1.50%. Short term model statistics are lower to the long term model adjusted R-squared value of 0.929 and Mean Absolute % Error (MAPE) value of 2.63%. The industry standard short term forecast MAPE percent of  $\pm 4\%$  was easily met by the short term forecast model.

**Table 5: Forecasted Monthly Energy Usage - Normal Weather**

Monthly Energy (MWh) Normal Weather			
Month	2007	2008	2009
January	710,693	743,340	743,410
February	669,195	689,192	670,378
March	683,992	696,623	711,465
April	630,838	648,598	649,987
May	654,424	658,467	660,657
June	675,982	679,732	691,085
July	742,332	753,380	758,593
August	723,439	725,365	728,650
September	645,955	659,036	664,272
October	665,464	672,357	674,940
November	674,176	674,504	682,427
December	711,355	724,195	728,821
<b>Annual Total</b>	<b>8,187,845</b>	<b>8,324,789</b>	<b>8,364,685</b>
<b>Annual Growth</b>	<b>1.32%</b>	<b>1.67%</b>	<b>0.48%</b>



**Figure 7: Monthly Energy - Actual and Forecasted 1997-2009**



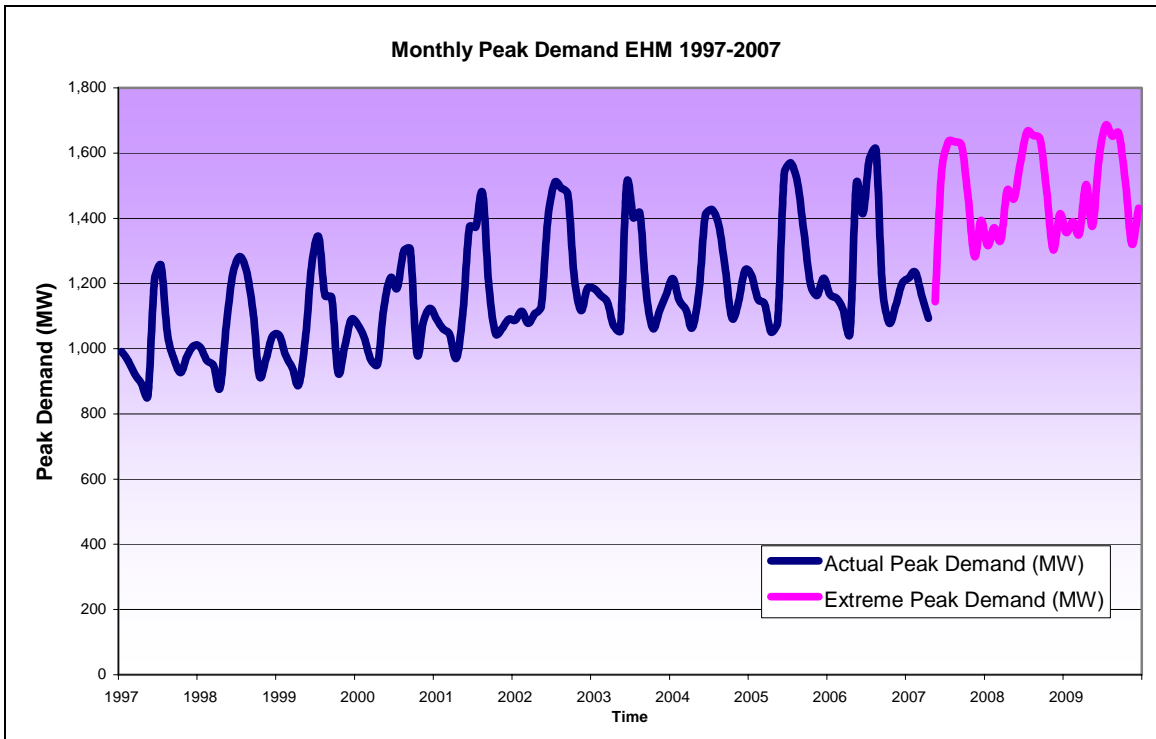
**Figure 8: Annual Energy Actual & Forecasted 1997-2009**



### ***Peak Demand Forecast – May 2007 to December 2009***

The main aspect of the peak demand is the difference in the growth of the winter and summer peaks as cooling loads grow

<b>Monthly Peak Demand (MW) Extreme Weather</b>			
<b>Month</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
January	1,217	1,316	1,356
February	1,235	1,371	1,390
March	1,160	1,333	1,352
April	1,093	1,486	1,504
May	1,144	1,459	1,376
June	1,543	1,568	1,587
July	<b>1,635</b>	<b>1,666</b>	<b>1,685</b>
August	1,634	1,654	1,652
September	1,625	1,644	1,662
October	1,473	1,492	1,511
November	1,283	1,303	1,321
December	1,394	1,413	1,431
<b>Annual Peak</b>	<b>1,635</b>	<b>1,666</b>	<b>1,685</b>
<b>Annual Growth</b>	<b>1.55%</b>	<b>1.90%</b>	<b>1.14%</b>



## 6.0 Conclusion

The growth in energy and peak demand is a function of weather and economic growth. Two weather scenarios were used in the load forecast analysis. Normal weather, which is the average temperature over a 35-year period, and Extreme weather, which is maximum (summer) and minimum (winter) temperatures registered over a 35-year period. As part of the regression analysis, time trend variables were also used in the model to take into account historical trend in energy usage. For revenue planning process, the forecasted growth in energy usage in monthly and annual formats is derived using the Normal weather scenario. Statistically, normal weather occurs within 80-90% of the time during the year and thus provides a base forecast with confidence.

For system planning and expansion process, the load forecast results based on the Extreme weather scenario is used as the basis to develop strategies for the expansion of the EHM distribution network in the least cost approach. The reason that extreme weather is used in the demand peak forecast results from the logic that peak demand occurs over a short time period (hours) and statistically, the likelihood of short extreme weather conditions occurring during the year is high.

Forecasted results for energy usage indicate an average annual growth rate of 1.16% from 2007 and 2009. This growth rate indicates that during the next two years, Mississauga will transition from growth at present rates as the city is completing construction on the existing available green spaces. Towards the middle of the forecast, the city will transition from expansion growth into intensification and redevelopment growth. The peak demand will experience an average annual growth rate of 1.53% over the forecast period.

In summary, the availability of land supply, which drives economic and housing development, is the major determining factor that drives growth in energy usage and peak demand. The short term load forecast clearly shows the subtle transition the city growth from expansion to intensification and redevelopment, which takes longer and produces housing units characterized as less energy consuming.

For revenue planning process, the growth in energy usage is derived from monthly and annual forecasted values derived from the Normal weather scenario. Energy usage is expected to grow at an average rate of 1.16% from 2007 to 2009. This represents a 284 GWh increase in energy usage since 2006. For system expansion process, the short term load forecast results using the Extreme weather scenario would be used as the basis to develop strategies to expand the EHM distribution network at least cost. The load forecast results show a peak demand of 1,685 MW expected in July 2009, this represents a 75 MW increase in peak demand from 2006.

## Appendix A

Trading Month	Actual Energy (MWh)	Weather Corrected Energy (MWh)	Weather Correction (MWh)	Actual Peak (MW)	Weather Corrected Peak (MW)	Weather Correction (MW)
Jan-1997	591,610	590,006	-1,604	992	991.75	-0.25
Feb-1997	523,702	527,801	4,100	962	956.34	-5.66
Mar-1997	545,585	542,230	-3,355	922	910.93	-11.07
Apr-1997	513,752	508,989	-4,764	893	896.34	3.34
May-1997	504,262	507,362	3,100	854	940.13	86.13
Jun-1997	558,780	528,907	-29,872	1,211	1,141.18	-69.82
Jul-1997	604,731	599,456	-5,275	1,256	1,184.47	-71.53
Aug-1997	558,571	575,001	16,430	1,041	1,127.03	86.03
Sep-1997	516,623	515,330	-1,293	968	983.70	15.7
Oct-1997	530,956	524,094	-6,862	927	959.10	32.1
Nov-1997	547,008	538,899	-8,108	976	974.73	-1.27
Dec-1997	576,496	581,483	4,987	1,009	1,017.23	8.23
Jan-1998	585,118	600,767	15,649	1,005	1,008.88	3.88
Feb-1998	523,095	538,760	15,665	964	966.00	2
Mar-1998	570,073	572,179	2,106	948	951.39	3.39
Apr-1998	505,489	512,983	7,495	880	917.98	37.98
May-1998	537,853	518,021	-19,832	1,084	936.97	-147.03
Jun-1998	582,393	552,061	-30,331	1,234	1,038.81	-195.19
Jul-1998	629,387	615,393	-13,994	1,283	1,169.64	-113.36
Aug-1998	633,247	596,845	-36,402	1,242	1,111.96	-130.04
Sep-1998	562,308	534,713	-27,595	1,116	1,001.02	-114.98
Oct-1998	534,822	538,805	3,983	917	978.76	61.76
Nov-1998	551,434	554,989	3,555	970	976.08	6.08
Dec-1998	578,814	592,818	14,004	1,039	1,043.45	4.45
Jan-1999	600,424	606,536	6,113	1,042	1,029.05	-12.95
Feb-1999	529,880	545,959	16,079	980	999.95	19.95
Mar-1999	570,446	579,987	9,541	941	959.91	18.91
Apr-1999	512,921	524,160	11,240	890	951.10	61.1
May-1999	536,202	529,427	-6,775	1,032	971.83	-60.17
Jun-1999	620,353	572,299	-48,054	1,259	1,091.43	-167.57
Jul-1999	687,947	619,945	-68,002	1,344	1,129.94	-214.06
Aug-1999	611,838	608,828	-3,010	1,163	1,102.77	-60.23
Sep-1999	573,254	547,666	-25,588	1,157	999.46	-157.54
Oct-1999	547,026	548,861	1,835	926	957.22	31.22
Nov-1999	561,078	569,948	8,870	1,008	1,011.63	3.63
Dec-1999	619,204	617,121	-2,083	1,088	1,058.42	-29.58
Jan-2000	629,285	632,324	3,039	1,074	1,078.52	4.52
Feb-2000	583,255	590,826	7,571	1,034	1,036.10	2.1
Mar-2000	585,126	602,215	17,089	965	1,002.96	37.96
Apr-2000	540,107	539,457	-650	952	974.98	22.98
May-2000	572,602	559,734	-12,868	1,129	1,002.28	-126.72
Jun-2000	595,751	589,098	-6,653	1,218	1,226.63	8.63
Jul-2000	628,485	647,989	19,504	1,186	1,273.56	87.56
Aug-2000	652,999	635,220	-17,780	1,300	1,176.54	-123.46
Sep-2000	589,437	568,356	-21,081	1,305	1,094.94	-210.06
Oct-2000	576,968	576,146	-822	986	1,010.56	24.56
Nov-2000	592,190	589,548	-2,642	1,082	1,039.31	-42.69
Dec-2000	647,661	626,671	-20,990	1,124	1,098.32	-25.68
Jan-2001	649,509	657,965	8,456	1,091	1,115.88	24.88
Feb-2001	582,294	586,496	4,201	1,060	1,066.73	6.73
Mar-2001	627,174	625,154	-2,020	1,044	1,025.30	-18.7
Apr-2001	557,728	560,575	2,847	970	1,001.86	31.86

Trading Month	Actual Energy (MWh)	Weather Corrected Energy (MWh)	Weather Correction (MWh)	Actual Peak (MW)	Weather Corrected Peak (MW)	Weather Correction (MW)
May-2001	584,419	580,656	-3,763	1,105	1,058.03	-46.97
Jun-2001	645,564	609,339	-36,225	1,373	1,277.60	-95.4
Jul-2001	659,492	662,802	3,309	1,373	1,295.85	-77.15
Aug-2001	722,902	659,988	-62,914	1,477	1,231.79	-245.21
Sep-2001	602,684	584,047	-18,637	1,189	1,122.78	-66.22
Oct-2001	602,304	600,165	-2,138	1,045	1,012.40	-32.6
Nov-2001	597,480	611,197	13,717	1,062	1,082.81	20.81
Dec-2001	624,215	644,378	20,163	1,090	1,128.32	38.32
Jan-2002	654,337	679,473	25,136	1,088	1,148.05	60.05
Feb-2002	594,862	607,992	13,130	1,115	1,105.26	-9.74
Mar-2002	632,565	638,560	5,995	1,077	1,056.27	-20.73
Apr-2002	599,937	590,917	-9,020	1,108	1,044.72	-63.28
May-2002	613,199	605,904	-7,295	1,130	1,071.26	-58.74
Jun-2002	654,990	627,324	-27,666	1,402	1,297.12	-104.88
Jul-2002	781,059	703,735	-77,324	1,509	1,339.59	-169.41
Aug-2002	745,061	684,396	-60,665	1,493	1,257.97	-235.03
Sep-2002	673,569	611,588	-61,981	1,474	1,143.51	-330.49
Oct-2002	632,948	620,559	-12,389	1,221	1,043.85	-177.15
Nov-2002	635,185	629,365	-5,820	1,117	1,105.26	-11.74
Dec-2002	668,269	668,534	264	1,185	1,153.44	-31.56
Jan-2003	704,264	698,462	-5,802	1,185	1,154.47	-30.53
Feb-2003	639,371	628,694	-10,677	1,164	1,125.33	-38.67
Mar-2003	660,612	660,134	-478	1,143	1,072.71	-70.29
Apr-2003	612,394	604,123	-8,271	1,071	1,052.07	-18.93
May-2003	611,207	616,952	5,745	1,055	1,100.94	45.94
Jun-2003	651,350	638,882	-12,468	1,505	1,296.12	-208.88
Jul-2003	721,223	707,202	-14,021	1,400	1,356.95	-43.05
Aug-2003	683,386	683,386	0	1,416	1,294.35	-121.65
Sep-2003	621,515	612,468	-9,047	1,164	1,144.62	-19.38
Oct-2003	622,719	623,829	1,110	1,062	1,094.90	32.9
Nov-2003	630,346	635,281	4,935	1,117	1,117.82	0.82
Dec-2003	670,992	681,827	10,835	1,165	1,168.85	3.85
Jan-2004	714,721	704,065	-10,656	1,215	1,154.92	-60.08
Feb-2004	653,440	657,097	3,658	1,149	1,129.70	-19.3
Mar-2004	671,008	677,347	6,339	1,120	1,090.95	-29.05
Apr-2004	617,241	616,539	-702	1,064	1,062.58	-1.42
May-2004	626,305	622,928	-3,377	1,173	1,097.23	-75.77
Jun-2004	647,295	652,357	5,061	1,408	1,195.32	-212.68
Jul-2004	693,708	711,214	17,507	1,427	1,295.59	-131.41
Aug-2004	689,041	693,365	4,324	1,379	1,282.52	-96.48
Sep-2004	661,780	642,474	-19,306	1,250	1,165.83	-84.17
Oct-2004	632,872	636,362	3,490	1,095	1,093.64	-1.36
Nov-2004	642,602	650,927	8,325	1,141	1,127.05	-13.95
Dec-2004	690,656	692,021	1,365	1,241	1,195.72	-45.28



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# **EHM Demand Forecast Report**

**2007-2031**

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SYSTEM PLANNING DEPARTMENT

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April 19, 2007

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## 1. Executive Summary

Peak demand has averaged an annual compounded growth of 4.62% over the 2000 to 2006 time frame. Demand growth is a function of the level of weather factors, economic activity, the rate of population growth and the increase in the number of housing units. The City of Mississauga economy has expanded consistently since the year 2000, with the population growing by 40,000 people, also nearly 55,000 new jobs were added and more than 20,000 housing units built.

The forecasting system adapted uses econometric equations to estimate the relationships between peak demand and a number of analytical factors or drivers. The drivers that the system includes are weather effects, economic data, calendar variables, and demand response programs. Using regression techniques, the model estimates the relationship between these drivers and peak demand.

For the purpose of this analysis the weather is not forecasted but instead two scenarios are considered. Normal weather and extreme weather are used to forecast peak demand. The normal weather is the average temperature values of a 35-year history (1972-2006). For the Extreme weather scenario, the historical data used was from the year 2002 which was ranked as one of the highest extreme weather years in history.

Normal weather forecasted (see Table 1) results for peak demand show an average annual growth rate of 0.5%. This low growth rate indicates the effect of normal temperatures and the eventual maturing of the City of Mississauga in the next 25 years. As the City of Mississauga makes the transition from a fast growing municipality to a mature urban community, the rate of growth of peak demand will decline steadily over the forecasted period.

Forecasted Annual Peak Demand (MW)								
2007	2008	2009	2010	2011	2016	2021	2026	2031
1512	1531	1549	1567	1582	1631	1660	1681	1699
-6.09 %	1.26 %	1.18 %	1.16 %	0.96 %	3.10 %	1.78 %	1.27 %	1.07 %

*Table 1 – Forecasted Annual Peak Demand (Normal Weather)*

For system expansion process, the load forecast results using the extreme weather scenario would be used as the basis to develop strategies to expand the EHM distribution network at the least cost. The reason being is that peak demand occurs over a short time period (hours) and statistically, the likelihood of short extreme weather conditions occurring during the year is high. Table 2 shows the 25 year forecasted annual peak demand for extreme weather temperatures..

Forecasted Annual Peak Demand (MW)								
2007	2008	2009	2010	2011	2016	2021	2026	2031
1635	1666	1685	1703	1717	1766	1795	1816	1834
1.55 %	1.90 %	1.14 %	1.07 %	0.82 %	2.85 %	1.64 %	1.17 %	0.99 %

*Table 2 – Forecasted Annual Peak Demand (Extreme Weather)*

The accuracy of the regression model was analyzed by comparing predicted monthly peak demand values to actual peak values for 2005. Table 3 shows actual monthly peak versus predicted peak. The overall year variance in actual peak demand compared to forecasted values is -0.24%.

2005 Actual vs Predicted Peak Demand			
Month	Actual	Predicted	Variance
January	1,319	1,267	-3.94%
February	1,161	1,183	1.94%
March	1,167	1,147	-1.75%
April	1,050	1,082	3.07%
May	1,076	1,108	2.97%
June	1,515	1,478	-2.43%
July	1,570	1,560	-0.60%
August	1,542	1,519	-1.54%
September	1,381	1,357	-1.69%
October	1,217	1,224	0.59%
November	1,133	1,176	3.83%
December	1,210	1,202	-0.67%

*Table 3 – Actual vs Predicted 2005 Monthly Peak*

In summary, the City of Mississauga in the next 5 years will have their availability of land supply evaporate. However, modest growth will be maintained as re-development in the City will continue with high density housing being the major economic factor that drives growth in peak demand. The overall load forecast clearly shows the steady decline in load growth for the next 25 years. Also, historical weather data revealed a recurrence in the pattern of temperature, the extreme summer temperatures occur once every three years. Each extreme occurrence is then followed by an above average summer the following year and then a very mild summer in the third year of the cycle. If this pattern holds true, then it is very likely that 2007 could well be a very mild summer followed by perhaps an extremely hot summer in 2008.

## 2. Historical Data

### 2.1. Historical Demand (2000 – 2006)

This section looks at recent historical peak demand; peak demand represents the maximum requirement for electricity over an hour.

### 2.2. Historical Peak Demand

As seen in Table 4, the average compounded growth rate for peak demand between 2000 and 2006 was 4.62%.

Annual Peak Demand 2000-2006 (MW)						
2000	2001	2002	2003	2004	2005	2006
1226	1358	1509	1505	1427	1570	1610

Table 4 – Actual Annual Peak Demand 2000-2006

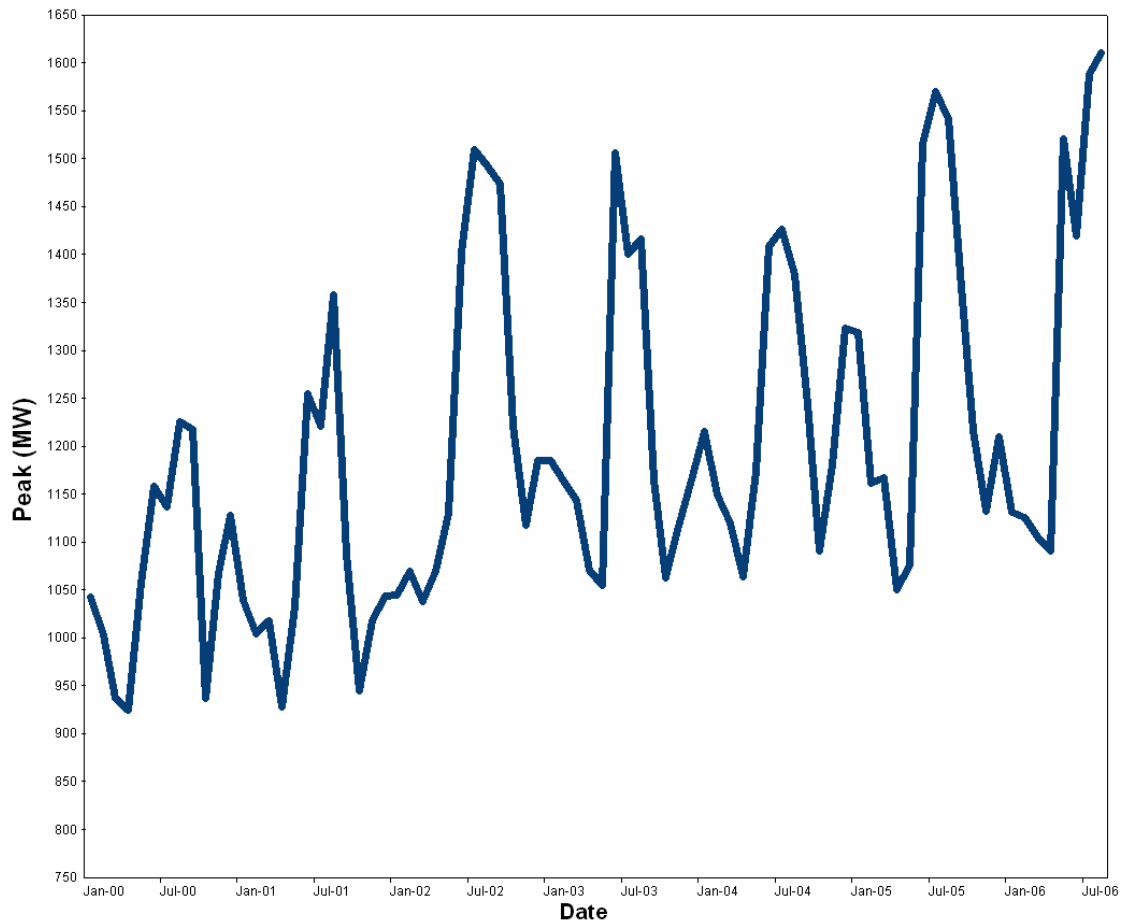


Figure 1 – 2000 to 2006 Monthly Peaks (MW)

Analyzing the weather data from 1996 to 2005 revealed a recurrence in the pattern of temperature, as seen in Figure 2, the extreme summer temperatures occur once every three years. Each extreme occurrence is then followed by an above average summer the following year and then a very mild summer in the third year of the cycle. If this pattern holds true, then 2007 could well be a very mild summer followed by perhaps an extremely hot summer in 2008.

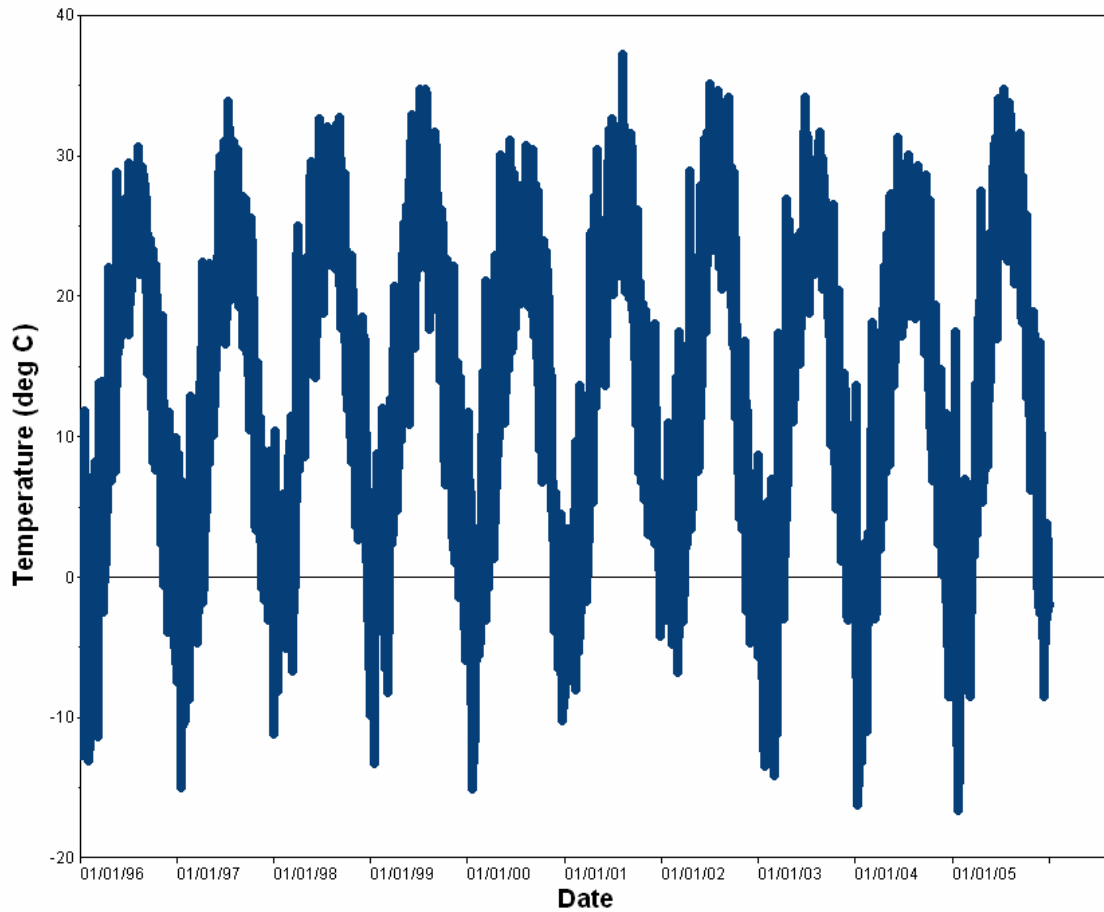


Figure 2 – 1996 to 2005 Maximum Daily Temperatures

### 3. Factors Affecting Peak Demand

#### 3.1. Demand Forecast Drivers

Peak demand is modeled using four sets of forecast drivers: calendar, weather effects, economic conditions and demand response. Each of these drivers is embedded in the forecasting system (MetrixND) and each plays a role in shaping the results.

#### 3.2. Calendar Drivers

Calendar variables include the days of the week and holidays, both of which impact peak demand. Generally, electric consumption is higher during the week than on weekends and there is a pattern determined by the specific day of the work week. Holidays act similar to weekends, in that the energy consumption is lower on holidays. The reason for this relationship is that industrial and commercial loads are lower on holidays and weekends as fewer facilities are open and operating. Figure 3 is a scatter plot of daily peak vs. temperature; it clearly illustrates the difference in peak demand between holidays, weekend and weekday.

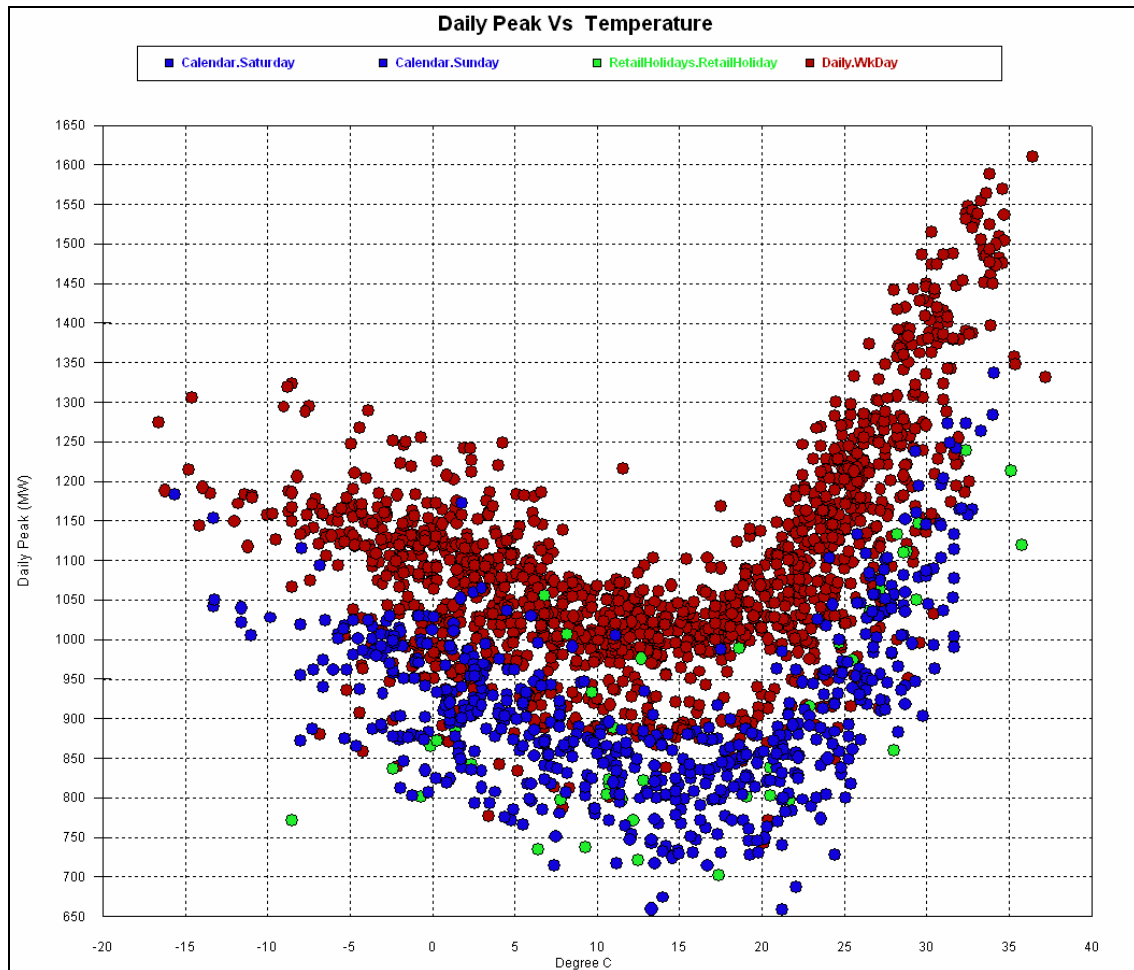


Figure 3 –Scatter Plot: 2001-2006 Day of Week, Weekend & Holiday Peak Loads

The calendar drivers are modeled as separate variables in MetrixND, their impact on Peak Demand is shown in Table 5.

Calendar Affects on Peak Demand			
MetrixND Variable Class	Variable	Change in Variable	Impact on Peak Demand (MW)
Calendar	Day of Week	Tuesday, Wednesday, Thursday	Base Load
		Monday	50 MW Increase
		Friday	75 MW Decrease
		Saturday	250 MW Decrease
		Sunday	275 MW Decrease
		Calendar	Holidays
Good Friday	160 MW Decrease		
Victoria Day	210 MW Decrease		
Canada Day	140 MW Decrease		
Civic Holiday	140 MW Decrease		
Labour Day	160 MW Decrease		
Thanksgiving Day	210 MW Decrease		
Remembrance Day	25 MW Decrease		
Christmas	275 MW Decrease		
Boxing Day	185 MW decrease		
New Year's Eve	50 MW Decrease		

*Table 5 – Calendar Affects On Peak Demand*

### 3.3. Weather Drivers

Weather effects include the measure of temperature, dew point, wind speed and solar radiation (cloud cover). Both energy and peak demand are weather sensitive. The length and severity of a season's weather affects the overall peak demand. Consistent weather build-up, especially during the summer months usually leads to extreme energy consumption.

#### 3.3.1. Dry Bulb Temperature

Dry Bulb temperature is the main weather driver affecting peak load, as seen in Figure 4 which clearly illustrates the relationship between Dry Bulb temperature and peak demand. Heating loads are clearly indicated as the temperature drops below 10°C. Cooling loads are also clearly indicated as temperatures rise past 15°C. The green plot illustrates the peak demands during weekends and holiday time periods.

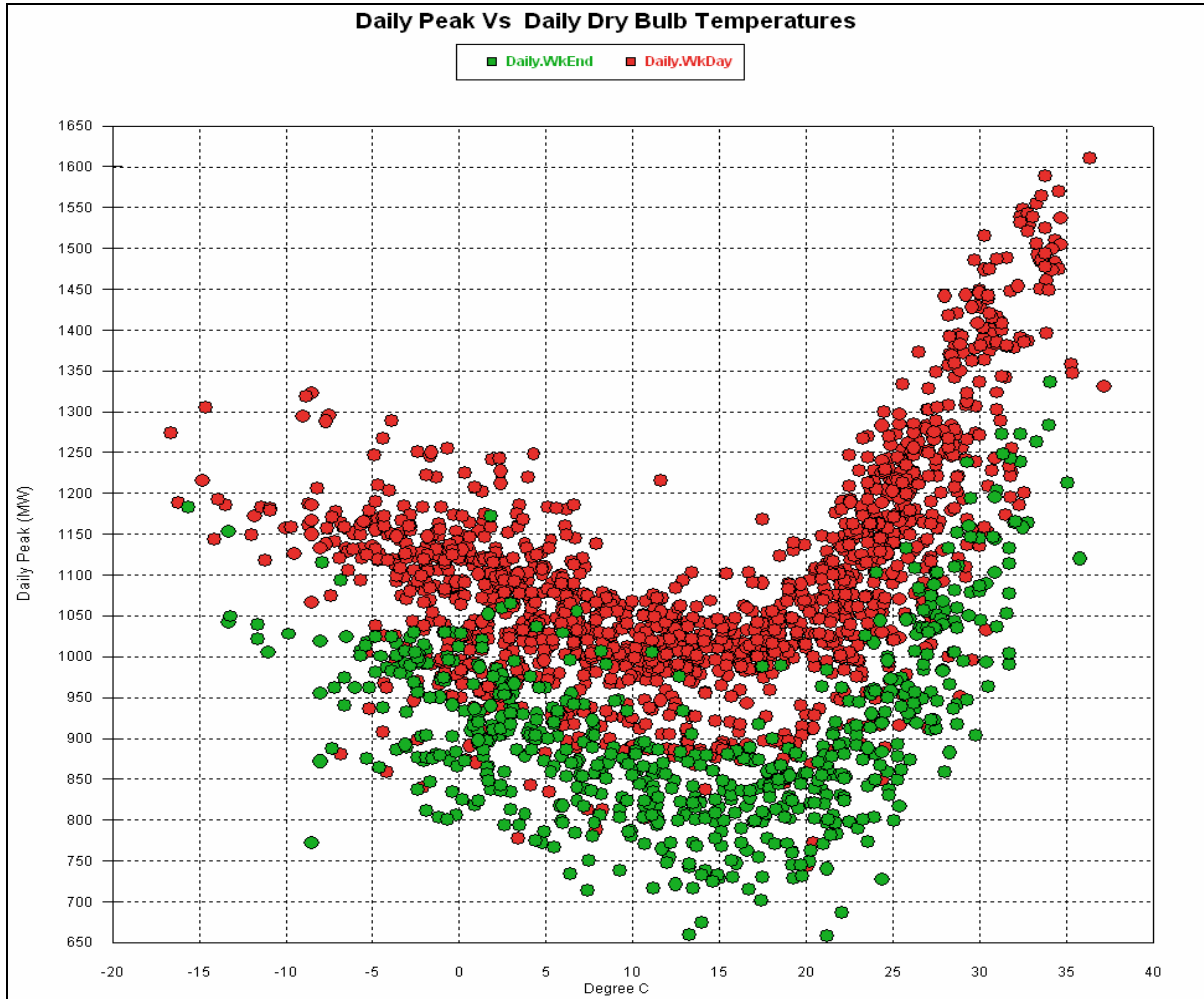


Figure 4 –Scatter Plot: 2001-2006 Daily Peak vs Dry Bulb Temperature

The dry bulb temperature is modeled as a variable in MetrixND, its impact on Peak Demand is shown in Table 6.

Dry Bulb Temperature Affects on Peak Demand			
MetrixND Variable Class	Variable	Change in Variable	Impact on Peak Demand (MW)
Weather	Dry Bulb Temperature		
	> 15°C	1°C Increase	18 MW Increase
	< 10°C	1°C Decrease	4.5 MW Increase

Table 6 – Dry Bulb Temperature Affects On Peak Demand

### 3.3.2. Dew Point Temperature

Dew Point which is also called the humidity factor because it is an indication of how much moisture is actually in the air, regardless of dry bulb temperature. Dew Point

temperature is the most important driver, besides the dry bulb temperature, that determines the “comfort” factor. As the dew point nears 20°C most people will start noticing the “humidity” in the air and anything above 20°C will start to be “uncomfortable”. As seen in Figure 5, it clearly illustrates the relationship between dew point temperature and peak demand. Increase in peak demand happens during the heating season when dew point temperatures drop below 6°C; this is contributed to the fact that because the air is very dry, moisture is required to be put back into the air to restore comfort levels. Cooling loads are clearly affected by dew point temperatures above 11°C, where people will start to feel the effects of humidity around the 20°C mark; it is the equipment and machinery that begin to be affected by the effects of humidity past the 11°C mark. The red plot illustrates the peak demands during weekends and holiday time periods.

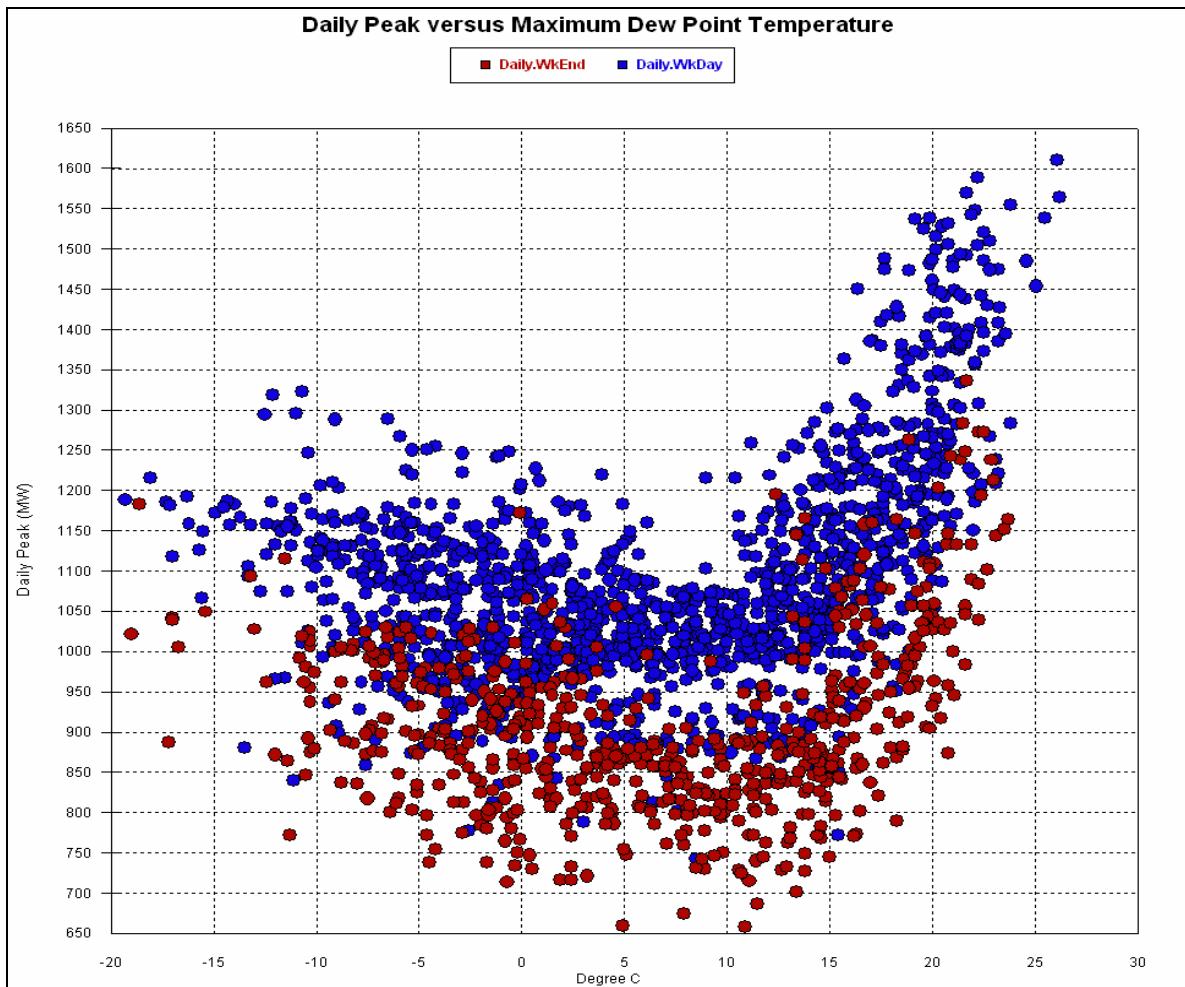


Figure 5 –Scatter Plot: 2001-2006 Daily Peak vs Dew Point Temperature

The dew point temperature is modeled as a variable in MetrixND, its impact on Peak Demand is shown in Table 7.



Dew Point Temperature Affects on Peak Demand			
MetrixND Variable Class	Variable	Change in Variable	Impact on Peak Demand (MW)
Weather	Dew Point Temperature		
	> 11°C	1°C Increase	6.4 MW Increase
	< 6°C	1°C Decrease	1.6 MW Increase

Table 7 – Dew Point Temperature Affects On Peak Demand

3.3.3. Wind Speed

Figure 6 clearly illustrates the relationship between wind speed and peak demand. As wind speed increases there is a clear reduction in peak demand during the summer months. This is explained, as the humidity increases, the person will depend more on active perspiration to maintain equilibrium. Since the body’s vapour pressure, unlike its temperature, always exceeds that of the surroundings, the sweating person derives an evaporative cooling effect as wind speed increases at high humidities. During the winter season, the affect of wind speed on peak demand is not as predominant as the summer season. The green plot illustrates the peak demands during the weekend and holidays while the red plot indicates peak demand captured during the weekday.

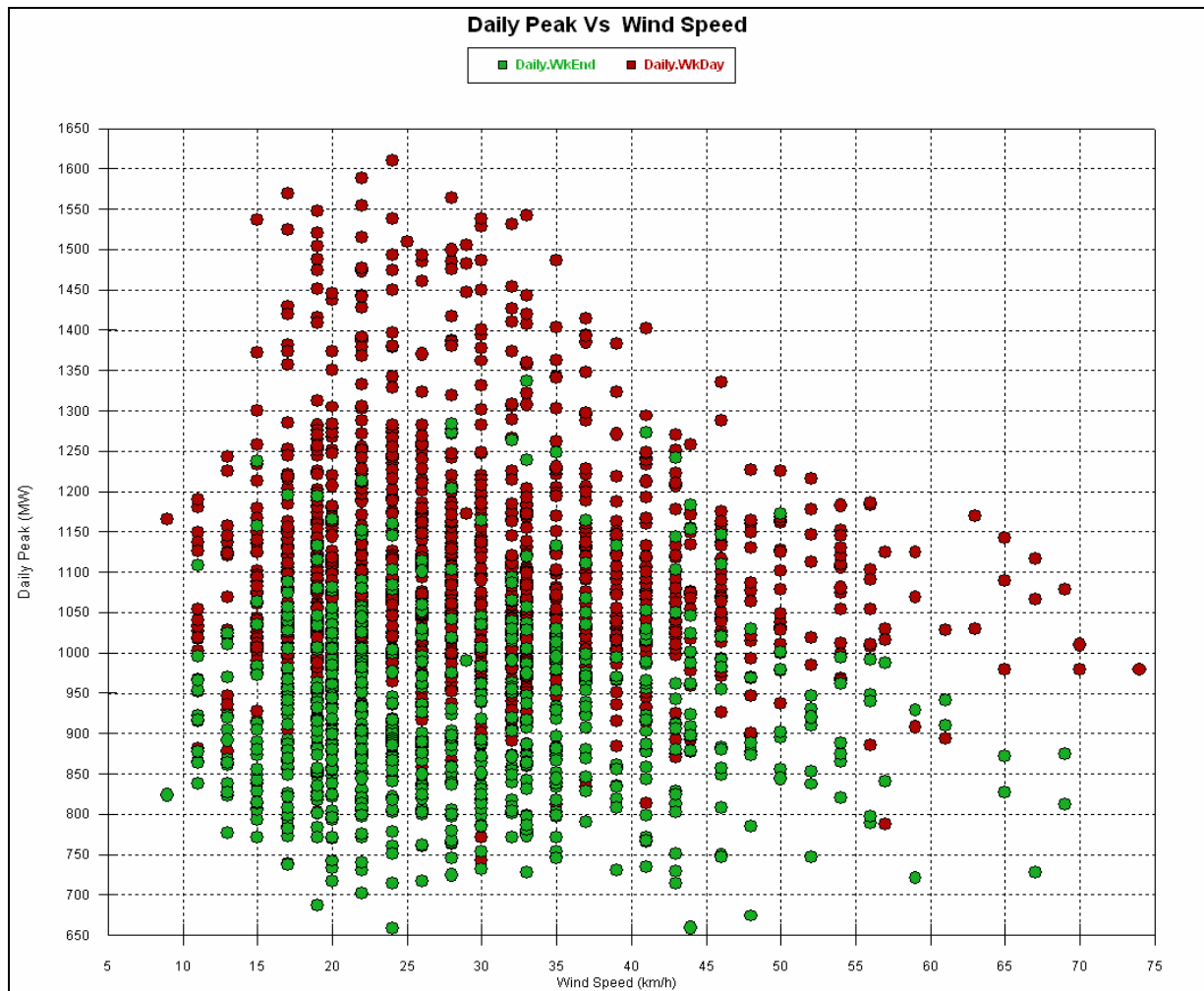


Figure 6 –Scatter Plot: 2001-2006 Daily Peak vs Wind Speed

The wind speed is modeled as a variable in MetrixND, its impact on Peak Demand is shown in Table 8.

Wind Speed Affects on Peak Demand			
MetrixND Variable Class	Variable	Change in Variable	Impact on Peak Demand (MW)
Weather	Wind Speed		
	Summer	1 km/h Decrease	0.6 MW Increase
	Winter	1 km/h Increase	0.15 MW Increase

Table 8 – Wind Speed Affects On Peak Demand

3.3.4. Solar Radiation

Solar Radiation is a measure of the intensity of the sun’s radiation reaching a horizontal surface. This irradiance includes both the direct component from the sun and the reflected component from the rest of the sky. It is expressed in Watts per Square Meter (W/m<sup>2</sup>). Clouds or haze will reduce the amount of solar radiation, so this can be considered an indicator on how sunny it is outside. The most intense possible radiation is always at solar noon and tapers to zero at sunrise and sunset. The 24-hour solar radiation chart would normally present a curve looking like the positive lobe of a Sine wave if no clouds were present, any clouds will disrupt the smooth Sine curve. Figure 7 shows the hourly load and solar radiation data between August 1<sup>st</sup> and August 2<sup>nd</sup> of 2006. The system peak for August 1<sup>st</sup> was 1610 MW compared to the August 2<sup>nd</sup> peak of 1538 MW, the reduction in peak demand is clearly indicated by the fact that on August 2<sup>nd</sup> it was a mostly cloudy day resulting in less than half the solar radiation that occurred on August 1<sup>st</sup>.

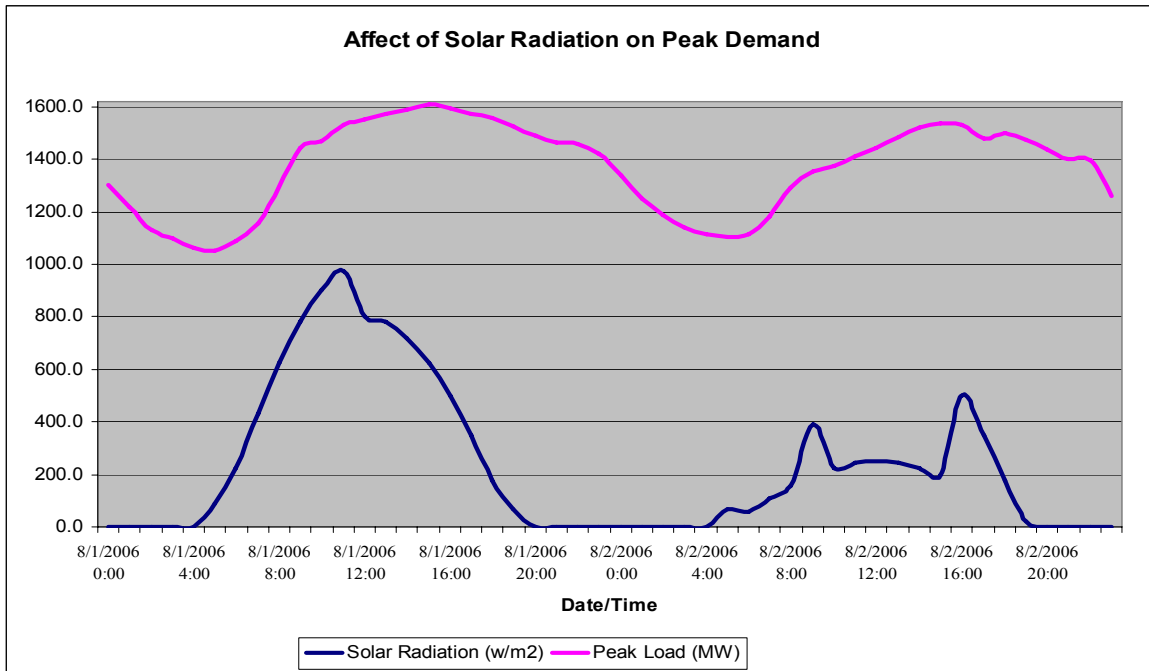


Figure 7 –August 1 to August 2 2006: Daily Peak vs Solar Radiation

The solar radiation is modeled as a variable in MetrixND, its impact on Peak Demand is shown in Table 9.

Solar Radiation Affects on Peak Demand			
MetrixND Variable Class	Variable	Change in Variable	Impact on Peak Demand (MW)
Weather	Solar Radiation	Increase by 100 W/m <sup>2</sup>	4.4 MW Increase

Table 9 – Solar Radiation Affects On Peak Demand

### 3.4. Economic Drivers

Economic conditions contribute to growth in both peak and energy demand. To produce an accurate demand forecast, an economic forecast of various drivers is required. The main drivers are employment, housing development and population. The City of Mississauga Planning unit produces the historical and forecasted values for these economic drivers.

#### 3.4.1. Population

In 2006 the City of Mississauga reached a milestone population of 700,000 people. The population will continue to grow for the next 25 years at an average rate of 0.4% per year. The population in 2031 is forecasted to be approximately 770,000 people.

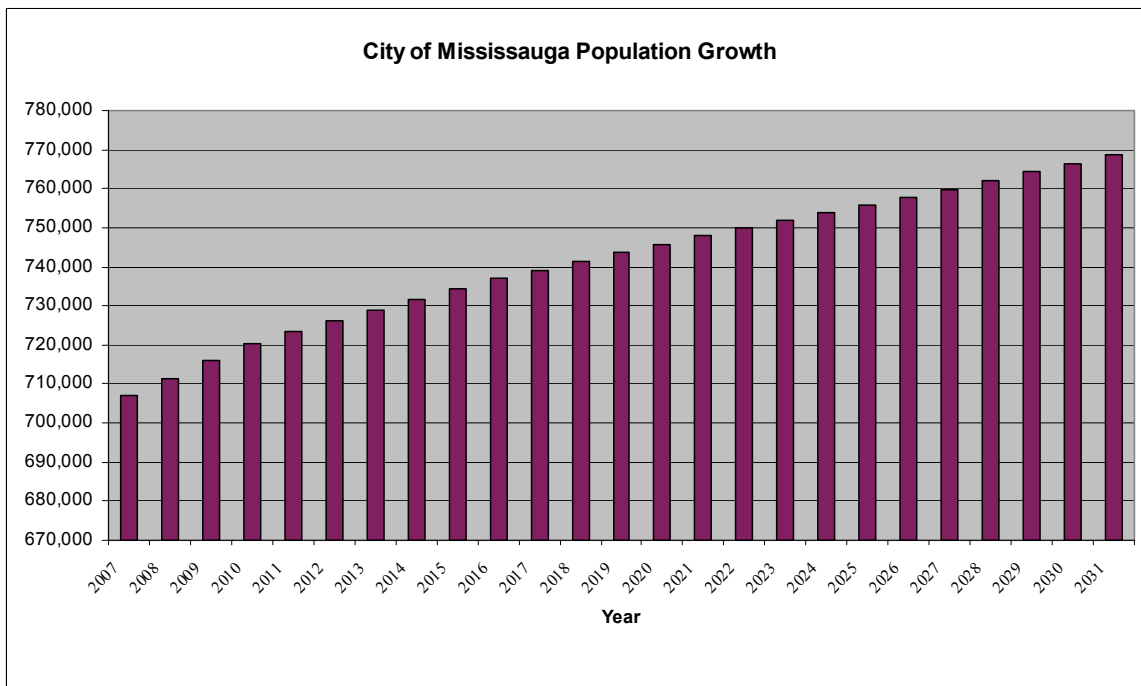


Figure 8 – City of Mississauga Population Growth

The population growth is modeled as a variable in MetrixND, its impact on Peak Demand is shown in Table 10.

Population Affects on Peak Demand			
MetrixND Variable Class	Variable	Change in Variable	Impact on Peak Demand (MW)
Economic	Population	Increase of 1,000 people	0.75 MW Increase

Table 10 – Population Affects On Peak Demand

### 3.4.2. Employment

The total employment for the City of Mississauga in 2006 reached 442,000 jobs. The employment will continue to grow for the next 25 years at an average rate of 0.54% per year. The employment figure in 2031 is forecasted to be approximately 503,000 jobs.

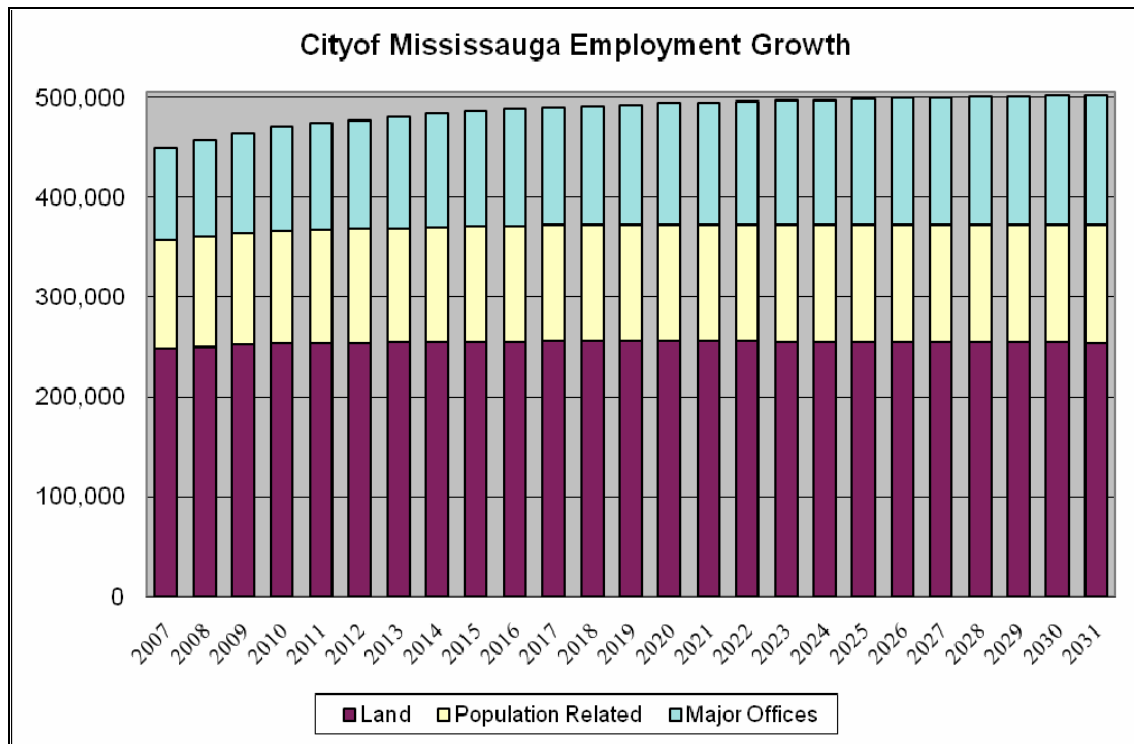


Figure 9 – City of Mississauga Employment Growth

The employment growth is modeled as three separate variables in MetrixND, their impact on Peak Demand are shown in Table 11.

Employment Affects on Peak Demand			
MetrixND Variable Class	Variable	Change in Variable	Impact on Peak Demand (MW)
Economic	Employment Land	Increase of 1,000 jobs	1.75 MW Increase
Economic	Population Related Employment	Increase of 1,000 jobs	1.00 MW Increase
Economic	Major Offices	Increase of 1,000 jobs	1.25 MW Increase

Table 11 – Employment Affects On Peak Demand

Employment Land are jobs related to warehouse or manufacturing, Population Related are jobs in retail or the school sector and Major Offices are jobs in office buildings of greater than 20,000 square feet.

3.4.3. **Housing**

In 2006 the City of Mississauga total housing reached 223,000 units. The housing will continue to grow for the next 25 years at an average rate of 0.8% per year. The total housing in 2031 is forecasted to be approximately 267,000 units.

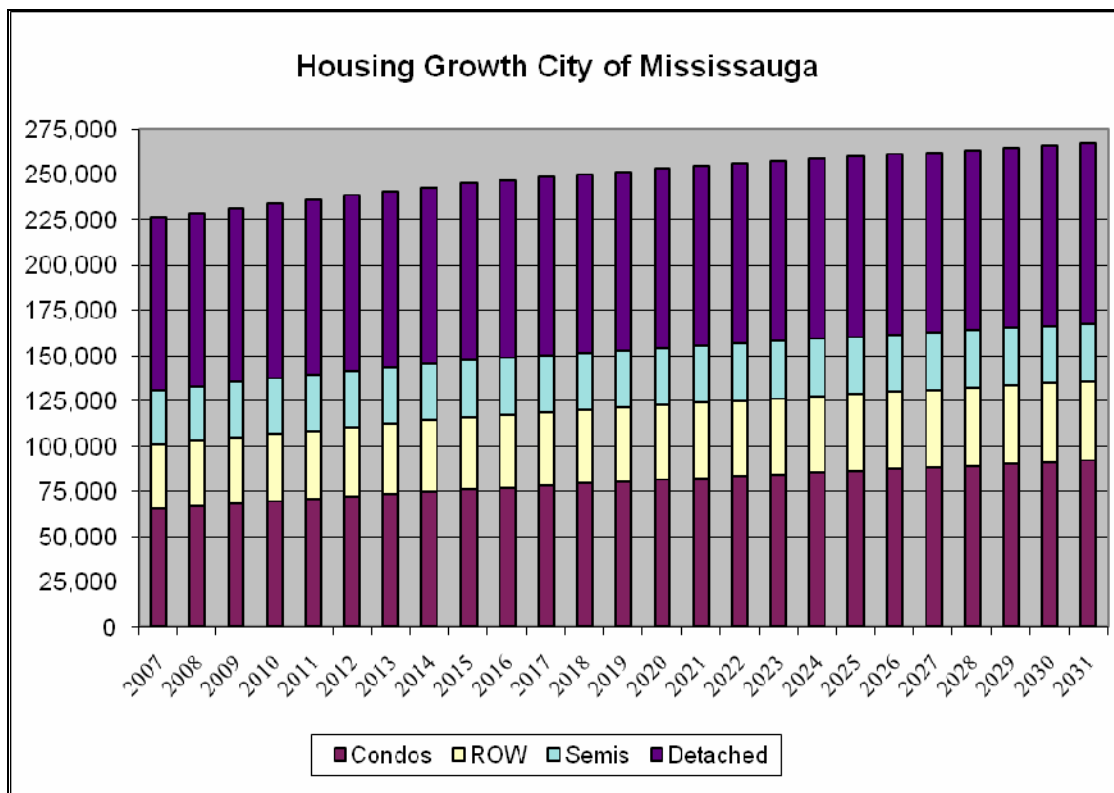


Figure 10 – City of Mississauga Housing Growth

The housing growth is modeled as four separate variables in MetrixND, their impact on Peak Demand are shown in Table 12.

Housing Affects on Peak Demand			
MetrixND Variable Class	Variable	Change in Variable	Impact on Peak Demand (MW)
Economic	Condos/Apartments	Increase of 1,000 units	1.50 MW Increase
Economic	ROW/Town Houses	Increase of 1,000 units	2.00 MW Increase
Economic	Semi-Detached	Increase of 1,000 units	2.40 MW Increase
Economic	Detached	Increase of 1,000 units	3.25 MW Increase

*Table 12 – Housing Affects on Peak Demand*

### 3.5. Demand Response

Demand response is a program established to motivate changes in electricity use by end-use customers in response to changes in the price of electricity over time, or to give incentive payments designed to induce lower electricity use at time of high market prices or when the EHM distribution system reliability is jeopardized.

Price-based demand response such as real-time pricing, critical-peak pricing and time-of-use tariffs, give customers time-varying rates that reflect the value and cost of electricity in different time periods. Armed with this information, customers tend to use less electricity when electricity prices are high.

Incentive-based demand response programs pay participating customers to reduce their loads at times requested by the program sponsor, triggered either by a system reliability problem or high electricity prices.

The demand response programs that are current and planned are treated as resources, their total capacity are discounted from the peak demand forecast.

The price elasticity = (%Change Peak) / (%Change Price), is used as a driver in the peak forecast. Studies have shown that the average price elasticity for residential customers with time-of-use information was 0.13. Studies also revealed that industrial and commercial customers with real-time-pricing information had an average price elasticity of 0.10.

The price elasticity of electricity is modeled as a variable in MetrixND, its impact on Peak Demand is shown in Table 13.

Price Elasticity Affects on Peak Demand			
MetrixND Variable Class	Variable	Change in Variable	Impact on Peak Demand (MW)
Demand Response	Price Elasticity	Increase of Price by 1%	1.5 MW Decrease

*Table 13 – Price Elasticity Affects On Peak Demand*

## **4. Demand Forecasting Methodology**

### **4.1. Demand Forecasting System**

Enersource Hydro Mississauga (EHM) uses hourly coincident peak demand data from the EHM sub-transmission and distribution grid. EHM uses Itron's MetrixND load forecast software to develop forecast models for peak demand. The system uses econometric equations to estimate the relationships between peak demand and a number of analytical factors or drivers. The drivers that the system includes are weather effects, economic data, calendar variables and demand response. Using regression techniques, the model estimates the relationship between these drivers and peak demand.

For the purpose of this analysis the forecasted weather is not used, but instead two scenarios are considered. Normal weather and extreme weather are used to forecast peak demand. The normal weather is the average temperature values of a 35-year history (1972-2006). For the extreme weather scenario, the historical data used was from the year 2002 which was ranked as one of the highest extreme weather years in history.

The base case peak demand forecast is used with the City of Mississauga in conjunction with normal and extreme weather.

## 5. Forecast Analysis & Results

This section provides peak demand forecast information on the total EHM system.

### 5.1. Peak Demand Forecast

The main aspect of the peak demand is the difference in the growth of the winter and summer peaks as cooling load continues to grow while the heating loads remains relatively stagnant. Figure 11 illustrates the monthly peak demand up to year 2031 for actual, normal and extreme weather scenarios. The forecast errors achieved were  $\pm 3.75\%$  for the Extreme weather scenarios and  $\pm 2.91\%$  for the Normal weather scenario. As the forecast time frame lessens so will the forecast errors. A one-year forecast, with more accurate weather forecast will reduce the error significantly. However the maximum industry standard of  $\pm 7\%$  was easily met by the forecast models. Table 14 shows the 25 year monthly peak forecast for both normal and extreme weather data.

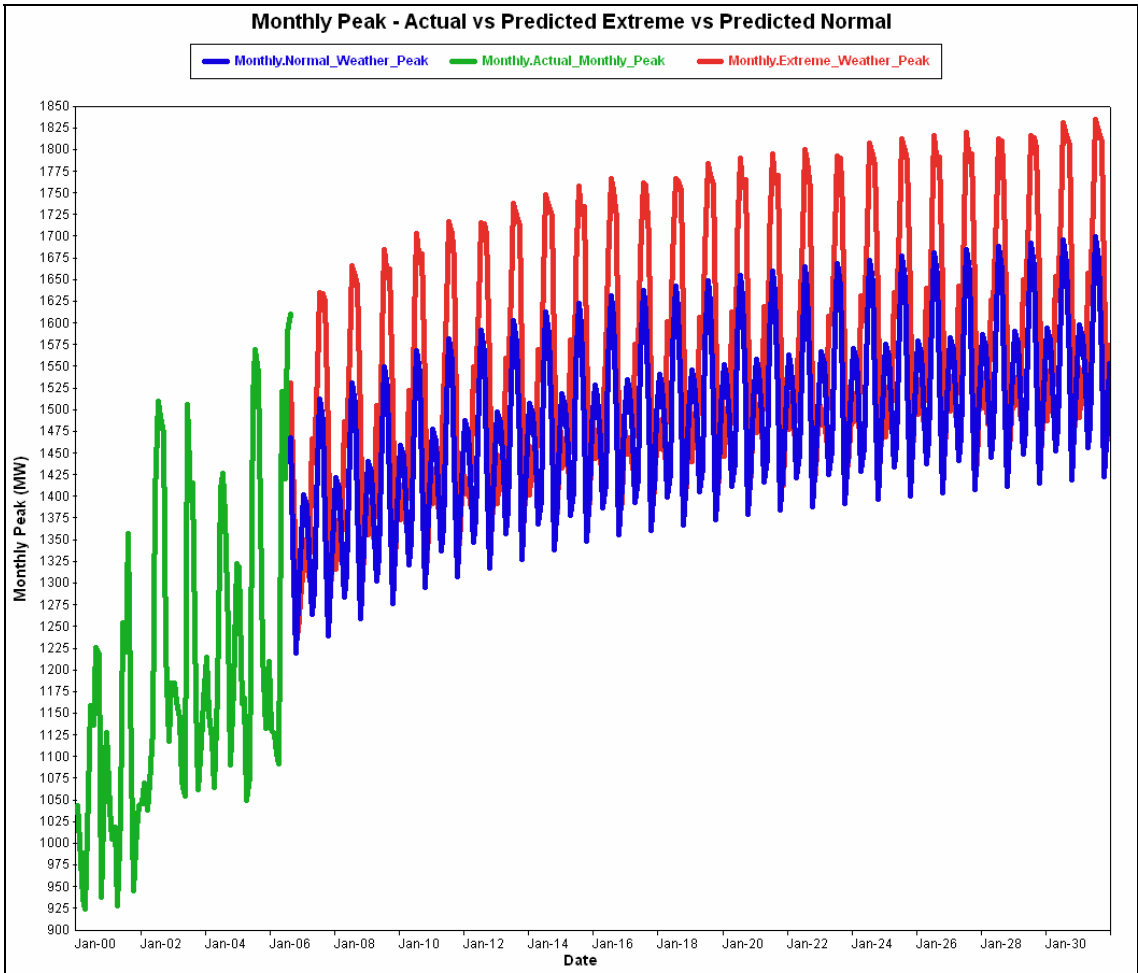


Figure 11 –2000-2031 Monthly Peaks Actual vs Predicted Extreme vs Predicted Normal



2007-2031 Monthly Peak Demand (MW) Forecast (Normal Weather)																									
Month	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
January	1,402	1,422	1,441	1,459	1,477	1,487	1,497	1,508	1,518	1,528	1,534	1,540	1,546	1,552	1,558	1,562	1,567	1,571	1,575	1,579	1,583	1,586	1,590	1,594	1,597
February	1,390	1,409	1,428	1,446	1,464	1,474	1,484	1,495	1,505	1,515	1,521	1,527	1,533	1,539	1,545	1,549	1,553	1,557	1,561	1,566	1,569	1,573	1,576	1,580	1,584
March	1,340	1,360	1,378	1,396	1,413	1,424	1,434	1,444	1,454	1,464	1,470	1,476	1,482	1,488	1,494	1,498	1,502	1,506	1,510	1,514	1,518	1,522	1,525	1,529	1,533
April	1,265	1,284	1,303	1,321	1,337	1,347	1,358	1,368	1,378	1,387	1,393	1,399	1,405	1,411	1,417	1,421	1,425	1,429	1,434	1,438	1,441	1,445	1,449	1,452	1,456
May	1,293	1,312	1,331	1,349	1,365	1,375	1,385	1,395	1,406	1,414	1,420	1,426	1,432	1,438	1,444	1,448	1,452	1,456	1,461	1,465	1,468	1,472	1,476	1,479	1,483
June	1,436	1,456	1,474	1,492	1,507	1,517	1,528	1,538	1,548	1,557	1,563	1,569	1,575	1,581	1,586	1,590	1,594	1,598	1,603	1,607	1,610	1,614	1,618	1,621	1,625
July	<b>1,512</b>	<b>1,531</b>	<b>1,549</b>	<b>1,567</b>	<b>1,582</b>	<b>1,592</b>	<b>1,602</b>	<b>1,612</b>	<b>1,623</b>	<b>1,631</b>	<b>1,637</b>	<b>1,643</b>	<b>1,649</b>	<b>1,655</b>	<b>1,660</b>	<b>1,664</b>	<b>1,668</b>	<b>1,673</b>	<b>1,677</b>	<b>1,681</b>	<b>1,684</b>	<b>1,688</b>	<b>1,692</b>	<b>1,695</b>	<b>1,699</b>
August	1,488	1,507	1,525	1,544	1,557	1,567	1,578	1,588	1,598	1,606	1,612	1,618	1,624	1,630	1,635	1,639	1,643	1,647	1,652	1,656	1,659	1,663	1,666	1,670	1,674
September	1,370	1,390	1,408	1,426	1,439	1,449	1,459	1,470	1,480	1,487	1,493	1,499	1,505	1,511	1,516	1,520	1,525	1,529	1,533	1,537	1,540	1,544	1,548	1,551	1,555
October	1,239	1,259	1,277	1,295	1,307	1,317	1,328	1,338	1,348	1,355	1,361	1,367	1,373	1,379	1,384	1,388	1,392	1,397	1,401	1,405	1,408	1,412	1,415	1,419	1,423
November	1,297	1,316	1,334	1,353	1,364	1,374	1,385	1,395	1,405	1,412	1,418	1,424	1,430	1,436	1,440	1,445	1,449	1,453	1,457	1,461	1,465	1,468	1,472	1,475	1,479
December	1,372	1,391	1,409	1,428	1,438	1,449	1,459	1,469	1,480	1,486	1,492	1,498	1,504	1,510	1,514	1,518	1,523	1,527	1,531	1,535	1,538	1,542	1,546	1,549	1,553
2007-2031 Monthly Peak Demand (MW) Forecast (Extreme Weather)																									
Month	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
January	1,317	1,316	1,356	1,374	1,392	1,402	1,392	1,402	1,433	1,443	1,449	1,455	1,440	1,446	1,473	1,478	1,482	1,486	1,469	1,494	1,498	1,502	1,505	1,488	1,492
February	1,351	1,371	1,390	1,408	1,422	1,421	1,446	1,456	1,467	1,477	1,467	1,489	1,495	1,501	1,506	1,507	1,500	1,519	1,523	1,527	1,531	1,531	1,538	1,542	1,546
March	1,308	1,333	1,352	1,370	1,387	1,391	1,407	1,418	1,428	1,437	1,432	1,444	1,455	1,461	1,467	1,471	1,464	1,480	1,484	1,488	1,492	1,484	1,493	1,503	1,506
April	1,466	1,486	1,504	1,522	1,440	1,549	1,559	1,569	1,580	1,490	1,575	1,601	1,607	1,613	1,618	1,524	1,607	1,631	1,635	1,639	1,643	1,627	1,650	1,654	1,658
May	1,439	1,459	1,376	1,405	1,511	1,521	1,532	1,542	1,450	1,561	1,567	1,573	1,579	1,483	1,500	1,595	1,599	1,603	1,607	1,509	1,524	1,619	1,622	1,626	1,630
June	1,543	1,568	1,587	1,605	1,620	1,624	1,635	1,650	1,661	1,669	1,675	1,676	1,682	1,693	1,699	1,703	1,707	1,705	1,715	1,719	1,723	1,727	1,725	1,728	1,737
July	<b>1,635</b>	<b>1,666</b>	<b>1,685</b>	<b>1,703</b>	<b>1,717</b>	<b>1,716</b>	<b>1,737</b>	<b>1,748</b>	<b>1,758</b>	<b>1,766</b>	<b>1,761</b>	<b>1,767</b>	<b>1,784</b>	<b>1,790</b>	<b>1,795</b>	<b>1,799</b>	<b>1,792</b>	<b>1,808</b>	<b>1,812</b>	<b>1,816</b>	<b>1,820</b>	<b>1,812</b>	<b>1,815</b>	<b>1,830</b>	<b>1,834</b>
August	1,634	1,654	1,652	1,670	1,704	1,714	1,724	1,734	1,725	1,752	1,758	1,764	1,770	1,757	1,762	1,786	1,790	1,794	1,798	1,782	1,786	1,809	1,813	1,817	1,820
September	1,625	1,644	1,662	1,680	1,673	1,703	1,714	1,724	1,734	1,722	1,699	1,754	1,760	1,766	1,770	1,755	1,731	1,783	1,787	1,791	1,795	1,750	1,802	1,806	1,809
October	1,473	1,492	1,511	1,529	1,408	1,551	1,561	1,572	1,582	1,456	1,516	1,601	1,607	1,613	1,618	1,489	1,547	1,630	1,635	1,638	1,642	1,566	1,649	1,653	1,657
November	1,283	1,303	1,321	1,325	1,345	1,361	1,371	1,381	1,392	1,392	1,404	1,410	1,416	1,422	1,413	1,425	1,435	1,439	1,443	1,447	1,437	1,455	1,458	1,462	1,465
December	1,394	1,413	1,431	1,449	1,433	1,470	1,480	1,491	1,501	1,480	1,458	1,519	1,525	1,531	1,536	1,513	1,489	1,548	1,552	1,556	1,560	1,508	1,567	1,571	1,574

Table 14 – 25 Year Peak Demand Forecast (Normal & Extreme Weather)

## 6. Conclusions

The growth in peak demand is a function of weather and economic growth. Two weather scenarios were used in the load forecast analysis. Normal weather was calculated as the average temperature over a 35-year period (1972-2006). Extreme weather used the data from the 2002 calendar year which had one of the hottest summers in recent history.

The accuracy of the regression model was analyzed by comparing predicted monthly peak demand values to actual peak values for 2005. Table 15 shows actual monthly peak versus predicted peak. The overall year variance in actual peak demand compared to forecasted values is -0.24%.

<b>2005 Actual vs Predicted Peak Demand</b>			
<b>Month</b>	<b>Actual</b>	<b>Predicted</b>	<b>Variance</b>
January	1,319	1,267	-3.94%
February	1,161	1,183	1.94%
March	1,167	1,147	-1.75%
April	1,050	1,082	3.07%
May	1,076	1,108	2.97%
June	1,515	1,478	-2.43%
July	1,570	1,560	-0.60%
August	1,542	1,519	-1.54%
September	1,381	1,357	-1.69%
October	1,217	1,224	0.59%
November	1,133	1,176	3.83%
December	1,210	1,202	-0.67%

*Table 15 – Actual vs Predicted 2005 Monthly Peak*

Normal weather forecasted (see Table 16) results for peak demand show an average annual growth rate of 0.5%. This low growth rate indicates the effect of temperatures and the eventual maturing of the City of Mississauga in the next 25 years. As the City of Mississauga makes the transition from a fast growing municipality to a mature urban community, the rate of growth of peak demand will decline steadily over the forecasted period.

Forecasted Annual Peak Demand (MW) (Normal Weather)								
2007	2008	2009	2010	2011	2016	2021	2026	2031
1512	1531	1549	1567	1582	1631	1660	1681	1699
-6.09 %	1.26 %	1.18 %	1.16 %	0.96 %	3.10 %	1.78 %	1.27 %	1.07 %

Table 16 – Forecasted Annual Peak Demand (Normal Weather)

Forecasted Annual Peak Demand (MW) (Extreme Weather)								
2007	2008	2009	2010	2011	2016	2021	2026	2031
1635	1666	1685	1703	1717	1766	1795	1816	1834
1.55 %	1.90 %	1.14 %	1.07 %	0.82 %	2.85 %	1.64 %	1.17 %	0.99 %

Table 17 – Forecasted Annual Peak Demand (Extreme Weather)

The actual monthly peaks from 2000-2006 were weather corrected to normal weather values; this data is shown in the duration curves in Figure 12.

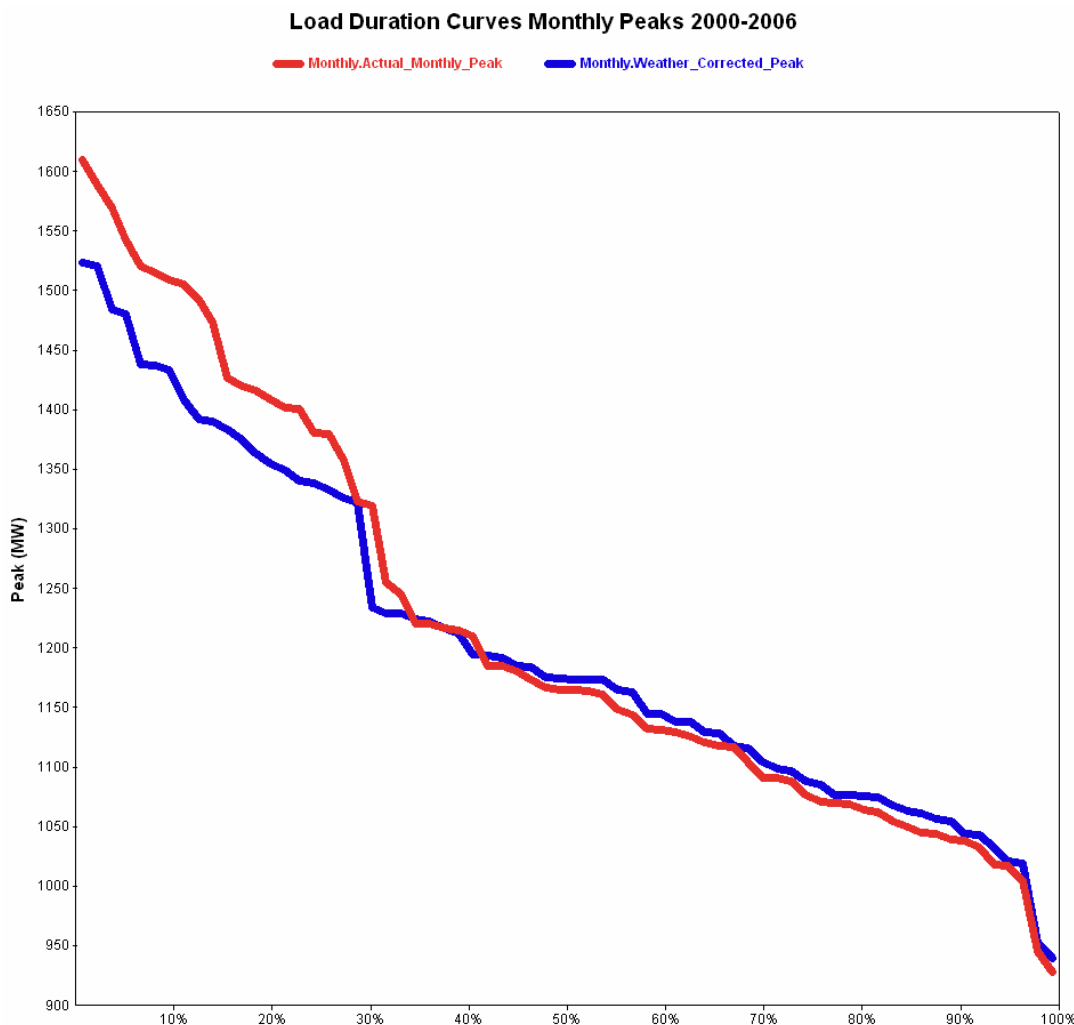


Figure 12 –2000-2006 Duration Curves Actual Peaks vs Weather Corrected Peaks

Basically, if EHM chose to plan expansions based on normal weather forecasts, it would then have to have a plan in place to help mitigate the risk involved to handle the extreme loading conditions which according to Figure 12, occurred more than 30% of the time. Such plans would include voltage reduction and loading shedding schemes.

It is recommended that for system expansion process, the load forecast results using the extreme weather scenario would be used as the basis to develop strategies to expand the EHM distribution network at the least cost.

## **7. References**

1. The Assessment of Sultriness. Part II: Effects of Wind, Extra Solar Radiation and Barometric Pressure on Apparent Temperature – R.G. Steadman, April 1979.
2. Demand Response Studies – US Department of Energy – Benefits of Demand Response in Electricity Markets and Recommendations for Achieving Them, November 2006.

1 **Rate Base**

2  
3 Enersource proposes that the rate base for the 2008 Test Year be \$505.404 million  
4 (ExA/Sched12/Tab7). It consists of:

5

6	Net Property, Plant and Equipment	\$408.928 million
7	<u>Working Capital Allowance</u>	<u>\$ 96.477 million</u>
8	Rate Base	\$505.404 million

9

10 The Net Property Plant and Equipment (“PPE”) is detailed at ExC/Sched3/Tab2. The Working  
11 Capital Allowance is detailed at ExC/Sched3/Tab5.

12  
13 For the 2008 Test Year, Enersource estimates:

- 14
- 15 • gross PPE of \$792.787 million;
  - 16 • accumulated depreciation of \$378.678 million; and
  - 17 • Construction Work in Progress of \$5.182 million.

18 Accordingly, a net PPE of \$408.928 million is forecast (ExC/Sched3/Tab1). The proposed PPE  
19 rate base for the 2008 Test Year is the arithmetic average of the opening and closing PPE  
20 balances for the 2008 Test Year. Enersource estimated the 2008 Test Year PPE using the closing  
21 balances of the 2007 Bridge Year as the opening balance for the 2008 Test Year, increasing for  
22 Capital additions of \$52.345 million (ExC/Sched3/Tab3) and reducing for the net effect of  
23 disposals, retirements and all other adjustments of \$9.625 million. A variance analysis is  
24 provided at ExC/Sched3/Tab7 for the 2008 Test Year vs. 2007 Bridge Year and  
25 ExC/Sched3/Tab8 for the 2007 Bridge Year vs. 2006 Actual.

26  
27 Enersource has relied on its traditional budgeting methodology and its long standing business  
28 practices to identify the required capital spending and asset retirements that will occur during the

1 2008 Test Year. The proposed capital spending is set out at ExC/Sched3/Tab3. It details the  
2 proposed investment in the Test Year as follows:

- 3 • Ongoing investment in the distribution system; and
- 4 • Investment to replace Enersource's Customer Information System.

5  
6 The 2008 Test Year Working Capital Allowance has been estimated using the 2006 EDR  
7 methodology. Specifically, Enersource summed its estimated controllable costs and cost of  
8 power for the 2008 Test Year and multiplied this sum by 15%. Enersource's controllable costs  
9 are set out at ExD/Sched2/Tab1 and its forecast cost of power is set out at ExC/Sched3/Tab5.

1 **Distribution system**

2  
3 Enersource proposes that its 2008 Test Year rate base include \$792.787 million of gross  
4 distribution system assets and \$408.928 million (ExC/Sched3/Tab1) net distribution system  
5 assets.

6  
7 **Distribution System Description**

8  
9 Electrical power in the City of Mississauga originates from 10 Hydro One Networks Inc.  
10 transformer stations. The power is transformed at these transformer stations from 230 kV down  
11 to Enersource subtransmission voltages of 44 kV and 27.6 kV or to Enersource primary  
12 distribution voltages of 16.0/27.6 kV. The sub-transmission voltages of 44 kV and 27.6 kV are  
13 further transformed at Enersource's substations to primary distribution voltages of 8.0/13.8 kV  
14 and 2.4/4.16 kV.

15  
16 Enersource's distribution system is comprised of three distinct sub-systems:

- 17
- 18 • One in northern Mississauga that operates at a voltage of 27.6 kV ("North 27.6 kV");
  - 19 • One in central Mississauga that operates at a sub-transmission voltage of 44 kV ("44  
20 kV"); and
  - 21 • One in southern Mississauga that operates at a sub-transmission voltage of 27.6 kV  
22 ("South 27.6 kV").

23 These systems are identified in the diagram provided at ExA/Sched8/Tab1.

24  
25 The sub-transmission system consists of power lines that take electrical energy from the  
26 transformer stations and delivers it directly to larger customers, or to substations where it is



1 transformed for delivery onto the Enersource distribution system. Enersource's sub-transmission  
2 system is comprised of the following:

3

4 ***44 kV Sub-transmission***

- 5 • Delivery points include Meadowvale TS, Erindale TS, Tomken TS, Bramalea  
6 TS and Woodbridge TS;
- 7 • 47 operational supply feeders with a total capacity of 1645 MVA;
- 8 • 2 express feeders are for export of generation;
- 9 • 33 industrial/ commercial customers directly connected consisting of 80  
10 customer owned power transformers;
- 11 • 1,405 km of 44kV power lines;

12

13 ***27.6 kV Sub-transmission***

- 14 • Delivery points include Cooksville TS, Lorne Park TS and Oakville TS;
- 15 • 26 operational supply feeders with a total capacity of 572 MVA;
- 16 • 767 km of 27.6kV power lines;
- 17 • 285 customers directly connected;
- 18 • 174 customer owned transformers directly connected and 11 Enersource's  
19 transformers directly connected
- 20 • 4 express feeders.

21

22 The distribution system delivers electrical energy from Enersource's substations to the majority  
23 of Enersource's customers. The Enersource distribution system consists of the following:

24

1           ***16.0/27.6 kV Distribution***

- 2           •       Delivery points are: Erindale TS, Bramalea TS, Richview TS and Cardiff TS;
- 3           •       32 operational supply feeders with a total capacity of 704 MVA;
- 4           •       40,063 customers connected;
- 5           •       2,778 km of 16.0/27.6 kV power lines; and
- 6           •       5,953 transformers connected: 164 transformers are customer owned and
- 7           5,789 ad owned by Enersource.

8

9           ***8.0/13.8 kV Distribution***

- 10          •       40 municipal stations comprised of a total of 62 step-down transformers rated
- 11           44/ 13.8 kV;
- 12          •       193 operational feeders with a total capacity of 1,544 MVA;
- 13          •       115,742 customers connected;
- 14          •       5,401 km of 8.0/13.8kV power lines;
- 15          •       15,675 transformers connected.

16

17          ***2.4/4.16 kV Distribution***

- 18          •       26 municipal substations comprised of a total of 34 step-down transformers
- 19           rated 4.16/27.6 kV;
- 20          •       103 operational feeders with a total capacity of 247 MVA;
- 21          •       28,248 customers connected;
- 22          •       1,135 km of 2.4/ 4.16 kV power lines;

- 1           •       3,822 transformers connected.

2   **Major Drivers for Facilities Requirement**

3           The major drivers contributing to the need for new or upgrade of facilities include:

- 4           •       Distribution System Reliability Performance;
- 5           •       Long Term Demand Forecast; and
- 6           •       Connection of future new large customers.

7

8   Distribution System Reliability Performance

9

10   Additions to Enersource's distribution system are normally required because of an expected

11   violation of Enersource's performance criteria or because of aging infrastructure. The most

12   important performance criterion is not to load any individual feeder above 600 amps because that

13   would exceed equipment ratings (e.g., current levels that a switch or cable can carry). From a

14   system planning perspective, Enersource prefers not to load feeders beyond 300 amps. This

15   means that if a feeder fails or under emergency conditions the entire load can be supplied by an

16   adjacent feeder.

17

18   Voltage performance criteria and system adequacy concerns - in particular the ability to maintain

19   satisfactory power capacity and voltage levels - also drive requirements for new facilities.

20   Enersource checks for violations of its performance criteria using load flow models. For

21   example, CSA specifications require that voltage fluctuations not exceed plus or minus 5 % at

22   the customer end. As well, most electrical equipment is manufactured to work properly within

23   this voltage tolerance. Another driver is increased use by customers of equipment that is

24   sensitive to voltage fluctuations. Voltage tolerance becomes an issue on long feeders, where

1 Enersource makes system changes to compensate for this. Voltage violations usually result from  
2 increased power flows over sub-transmission or distribution facilities.

3  
4 Finally, aging infrastructure impacts reliability and may result in a requirement for new or  
5 upgrade of facilities.

6  
7 Reliability is also influenced by weather. The Enersource system peak is almost entirely weather  
8 driven. The summer of 2005 was much hotter overall than the summer of 2006. This is  
9 evidenced by the improved reliability data for 2006 versus 2005. Enersource customers  
10 experienced an average of 27.2 minutes of power interruption for 2006, a decrease of 4.5 minutes  
11 (14.2%) from the level recorded in 2005.

12  
13 Long Term Demand Forecast

14 Peak demand has averaged an annual growth of 4.62% over the 2000 to 2006 time frame.  
15 Demand growth is a function of weather, economic activity, the rate of population growth and the  
16 increase in the number of housing units. The City of Mississauga economy has expanded  
17 consistently since the year 2000, with the population growing by 40,000 people. Also nearly  
18 55,000 new jobs were added and more than 20,000 housing units built.

19  
20 In the next 5 to 10 years, the City of Mississauga will be fully developed. Modest growth is still  
21 expected because of re-development; specifically, high density housing will be constructed in  
22 place of the existing housing stock. Therefore, growth in peak demand is expected to continue.  
23 Enersource's Long Term Demand Forecast (ExB/Sched3/Tab3) provides detailed information on  
24 Enersource demand forecast.

25

26

27

1 Connection of New Customers

2

3 Significant growth in housing, industrial and commercial service developments has occurred  
4 over the last three years in Mississauga. Extensive industrial development is continuing to occur  
5 within the North 27.6kV system in the industrial/commercial sector and this trend is expected to  
6 continue over the next three to five years. A major water and waste water treatment plant is  
7 expected to be fully operational by 2008. It will be fed by the South 27.6kV system. The 44kV  
8 system continues to serve predominantly residential and commercial loads and will be further  
9 stressed by significant residential loads in the western and central portion of the city that are  
10 either planned or under construction as of August 2007. These sites will be occupied over the  
11 next 2 to 3 years and are projected to add approximately 30MW of load.

12

13 Enersource's distribution system will have to be expanded in the medium term, over the next 2-5  
14 years, for Enersource to be able to effectively and reliably serve its customers. The Enersource  
15 System Capacity Report (ExC/Sched6/Tab1) provides a discussion of Enersource's anticipated  
16 capital developments for the year 2008 to 2010. The projects that are recommended in this report  
17 are related to the reinforcement of a number of areas in the City of Mississauga.

1 **Rate Base**

2 **Information Technology and Related Infrastructure**

3  
4 Enersource's Information Technology ("IT") assets are projected to have a gross value of  
5 \$13.208 million in the 2008 Test Year. The IT group provides and supports the IT infrastructure  
6 required to support the provision of distribution service to the end use consumer. The IT group  
7 is composed of the following two functional groups:

- 8 • Information Systems;  
9 • Engineering and Asset Systems; and

10  
11 **Information Systems**

12  
13 The Information Systems group is responsible for maintaining the overall IT infrastructure  
14 required by Enersource's users. This includes:

- 15 • all hardware  
16 ○ three AS 400 mini computers;  
17 ○ Approximately 250 desk top computers and lap top computers;  
18 ○ approximately 50 servers; and  
19 ○ associated peripherals such as printers, monitors, telecommunications devices.  
20 • all software including:  
21 ○ Microsoft applications (including e-mail);  
22 ○ financial systems (e.g., JD Edwards system);  
23 ○ Customer Information System (including interfaces with the Hub and Spoke for  
24 EBT settlement);  
25 ○ data security (e.g., backup systems and routines) and system security; and  
26 ○ all other applications;  
27 • telecommunications systems;  
28 • physical security;

- 1       • other devices such as:
- 2             ○ hand held units (e.g., PDA for service order communication in field,
- 3             “Blackberries”);
- 4             ○ phone system in the head office building;
- 5             ○ all home based PC applications; and
- 6       • ‘patch’ management that ensures that data is adequately protected.

7

8 The Information Systems group will support the 3 AIX mini computers required by the new CIS  
9 when that system is commissioned in December, 2008.

10

11 Engineering and Asset Systems

12

13 The Engineering and Asset Systems group:

- 14       • maintains approximately 700,000 engineering documents;
- 15       • maintains Enersource’s geospatial documents current with in-field assets;
- 16       • provides ongoing support to the engineering group; and
- 17       • supports Control Room applications.

18 The Engineering and Asset Systems group will support the Integrated Operating Model’s  
19 commissioning in 2008.

20

21 Enersource’s IT Resourcing Strategy

22

23 Enersource relies on its management team to identify and scope the IT infrastructure required for  
24 each position and job description. Each manager knows the tasks performed by each individual  
25 employee and the processes relied on to execute those tasks. As a result, each manager is able to  
26 specify the type and level of IT infrastructure, support and data access privileges required. The  
27 IT group is responsible for enabling these requirements. The IT group is also responsible for

1 providing appropriate levels of support and backup to be able to satisfy the utility's ongoing need  
2 for IT.

3

4 The IT group acts as a liaison between the end user of an IT application and the vendor of the  
5 subject hardware or software who provides in-depth technical support. The IT group facilitates  
6 the interface between the end user and the IT infrastructure and supports implementation of  
7 software and hardware. The IT group may, in limited circumstances, provide technical support  
8 for a specific application or piece of hardware.

9

#### 10 Significant IT Projects

11

12 The IT group is involved in:

- 13 • the replacement of the CIS;
- 14 • the acquisition and implementation of SM infrastructure (e.g., additional hardware,  
15 memory);
- 16 • implementing the Integrated Operating Model;
- 17 • preparing to handle increased email volume;
- 18 • ongoing software upgrades; and
- 19 • routine replacement of IT infrastructure.



1 **Rate Base**

2 **Metering**

3  
4 The gross value of Enersource's metering assets in the 2008 Test Year is forecast to be \$36.762  
5 million and includes:

- 6 • Conventional meters including electro-mechanical meters and interval meters;  
7 • Wholesale Meters.

8  
9 **Conventional Metering**

10  
11 Enersource is required to maintain its retail meter inventory to ensure accurate and dependable  
12 billing; failure to do so may result in customer disputes concerning sales and revenues.

13  
14 Under Enersource's smart metering plan, all residential and small general service customers that  
15 do not require demand metering will be provided a smart meter by the end of 2010. The rest of  
16 Enersource's customers include approximately 4,400 general service commercial and industrial  
17 customers who require demand meters. Enersource also upgrades existing meters because of:

- 18 • customer electrical service upgrades;  
19 • the need to replacing obsolete or damaged meters; and  
20 • to convert from 2.5 element metering to 3 element metering.

21  
22 The spending level in 2008 assumes that 560 meters, including associated hardware (e.g., current  
23 transformers, potential transformers, miscellaneous parts such as cable wires, test blocks, meter  
24 seals required to complete the installation) are installed. This will insure an adequate inventory  
25 of meters and metering equipment to support:

- 26 • prompt installation of new services; and  
27 • prompt replacement of damaged metering equipment.

1 Efficient and accurate meter installation and replacement ensures that all Measurement Canada  
2 and any other applicable regulatory requirements are complied with.

3

4 Wholesale Metering

5

6 In the 2008 Test Year, Enersource will purchase and install new wholesale metering for use at  
7 the new Winston Transmission Station when the station is commissioned by Hydro One in the  
8 spring of 2009.

9

10 Enersource will also upgrade three non-compliant wholesale meters consistent with  
11 Measurement Canada's ruling and will continue to use non-approved instrument transformers, as  
12 permitted by the IESO Market Rules and Measurement Canada's ruling, in the 2008 Test Year.  
13 Three of Enersource's existing wholesale meters seals are due to expire in the 2008 Test Year  
14 and will require corrective action to ensure ongoing compliance with Measurement Canada  
15 requirements.

16

17 The IESO Market Rules (Chapter 6, section 3.2) require that all wholesale metering installations  
18 used for settlement in the IESO-administered market be registered with the IESO. Under the  
19 rules, Enersource is responsible for the costs of installing and maintaining these metering  
20 installations. Enersource must contract with an IESO registered Meter Service Provider so that  
21 the meter installation can be registered with the IESO and, therefore, be eligible for operation in  
22 the IESO wholesale electricity market.

23

24 Wholesale meters must also be approved by Measurement Canada and must satisfy the  
25 requirements of the Electricity and Gas Inspection Act. All instrument transformers, as well as  
26 meters, must be approved by Measurement Canada. If an instrument transformer is not approved

- 1 by Measurement Canada, it must be either replaced or approved at the earliest seal expiry date.  
2 Measurement Canada recently ruled that :
- 3 • metering installations with meter seal expiry dates between 2003 and 2005 that use non-  
4 approved instrument transformers are eligible for a 6 year extension from the earliest  
5 meter seal expiry date;
  - 6 • metering installations with an earliest meter seal expiry date between 2006 and 2008 are  
7 granted temporary permission that expires in the same year as the earliest meter seal  
8 expiry date; and
  - 9 • In all cases, the use of non-approved instrument transformers must end by December 31<sup>st</sup>  
10 of the same year that the temporary permission expires.

1 **Rate Base**  
2 **Equipment**  
3

4 Enersource's proposed 2008 Test Year rate base includes \$27.269 million for gross value of  
5 Equipment. This amount reflects the total investment in:

- 6 • Transportation equipment;
- 7 • Office furniture and equipment; and
- 8 • Tools.
- 9

10 **Transportation**  
11

12 Fleet Management controls and manages the vehicles and associated equipment relied on to  
13 carry on distribution system related work and administers all fleet related duties and activities.

14 Enersource's fleet of over 170 items includes:

- 15 • Light Transport Equipment that is used for transportation, minor services, locates and  
16 inspections and consists of:
  - 17 ○ 15 automobiles;
  - 18 ○ 20 Vans;
  - 19 ○ 34 Pickup trucks under 10,000 lbs (4,500 kg.) Gross Vehicle Weight Rating  
20 (GVWR);
- 21 ■ 26 Heavy Transport Equipment items that are primarily used for work that does not  
22 require attachments and support vehicles; it consists of service trucks, cube vans, and  
23 stake trucks over 10,000 lb (4,500 kg.) GVWR, with either no attachments or with minor  
24 attachments (e.g., dump trucks);
- 25 ■ 23 Bucket Trucks that are used to maintain overhead distribution system assets and  
26 include:
  - 27 ○ 37 ft. single bucket trucks;
  - 28 ○ 42 ft. single bucket trucks;

- 1           ○ 55 ft. double buckets c/w material handling; and
- 2           ○ 65 or 70 ft. double buckets c/w material handling;
- 3        ▪ 5 Radial Boom Derricks and 2 mobile Folding Cranes that are used to dig pole holes and
- 4           to set poles and to lift gear;
- 5        ▪ Trailers and miscellaneous equipment that are used to move materials and equipment and
- 6           includes compressors, forklifts and backhoes.

7

8 Enersource replaces and renews its fleet on an ongoing basis. The replacement period varies

9 depending by item and condition. The assumed replacement period are set out below.

10

<b>Type</b>	<b>Replacement Cycle</b>
4 Door Sedan	3-4
Flat Bed Material Handler	10
Derrick	10
Bucket Truck	10
Dump Truck	10
Van	7
Pickup Truck	5-7
Panel Van	5
Mini Van	5
Tandem Axle Cargo Trailer	12

11

12 In 2003 a work management system that applies to all vehicles was implemented. The system

13 manages the data and information for all facets of fleet operation by creating a single cost centre

14 for each vehicle that captures its specific operating costs (e.g., internal and external repairs, fuel,

15 parts). The work management system also incorporates programs required to manage contracts

16 such as tender agreements or purchasing processes. The system measures a variety of targets

17 that reconcile approved purchase orders, cost data (e.g., estimates versus actuals), vendor

1 specific information (e.g., spend and discount by vendor, vendor complaints). The benefits of  
2 this program include:

- 3     ▪ Improved scheduling of preventative maintenance and reduced repair time, travel time  
4         and downtime that ultimately improves equipment utilization;
- 5     ▪ Efficiencies achieved through improved procurement strategies and realizing economies  
6         of scale (e.g., volume discounts for fuel, parts, service); and
- 7     ▪ Improved reporting and data collection that supports decision making at all levels of the  
8         maintenance program (e.g., Real time vehicle history, pending and overdue work  
9         information alert system, product information, invoice and cost management details).

10

#### 11 Office Furniture and Equipment

12

13 Enersource's 2008 Test Year rate base includes the value of office furniture and equipment.  
14 Enersource Corporation employs approximately 400 individuals. Enersource employs over 200  
15 inside workers who require office equipment and furniture including an office structure (e.g., a  
16 cubicle or enclosed office), work surface, chairs and sundry items. In addition, Enersource also  
17 has Universal Power Supply devices and other such equipment necessary to support "24x7"  
18 system operations and customer accessibility in case of emergencies. In order to protect  
19 Enersource's customer information and its distribution system, as well as other aspects of its  
20 business, Enersource relies on physical and electronic security systems.

21

#### 22 Tools

23

24 Enersource's 2008 Test Year rate base includes the tools used by the staff uses to construct,  
25 operate and maintain the distribution system and related assets in a safe and efficient manner  
26 including:

- 27     • Hand tools and power tools;

- 1       • Diagnostic devices, e.g., transformer testing gear, relay and switching diagnostic devices,  
2       potential indicators;
- 3       • Vehicle maintenance tools; and
- 4       • Heavy construction tools, e.g., cable pullers, tensioning equipment, augers, power take  
5       off devices.

1 **Rate Base**

2 **Land and Buildings**

3  
4 Enersource's 2008 Test Year rate base includes Land and Buildings with a gross value of  
5 \$19.882 million. These assets include:

- 6
- 7 • The head office site at 3240 Mavis Road;
  - 8 • A back up operating and testing site at Stavebank;
  - 9 • Rights of way; and
  - Land occupied by stations.

10  
11 Enersource's head office is located at 3240 Mavis Road. The original building was constructed  
12 in 1964-65 and has been added to four times. The office complex is currently approximately  
13 13,200 m<sup>2</sup> or 132,000 square feet and consists of:

- 14
- 15 • Combined warehouse and garage: approximately 60,000 square feet; and
  - Office area of approximately 72,000 square feet.

16  
17 While the various areas of the building complied with or exceeded the prevailing construction  
18 standards at the time of construction, the building envelope does not perform to current  
19 standards. This has resulted in the following deficiencies:

- 20
- 21 • High rate of insulating glass failure;
  - 22 • Displacement of snap caps and corner closures, deteriorated flashing and sealant failure;
  - 23 • Masonry cracking and stucco delamination; and
  - 24 • Water penetration, both below grade and potentially at the roof due to breaches in the  
25 roofing membrane.

26 The capital spending on the building focuses on replacing critical components while maintaining  
27 a usable workspace of employees on a day to day basis.



1 Major work programs include:

- 2 • Replacement of major (HVAC) systems including cooling towers, roof tops units and  
3 split units;
- 4 • Upgrade of garage exhaust system to meet new requirements;
- 5 • New/additional workspaces to accommodate staff growth;
- 6 • Energy efficiency upgrades;
- 7 • Curtain wall structural replacement; and
- 8 • Roof replacement.

1 **Rate Base**

2 **Other Distribution Assets**

3  
4 Enersource's System Control and Data Acquisition ("SCADA") system comprises Enersource's  
5 "Other Distribution Assets". In the 2008 Test Year, it is forecast to have a gross value of  
6 \$14.852 million.

7  
8 The SCADA system consists of sensors deployed throughout the service area that monitor the  
9 performance of the distribution system and communicate this information to Enersource's  
10 Control Room. For example, the SCADA system collects the data necessary to create a load  
11 duration curve for a specific feeder that can be analyzed to identify the need for expansion or  
12 reinforcement. It can also be used to optimize system design and system operations, reduce  
13 losses and reduce outage duration. Typically, as a distribution system increases in size, extent or  
14 complexity then the need for an increasingly sophisticated SCADA system also increases.

15  
16 The SCADA's unique attribute is that it provides real time information about the operation and  
17 functioning of the distribution system. Real time information can be used by the system operator  
18 to optimize system performance. Because a SCADA is an automated system and actions can be  
19 executed in a streamlined and rapid manner, undesirable operating situations can be avoided,  
20 thereby enhancing reliability, and response times can be minimized. Because events can be  
21 identified earlier and because the distributor can, in some instances, remedy the situations  
22 through automated actions, overall system reliability is further enhanced. The information  
23 collected by a SCADA system can be used over the longer term by the system planner to identify  
24 assets that are heavily loaded and to provide appropriate levels of reliability.

25  
26 Some distribution system modifications are necessary to realize the full benefits of a SCADA  
27 system. For example, it is necessary to install automated switches on feeders in order to take full

- 1 advantage of the streamlining capability of a SCADA system and to be able to reduce outage
- 2 times experienced by customers.

1 **Rate Base**

2 **Working Capital Allowance**

3  
4 Enersource proposes a Working Capital Allowance of \$96.477 million for the 2008 Test Year.

5  
6 Enersource has relied on the Board's 2006 EDR methodology for determining the proposed  
7 Working Capital Allowance. Enersource has used the three year actual weighted average  
8 monthly price for 2004-2006 to forecast the Cost of Power. The forecast Controllable Costs are  
9 provided at ExC/Sched3/Tab5.

10  
11 **Variance analysis**

12  
13 **2008 Test Year versus 2007 Bridge Year**

14 The variance in the controllable costs is provided at ExC/Sched3/Tab6. The variance in the cost  
15 of power is related to price and volume variances.

16  
17 **2007 Bridge Year versus 2006 Historic Year**

18 The variance in the controllable costs is provided at ExC/Sched3/Tab6. The variance in the cost  
19 of power is related to price and volume variances.

1 **Capital Spending**

2  
3 Enersource proposes to invest a total of \$44.595 million (ExC/Sched3/Tab4) during the 2008  
4 Test Year as follows:

- 5 • Distribution system: \$40.681 million;
- 6 ○ Distribution System Growth: \$9.275 million;
- 7 ○ Reliability: \$ 12.950 million;
- 8 ○ Customer Related: \$9.389 million;
- 9 ○ Wholesale Meters: \$0.145 million;
- 10 ○ Internal: \$8.922 million;
- 11 • CIS: \$ 3.914 million;
- 12

13 The Project Business Cases that support the investment in the distribution system are provided at  
14 ExC/Sched6/Tab2. The documentation in support of the investment in the CIS is found at  
15 ExC/Sched2/Tab3. The documentation in support of the investment in Meters is found at  
16 ExC/Sched2/Tab4.

17

18 In the 2007 Bridge Year Enersource forecasts an investment of \$43.488 million as follows:

- 19 • Distribution system: \$39.488 million;
- 20 • CIS: \$4 million; and
- 21

22 In the 2006 Historic Year Enersource invested \$36.517 million in the distribution system.

1 **Capital Budget**

2 **Distribution System**

3 Enersource's 2008 Test Year capital budget for the distribution system amounts to approximately  
4 \$40.681 million. It provides for system capacity and expansion projects, including rebuilds and  
5 upgrades, investments to maintain or improve reliability, wholesale metering and internally  
6 driven projects. This amount excludes the investment in the Customer Information System (CIS)  
7 detailed in ExC/Sched2/Tab1.

8  
9 Electrical power in the City of Mississauga originates from 10 Hydro One transformer stations.  
10 The power is transformed at these transformer stations from 230 kV down for municipal use to  
11 sub-transmission voltages of 44 kV and 27.6 kV and to primary distribution voltage of 16.0/ 27.6  
12 kV. The sub-transmission voltages of 44 kV and 27.6 kV are further transformed at the  
13 substations owned by Enersource, to primary distribution voltages of 8.0/13.8 kV and 2.4/4.16  
14 kV. A description of Enersource's distribution system is found at ExA/Sched8.

15  
16 Significant growth has occurred in a number of new housing, industrial and commercial service  
17 developments over the last three years. Extensive industrial development is continuing to occur  
18 within the North 27.6kV system and this trend is expected to continue over the next three to five  
19 years. A major water and waste water treatment plant (26MW) is expected to be fully  
20 operational by 2008 and will be fed by the South 27.6kV system. The 44kV system continues to  
21 serve predominantly residential and commercial loads and will be further stressed by significant  
22 residential loads that are planned and under construction in the western and central portion of the  
23 city over the next 2 to 3 years. It is projected that an additional 30MW will be added to the  
24 Enersource grid in these areas in the next two years. It is clear that Enersource's system will  
25 have to be expanded in the medium term, to effectively and reliably serve its customers.

26

1 Enersource's system peak is almost entirely weather driven. The year to-date system peak for  
2 2006 was 1610 MW and was reached on August 1<sup>st</sup> 2006. This system peak is 2.55% greater  
3 than the previous system peak of 1570 MW set July 2005. The summer of 2005 overall was  
4 much hotter overall than the summer of 2006; this was seen with improved reliability numbers  
5 for 2006 compared to 2005. Enersource customers experienced an average of 27.2 minutes of  
6 power interruption for 2006; which is a decrease of 4.5 minutes (14.2%) from 2005.

7  
8 The System Capacity Report (ExC/Sched6/Tab1) discusses Enersource's capital program for the  
9 period 2008 to 2010.

10  
11 Enersource invests in the distribution system for the following reasons:

- 12 • To satisfy growth related requirements;
- 13 • To be able to continue to reliably serve existing customers;
- 14 • To maintain overall system reliability;
- 15 • To satisfy regulatory requirements and to comply with government programs; and
- 16 • To maintain its internal infrastructure.

17  
18 Enersource's capital budgeting process begins with the examination of the status of the existing  
19 system. This is captured in the System Capacity Report and Load Duration Curves Report.  
20 Enersource also examines its records on the failure of system assets (e.g., number of faults  
21 occurring in the year, location of faults to detect clustering) and of the vintage of assets in areas  
22 that recorded higher than acceptable levels of failures. Enersource also considers the  
23 performance of the distribution system in those areas where the infrastructure is approaching the  
24 end of its design life. The effect of known and anticipated load increases are modeled by level  
25 and by location to identify the need for reinforcement and then to estimate the required system  
26 reinforcement. Enersource also analyzes reliability data for the system overall to identify areas  
27 of lower than desired reliability.

28

1 Enersource's compliance with regulatory requirements and government programs also gives rise  
2 to the need to invest in capital. For example, the government's Smart Meter Initiative creates the  
3 need to invest in this technology at the customer's premises and upstream (e.g., at Enersource's  
4 office). Ongoing changes in the market place also give rise to capital spending. Enersource  
5 must also invest in its internal resources that are relied on to provide service to the customer – for  
6 example its fleet and its computer and telecommunications systems. These assets are required to  
7 provide safe and reliable distribution service, to provide emergency service and to maintain the  
8 distribution system and Enersource's infrastructure.

9  
10 After all capital investment opportunities have been identified, they are examined for  
11 importance, timeliness, priority and consequences of deferring the proposed spending. The  
12 initiatives that are considered priorities of the upcoming period are documented in Enersource's  
13 Project Business Cases (ExC/Sched6/Tab2). This document is used to support decision making  
14 by management and the executive. After management approves a project the following control  
15 documents are prepared:

- 16 • Detailed implementation plan;
- 17 • Detailed project schedule; and
- 18 • Detailed budget.

19  
20 These proposals are reviewed by management and approved if they are consistent with the  
21 previously granted authorizations and they do not create conflicts with other projects.

22  
23 Enersource relies on its long standing internal control processes with respect to spending and  
24 project progress. Any deviations from the authorized plan are probed to the full extent  
25 necessary. If an adjustment to the original authorization is required it is obtained through a  
26 formal review process.

27



1 Major Drivers for Facilities Requirement

2 Additions to Enersource's distribution system are normally required because of an expected  
3 violation of Enersource's performance criteria. Observed or anticipated violations of system  
4 adequacy, in particular the ability to maintain satisfactory power capacity and voltage levels,  
5 most commonly drives the need for new facilities. Enersource checks for violations of its  
6 performance criteria by using load flow models to identify forecast increases in power flow over  
7 the subtransmission or distribution facilities. Also, aging infrastructure is another major factor,  
8 which is unrelated to increased power transfers, but may result in a requirement for new or  
9 upgrade of facilities.

10

11 The major drivers contributing to the need for new or upgrade of facilities include:

12

- 13 • Long Term Demand Forecast;
- 14 • Connection of future new large customers;
- 15 • Load Duration Curves; and
- 16 • Reliability Performance.

17

18 Long Term Demand Forecast

19 Enersource's observed peak demand growth for 2000 to 2006 is an average annual rate of 4.62%.  
20 Demand growth is a function of weather, economic activity, population growth and increase in  
21 the number of housing units. The City of Mississauga's economy has expanded consistently  
22 since 2000. The population has grown by 40,000 people, 55,000 new jobs have been added and  
23 more than 20,000 housing units have been built. Because the City will be fully developed in the  
24 next 5-10 years, modest growth will be experienced thereafter as re-development occurs (e.g.,

1 high density housing replaces low density housing). Enersource's Long Term Demand Forecast  
2 (ExB/Sched3/Tab3) provides further information.

### 3 Connection of New Large Customers

4 Extensive industrial development continues to occur within the North 27.6 kV system and is  
5 trend is expected to continue over the next three to five years. A major water and waste water  
6 treatment plant (26MW) is expected to be fully operational by 2008 and will be fed by the South  
7 27.6kV system. The 44kV system continues to serve predominantly residential and commercial  
8 loads and will be further stressed by significant residential loads that are planned and under  
9 construction in the western and central portion of the city over the next 2 to 3 years. It is  
10 projected that an additional 30MW will be added to the Enersource grid in these areas in the next  
11 two years. Enersource's system will need to be expanded in the medium term to reliably serve  
12 its customers.

### 13 Load Duration Curves

14 Load duration curves are used to identify prolonged or abnormal loading of feeders and  
15 transformers at stations. This data, in combination with reliability data, is used to identify those  
16 areas of Enersource's system that require immediate attention.

### 17 Reliability Performance

18 System reliability for 2006 was markedly improved versus 2005, as measured by the average  
19 customer minutes outage per customer. This is mainly due to a single sustained heat wave in  
20 2006 as compared to the sustained stress on the distribution system during the heat wave of  
21 2005. Our customers experienced an average of 27.2 minutes of power interruption for 2006, a  
22 decrease of 4.5 minutes (14.5%) from 2005.

23

24

1

<b>TOTAL INTERRUPTIONS</b>					
	<b>2006</b>	<b>2005</b>	<b>2004</b>	<b>2003</b>	<b>2002</b>
<b>INTERRUPTIONS</b>	451	484	430	432	496
<b>CUSTOMERS AFFECTED</b>	132,000	166,000	109,000	130,000	108,000
<b>CUSTOMER MINUTES</b>	4,892,000	5,637,000	3,875,000	4,017,000	3,925,000
<b>SAIDI (Minutes)</b>	<b>27.2</b>	<b>31.7</b>	<b>22.1</b>	<b>23.4</b>	<b>23.6</b>
<b>CAIDI (Minutes)</b>	37.1	34.2	35.5	30.8	36.5
<b>SAIFI</b>	0.73	0.93	0.62	0.76	0.65
<b>SAIFI (MI)</b>	3.80	3.40	1.6	2.1	2.0

2

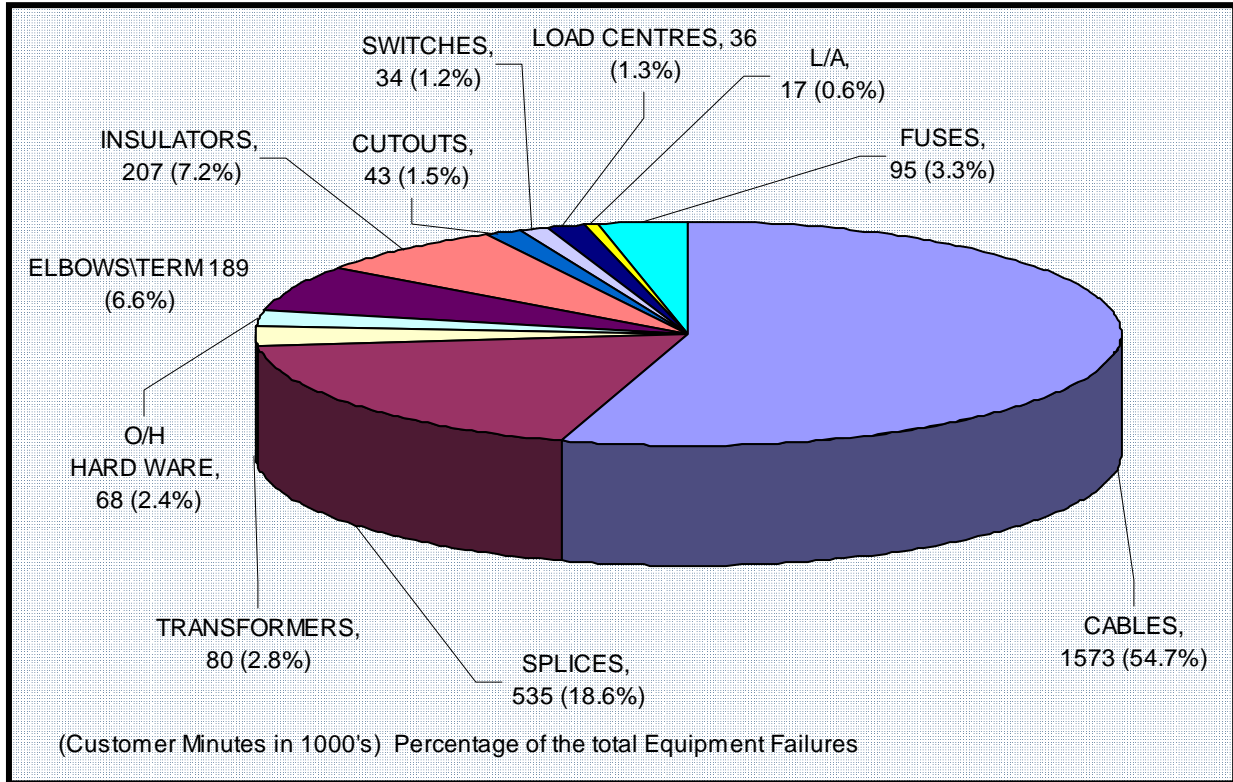
3

4 The figure below documents the observed Equipment Failures in 2006 by type of equipment.  
 5 Cable and cable splice failures are the most common causes of customer outages. Enersource's  
 6 distribution system is aging and there is a clear need to continue to replace cable. A detailed  
 7 review of the performance of individual system components was undertaken as part of this  
 8 report. This included analysis of loading, line losses and reliability of substations and feeders.

9

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16 To be able to supply increased load and to maintain system reliability, a number of system  
 17 expansion and rebuild projects are proposed for 2008 to 2010. In addition, the plan recommends  
 18 the continuation of other projects (e.g., remote monitoring of the system, automation, upgrading  
 19 to new Remote Telemetry Units) that will allow accurate loading measurement on system  
 20 components and faster switching for power restoration during outages. This will improve the  
 21 ability to manage the loading of power-carrying components of the electrical distribution  
 22 network and may reduce the need of future construction of additional redundancy in the system.

23 A number of projects relating to system upgrade, including transformer replacement, overhead  
 24 distribution upgrade and underground distribution upgrade are also included.

1 Facilities Investment Categories & Budgets

2 Enersource uses five facilities investment categories, they are:

- 3 • System Capacity – Growth Driven Investment;
- 4 • System Maintenance – Reliability Driven Investment;
- 5 • System Expansion & Upgrades – Customer Driven Investment;
- 6 • Non-System Requirements – Regulatory Driven Investment; and
- 7 • Non-System Requirements – Internally Driven Investment.

8 Each category can have a Capital and/or OM&A component.

9 Enersource's capital programs, historical and proposed budget levels are described below:

10

11 **System Capacity – Growth Driven Investment**

12

13 The System Capacity – Growth Driven Investments capital projects are undertaken to ensure that  
14 Enersource has the capability to provide a secure and reliable supply of electrical energy in  
15 response to cumulative system wide load growth demands. Growth is predicted through the  
16 combined use of load-forecast models, historical growth patterns, and specific load  
17 measurements taken at times of heavy loading during the summer.

18

19 System Capacity – Growth Driven Investments projects either increase the capability of existing  
20 Enersource lines and substations or require that Enersource construct new lines and substations  
21 in response to system growth forecasts. The proposed funding of capital projects for System  
22 Capacity – Growth Driven Investments and their spending levels for the bridge and historic years  
23 are provided in the table below:

1

2

**Capital Budget: System Maintenance – Reliability Driven Investments (Millions)**

Description	Historic Year	Bridge Year	Test Year
	2006	2007	2008
<b>Subtransmission/Distribution Lines Construction</b>	4.81	5.85	5.85
<b>Substation Construction</b>	3.31	2.88	3.43
<b>Total</b>	<b>8.12</b>	<b>8.73</b>	<b>9.28</b>

3

4

5

**System Maintenance – Reliability Driven Investment**

6

7

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13

System Maintenance – Reliability Driven Investments are defined as projects required to maintain the existing infrastructure and facilities at their required performance level. These capital projects deal with replacement of assets at end of life (i.e. transformer replacements, subdivision rebuilds, pole replacements). The proposed funding of capital projects for System Maintenance – Reliability Driven Investments and their spending levels for the bridge and historic years are provided in the table below:

**Capital Budget: System Capacity – Growth Driven Investments (Millions)**

Description	Historic Year	Bridge Year	Test Year
	2006	2007	2008
<b>Subdivision Rebuilds</b>	4.29	5.95	6.10
<b>Overhead Distribution Upgrades</b>	2.99	2.53	2.60
<b>Underground Distribution Maintenance</b>	2.30	2.13	2.20
<b>Transformer Replacement</b>	0.89	0.60	0.65

<b>P&amp;C and SCADA Upgrades</b>	1.55	1.37	1.40
<b>Total</b>	<b>12.01</b>	<b>12.57</b>	<b>12.95</b>

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**System Expansion & Upgrades – Customer Driven Investment**

System Expansion & Upgrades – Customer Driven Investments are defined as projects required to connect new customers or to modify customers’ present service. These projects are mandatory and include:

- new residential/commercial/industrial services;
- city or region road relocation projects; and
- new/upgrade metering equipment.

The proposed funding of capital projects for System Expansion & Upgrades – Customer Driven Investments and their spending levels for the bridge and historic years are provided in the table below.

**Capital Budget: System Expansion & Upgrades – Customer Driven Investment (\$ Millions)**

Description	Historic Year	Bridge Year	Test Year
	2006	2007	2008
<b>New Industrial/Commercial Customer Services</b>	4.53	4.00	4.20
<b>New Subdivisions</b>	2.39	2.50	2.58
<b>Road Projects</b>	0.50	0.75	0.75
<b>Metering &amp; Customer Additions</b>	1.11	1.95	1.87
<b>Total</b>	<b>8.53</b>	<b>9.20</b>	<b>9.40</b>

1 **Non-System Requirements – Regulatory Driven Investment**

2 Non-System Requirements – Regulatory Driven Investments are those projects mandated by  
 3 electricity regulations; they include:

- 4 • wholesale metering upgrades per IESO market rules;
- 5 • government initiatives, such as smart metering and conservation/demand response
- 6 programs.

7  
 8 The proposed funding of capital projects for Non-System Requirements – Regulatory Driven  
 9 Investments and their spending levels for the bridge and historic years are provided in the table  
 10 below.

11  
 12 **Capital Budget: Non-System Requirements – Regulatory Driven Investments (\$ Millions)**

Description	Historic Year	Bridge Year	Test Year
	2006	2007	2008
Conservation & Demand Response	1.88	0.61	0.00
Wholesale Metering	0.15	0.77	0.15
<b>Total</b>	<b>2.03</b>	<b>1.38</b>	<b>0.15</b>

14  
 15 **Non-System Requirements – Internally Driven Investment**

16  
 17 Non-System Requirements – Internally Driven Investments are required to enhance, refurbish  
 18 and replace computer management systems, major tools, building facilities, fleet, information  
 19 systems and engineering & asset systems. The proposed funding of capital projects for Non-  
 20 System Requirements – Internally Driven Investments and their spending levels for the bridge  
 21 and historic years are provided in the table below.



1  
 2  
 3  
 4

**Capital Budget: Non-System Requirements – Internally Driven Investments (\$ Millions)**

<b>Description</b>	<b>Historic Year</b>	<b>Bridge Year</b>	<b>Test Year</b>
	<b>2006</b>	<b>2007</b>	<b>2008</b>
<b>CIS</b>	-	4.00	3.91
<b>Rolling Stock</b>	1.62	1.86	1.86
<b>Major Tools</b>	0.14	0.15	0.15
<b>Information Technology</b>	1.04	1.09	0.72
<b>Engineering &amp; Asset Systems</b>	2.04	2.40	1.55
<b>Grounds &amp; Buildings</b>	0.99	2.11	4.65
<b>Total</b>	<b>5.83</b>	<b>11.60</b>	<b>12.84</b>

1 **Expansions and Connections**

2  
3 Under the terms and conditions of the Distribution System Code, Enersource is required to make  
4 an offer to connect to newly connecting customers. A flow chart of Enersource's process is  
5 provided at ExC/Sched3/Tab2.2.

6 Enersource, upon receiving detailed plans and specifications from the Customer, performs  
7 system planning studies to determine whether an expansion of the distribution system is required.  
8 If system expansion is not required, Enersource will recover the costs associated with the  
9 installation of "Connection Assets" by customer class, via variable connection charges as  
10 applicable. If system expansion is required, Enersource will undertake preliminary planning and  
11 design, engineering specification and an economic evaluation that calculates the Net Present  
12 Value ("NPV") of the required expansion of the distribution system. The NPV captures the  
13 revenue generated by new loads and whether they off-set the capital investment and on-going  
14 expenses of the expansion. If the NPV of the economic evaluation is positive, no capital  
15 contribution is identified and connection charges are applied by customer class. However, if the  
16 NPV is negative, Enersource makes an offer to connect (ExC/Sched2/Tab2.4).

17  
18 Enersource complies with the Distribution System Code's requirements when conducting  
19 economic evaluations of expansions. The parameters, common elements and assumptions of  
20 Enersource's approach are provided at ExC/Sched3/Tab2.3.

21 **Revenue Forecasting**

22 Enersource relies on the following common assumptions:

- 23 • Total forecasted customer additions over the Customer Connection Horizon (5 Years), by  
24 class as specified below;
- 25 • Customer Revenue Horizon (25 years);

- 1 • Project specific estimates of the mix of customers;
- 2 • Typical energy and demand per added customer is as follows:

3	<b>Average Energy</b>	
4	<b>Customer Class</b>	<b>Monthly kWh/Customer</b>
5		
6	Residential	864
7	Small Commercial	491
8	General Service <50	3,123

10	<b>Average Demand</b>	
11	<b>Customer Class</b>	<b>Monthly kW/Customer</b>
12		
13	General Service >50 non-TOU	148
14	General Service >50 TOU	1,006
15	Large User	12,140

- 17 • Rates form the approved rate schedules reflecting the distribution (wires only) rates.

### 18 **Capital Cost Forecasting**

19 Common estimates and assumptions include:

- 20 • For expansions to the distribution system:
  - 21 ○ Distribution stations;
  - 22 ○ Distribution lines;
  - 23 ○ Distribution transformers;

- 1           o Secondary busses;
- 2           o Services; and
- 3           o Land and land rights;
- 4           • Estimate of incremental overheads (ExC/Sched2/Tab2.3) applicable to distribution
- 5           system expansion.

#### 6 **OM&A Expense Forecasting**

7 For the purposes of conducting the NPV calculations, Enersource uses the average OM&A of  
8 \$129.23/year/customer. Enersource also recognizes:

- 9           • Income and capital taxes based on tax rates underpinning the existing rate schedules; and
- 10          • Municipal property taxes based on projected levels.

11

#### 12 **Customer Classification:**

13 The capital contribution collected from the Customer varies with the applicable customer class.

14 Residential:

- 15           • Single Service, Overhead or Underground: a capital contribution is not collected from
- 16           the customer; rather Enersource charges the actual cost of the connection assets in excess
- 17           of the standard allowance.
- 18           • New residential subdivisions (2 or more single services): Enersource seeks a capital
- 19           contribution per the process described previously.

20

21 General Service

- 22           • Enersource seeks a capital contribution from all general service customers;

- 1       • Industrial/commercial subdivisions: Capital contribution process will be applied.

2       **Offer to Connect**

3       If an expansion is needed then Enersource will make the customer an “Offer to Connect”  
4       (ExC/Sched3/Tab2.4).

5       **Enersource’s Obligations under “Offer to Connect”**

6       If the NPV of the economic evaluation is negative, Enersource makes an Offer to Connect that  
7       includes:

- 8       • The amount of the capital contribution that the customer will have to pay for the  
9       expansion;
- 10      • The calculation used to determine the amount of the capital contribution to be paid by the  
11      customer including all of the assumptions and inputs used to produce the economic  
12      evaluation as described above;
- 13      • A statement as to whether the offer includes work for which the customer may obtain an  
14      alternative bid and, if so, the process by which the customer may obtain the alternative  
15      bid.
- 16      • Information to the customer that he/she has a choice to obtain an “Alternate Bid” from  
17      pre-qualified contractors;
- 18      • A description of, and the costs for, the contestable work and the uncontestable work  
19      associated with the expansion broken down into the following categories:
- 20          ○ labor (including design, engineering and construction);
- 21          ○ materials;
- 22          ○ equipment; and
- 23          ○ overhead (including administration)
- 24      • The amount for any additional costs that will be incurred as a result of the alternative bid  
25      option being chosen (including, but not limited to, inspection costs);

- 1       • If the offer is being made to a residential customer: the offer to connect will also include  
2       a description of, and the amount for, the costs of the basic connection (referred to in  
3       Section 3.1.4 of the Distribution System Code) that has been factored into the economic  
4       evaluation;
- 5       • If the offer is to a non-residential customer: the offer to connect will also include a  
6       description of, and the amount for, the connection charges referred to in section 3.1.5 of  
7       the Distribution System Code that have been factored into the economic evaluation;
- 8       • If Enersource’s offer to connect is an estimate of the costs to construct the expansion and  
9       is not a firm offer, the offer to connect will indicate that the final amount charged to the  
10       Customer will be the actual costs incurred and that Enersource will calculate the first  
11       estimate and the final payment at no extra expense to the Customer (note: whether the  
12       offer is firm or is an estimate, the NPV revisions in the final payment will reflect the  
13       actual costs incurred)

14 In all cases, the amount Enersource may charge a customer, other than a generator or distributor,  
15 to construct the expansion to Enersource Hydro Mississauga’s distribution system shall not  
16 exceed the customer’s share of the difference between the present value of the project capital  
17 costs and ongoing maintenance costs for the equipment and the present value of the projected  
18 revenue.

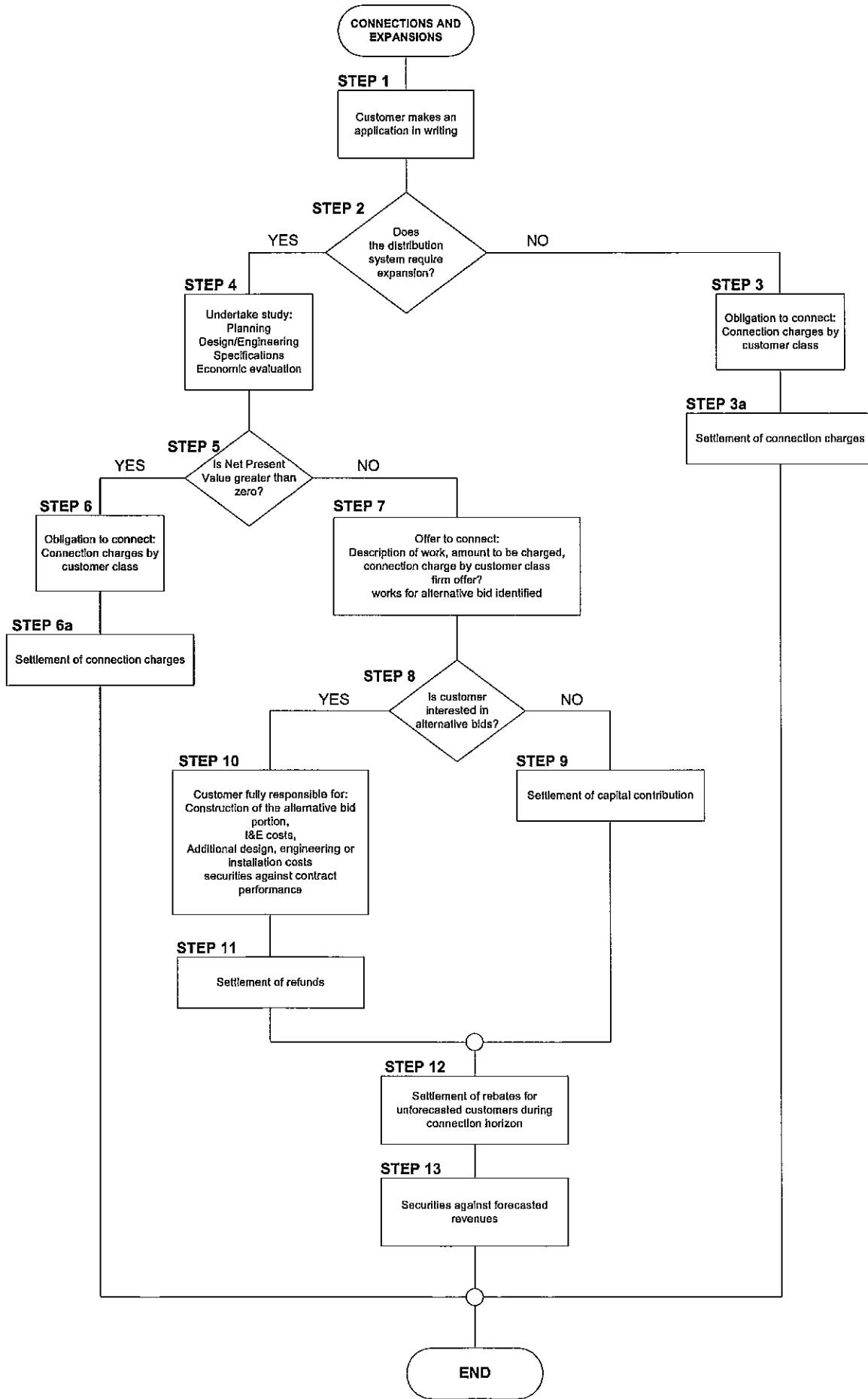
19 **Alternate Bids**

20 Enersource’s offer to connect will include a statement as to whether the offer includes work for  
21 which the customer may obtain an alternative bid and, if so, the process by which the customer  
22 may obtain the alternative bid. The conditions for “Alternate Bids” are:

- 23       • Project requires “Capital Contribution” from the Customer; and
- 24       • Construction work does not involve work with existing circuits.

25 If the customer adopts the alternative bid then Enersource requires the Customer to:

- 1           • complete all contestable work including: select and hire the contractor, pay the  
2           contractor's costs for the contestable work, assume full responsibility for the  
3           construction of that aspect of the expansion;
  
  - 4           • be responsible for administering the contract (including the acquisition of all  
5           required permissions, permits and easements) or have the customer pay  
6           Enersource Hydro Mississauga to do this activity;
  
  - 7           • ensure that the contestable work is done in accordance with Enersource Hydro  
8           Mississauga's design and technical standards and specifications; and
  
  - 9           • Inspect and approve, at cost, all aspects of the constructed facilities as part of a  
10          system commissioning activity, prior to connecting the constructed facilities to  
11          the existing distribution system.
- 12   Enersource Hydro Mississauga reserves the right to inspect and approve all aspects of the  
13   constructed facilities as a part of a system commissioning, prior to connecting the constructed  
14   facilities to the existing distribution system;





## **APPENDIX C**

### **“UPSTREAM” COST CALCULATIONS METHODOLOGY”**

#### **ENERSOURCE HYDRO MISSISSAUGA**

June 14, 2001

## UPSTREAM COST CALCULATIONS

<b>CONTENTS</b>		<b>PAGE</b>
1.0	Overview	3
2.0	Electrical Distribution System	3
3.0	Definitions	5
4.0	Study Process	6
5.0	Results	7

## 1.0 OVERVIEW

This study is to establish the “upstream” costs for making a supply connection available to new development. This cost will contribute towards the cost of expanding the Electrical Grid System to supply electrical power to the proposed development.

The electrical power load supplied is measured in kilowatts (kW).

The “upstream” charge is developed by obtaining the historical electrical load increase for the previous five-year period 1995-2000, and the electrical grid expansion completed during the same period. Based on these historical capital expenditure (\$) and the electrical load increase (kW) an average unit cost (\$ per kW) the period is calculated.

The “upstream” charge per consumer type is then the product of the unit cost from the above and the electrical load density per consumer category.

This document details this calculation.

## 2.0 ELECTRICAL DISTRIBUTION SYSTEM

Electrical Power in the City of Mississauga originates from nine Hydro One Transformer Stations (T.S.), and these are:

- 1 Erindale T.S.
- 2 Tomken T.S.
- 3 Lorne Park T.S.
- 4 Cooksville T.S.
- 5 Oakville T.S.
- 6 Bramalea T.S.
- 7 Woodbridge T.S.
- 8 Richview T.S.
- 9 Meadowvale T.S.

Power from the Hydro One Transmission System is transformed at these Stations for municipal use at Sub-transmission Voltages of 44 kV and 27.6 kV, and at Primary Distribution voltage of 27.6/16 kV.

The City of Mississauga can therefore be divided geographically into the following separate areas of electrical supply based on the Hydro One supply voltages:

Areas supplied at 44 kV Sub-transmission voltage:

- Erindale/Tomken/Meadowvale T.S. 44 kV Supply Area
- Bramalea/Woodbridge T.S. 44 kV Supply Area

Areas supplied at 27.6 kV Sub-transmission voltage:

- South 27.6 kV Supply Area
- Richview T.S. 27.6 kV Supply Area

Area supplied at 27.6/16 kV Primary Distribution voltage:

- North 27.6/16 kV Supply Area

The Sub-transmission Voltages of 44 kV and 27.6 kV are further transformed at the Municipal Substations (M.S.) to Primary Distribution Voltages of 13.8 kV and 4.16 kV respectively.

The Electrical Distribution System in the above five supply areas can be subdivided electrically into the following sub-systems

Areas supplied at 44 kV Sub-transmission voltage:

- Sub-transmission 44 kV
- Substations 44/13.8 kV
- Primary Feeders 13.8 kV

Areas supplied at 27.6 kV Sub-transmission voltage:

- Sub-transmission 27.6 kV
- Substations 27.6/4.16 kV
- Primary Feeders 4.16 kV

Area supplied at 27.6/16 kV Primary Distribution voltage:

- Primary Feeders 27.6/16 kV

The facilities are expanded in accordance with the above electrical sub-systems.

### **3.0 DEFINITIONS**

#### **Diversity Factor**

The diversity factor is the ratio of the sum of individual maximum demands of the various subdivisions of the system to the maximum demand of the whole system.

Note: the diversity factor of a part of a system may be similarly defined as the ratio of the sum of the individual maximum demands of the various subdivisions of the part of the system to the maximum demand of the part of the system under consideration.

#### **Coincidence Factor**

The coincidence factor is the ratio of the maximum coincident total demand of a group of subdivisions of a system to the sum of maximum power demands of individual subdivisions of the system both taken at the same point of supply for the same time. Basically, coincidence factor is the reciprocal of the diversity factor.

#### **Maximum Demand**

The maximum demand of an installation or system is the greatest of all demands that have occurred during the specified period of time (annual, in the present study). This may occur in the summer or winter months. This may also be called Peak Demand or Load and is measured in megawatts (MW).

#### **Coincident Demand or Diversified Demand**

This is the demand of a composite group of loads. It is the sum of contributions of the power demands of individual subdivisions of the system.

#### **Non-coincident Demand**

It is the non-diversified or the sum of the power demands of the individual subdivisions of the system.

### **4.0 STUDY PROCESS**

Following is a brief description of the method used for deriving the “upstream” charge:

Step 1: The historical system capital expenditures for five-year period from 1995 to 2000 are obtained.

Step 2: Capital expenditures for projects related to only system expansion is accepted.

Step 3: The system peak demands for the same period is obtained.

Step 4: The diversity factors for the each of the subsystems is established from the actual subsystem loading information.

Step 5: By applying the appropriate diversity factors to the system peak demand non-coincident peak demand for each of the sub-systems is derived.

Step 6: An aggregate net incremental non-coincident peak demand for the same period for the all the subsystem is calculated.

Step 7: The cost per unit peak demand (i.e. \$ per kW) is then derived by dividing the total System Capital Expenditure for the period by the aggregate net incremental non-coincident peak demand for the same period.

Step 8: The Charge by Consumer categories is then established by multiplying the respective Electrical Load Densities (i.e. kW per Capita or kW per sq. m.) with cost per unit peak demand (i.e. \$ per kW).

## 5.0 RESULTS

Following is the summary of the capital cost and increase in the system peak demand for the period 1996 to 2000.

Total system expansion capital expenditure: \$29,946,000

Total incremental non-coincident peak demand (NPD): 235 MW

Basic "Upstream" Charges Calculations

"Upstream" Charge = (Capital Expenditures/NPD) \$ 127 per kW

## APPENDIX E



July 20, 2007

Mr. Developer  
ABC Development  
3240 Mavis Road,  
Mississauga, Ontario  
L5C 3K1

**Dear Mr. Developer:**

**Re: Summary of “Offer to Connect” for the Installation of New Underground High Voltage Distribution System for ABC Estates (“the Development”) OUR FILE: SO#X234X**

Enersource Hydro Mississauga Inc. (the “Corporation”) acknowledges a request from ABC Estates Limited (the “Developer”) for the electrical servicing for the Development. The Development requires the installation of new high voltage distribution equipment.

The intent of this letter is to outline the Corporation’s offer to connect (“the Offer to Connect”) the Development in a manner that is consistent with the rules outlined in Chapter 3 of the Ontario Energy Board’s Distribution System Code (the “Code”). An “Offer to Connect Agreement” (attached) is applicable to this project and must be executed between the Corporation, Developer and Mortgagee (if any) and returned to the corporation prior to the Corporation commencing work. For this development the Corporation is required by the Code to make information available about an alternate bid (“the Alternate Bid”). A brief description of the Alternate Bid is included in this letter.

The Development has 99 services and will be serviced at an operating voltage of 28kV. The Corporation proposes to install:

- 5500 meters of 1/0 28kV Al XLPE cable,
- 5500 meters of 3-#3/0 Al, XLPEJ 600 V of secondary cable,
- 9 single-phase pad-mounted transformers, concrete foundations and associated grounding, bonding and terminations.

## **General Requirements**

### **Common Trench/Streetlight Clearance**

Regardless of whether the Developer opts for the Offer to Connect or the Alternate Bid, the Corporation requires the Developer to provide it with the necessary joint use confirmation letters from Bell Canada and CATV in order to obtain the Enersource Hydro Mississauga Common Trench / Streetlight Clearance.

However, in addition for 'Alternate Bid' option, a letter of credit (amount specified below) will be required.

### **Sub-Division Registration Clearance**

A payment, which will be stipulated below regardless of whether the developer opts for Offer to Connect or Alternate Bid, is required for the issuance of a registration clearance.

### **Easement Requirements (if any)**

Easement documents must be submitted fifteen (15) days prior to the anticipated energization date. This will allow Enersource Hydro Mississauga to review, process, and register (at Developer's costs) the easements. Energization and/or assumption of the Electrical Plan will not be energized without an executed easement document.

As your design calls to install a portion of the electrical plant, an easement will be required. Therefore, please proceed to have your solicitor contact our City Legal Office c/o Ms. Barbara Thomson at (905) 615-3200 Ext. 5413 for an electronic copy of our standard easement language. Also please provide our office c/o Godwin Beaumont, three copies of deposited R-Plans.

Any charges the City of Mississauga with respect to granting easements over the lands shall be the full responsibility of the developer. A separate invoice for such easement charges would follow.

### **Offer to Connect**



If the Developer chooses to proceed with Offer to Connect, the Corporation shall be responsible for detailed design engineering, the supply of all labour and materials and the energization of the Electrical Plant. Based upon the servicing requirements outlined above, the Corporation's estimated cost to install the new electrical plant is \$545,655.48 as follows:

- Detailed Design Review and System Planning is \$7,365.60 (plus GST),
- Construction Labour and equipment is \$149,819.91 (plus GST),
- Material cost is \$388,469.97 (plus GST).

The Corporation has performed an economic evaluation as required by the Code and has determined your estimated capital contribution to be \$442,634.45. The payment of the capital contribution will be as provided in the Agreement.

Furthermore, the estimated cost to install the new streetlight is \$108,192.09 as follows:

- Construction Labour and equipment is \$15,074.73 (plus GST),
- Material cost is \$93,117.36 (plus GST).

Therefore, we require a certified cheque in the total amount of \$550,826.54 (plus GST) representing required capital contribution to install new electrical plant and street lighting.

Upon receipt of cheque, the Corporation will provide Common Trench/Streetlight and Registration clearances to the City of Mississauga. (Note: Costs to install streetlights are not included in the economic evaluation performance)

Please allow ten (10) weeks after the final design has been completed and agreed upon for installation of this on-site service.

In the event of a completion of the project and in view of the fact that these are estimated costs only, the corporation will perform and complete an economic evaluation based on actual costs and shall notify of any refund owed to the Developer or any additional payment owed to the Corporation as a capital contribution.

### **Alternate Bid**

As outlined above, the project requires a capital contribution from the Developer and as such the Developer is entitled under the Code to seek an Alternative Bid.

If an Alternate Bid is chosen, the Developer must hire and pay the contractor's entire costs and assume full responsibility and liability for the construction of this work. The

Developer will also be responsible for administering the contract including all required permissions, permits, all joint trench co-ordination, billing with other utilities (i.e. street lighting, Rogers Cable, Bell Canada, etc.), and easements that may be required.

Moreover, the Corporation will complete the Detailed Design Engineering, Connection Work and the Inspection and Energization of the Electrical Plant. The Corporation will complete all work involving existing circuits. The Developer will be responsible for the Corporation's costs to provide an inspector to verify that construction meets Corporation's standards.

The Developer will be required to use only materials that are approved by EHM. As per ESA Reg. 22/04, prior to energization supporting test documentation from manufacturers for major equipment/materials must be submitted to the Corporation.

The Developer shall pay to the Corporation 30 days prior to construction a certified cheque in the amount of \$30,345.00 (plus GST), details as follows:

- Detailed Design Review and System Planning is \$7,365.60 (plus GST),
- Material, Labour and Equipment is \$10,781.54 (plus GST),
- Inspection and Energization is \$12,197.86 (plus GST).
- 

In addition, the Developer shall submit:

- Proof of "Labour and Material Payment Bond" from a Canadian company in the amount of \$600,221.02 representing 110% of the electrical plant costs.
- Security in the form a Letter of Credit in the amount of \$54,565.54 representing 10% of \$545,655.48 new electrical plant cost.
- A separate Letter of Credit in the amount of \$108,192.09 representing Streetlight cost.

The Letter of Credit should be in the same format as enclosed and must be from a recognized financial institution with a DBRS rating of R-1 middle or R-1 high.

These Letters of Credit must be kept in force until final assumption/billing of the project is completed.

Upon receipt of the above requirements, the Corporation will provide Common-trench/Streetlight and Registration clearances to the City of Mississauga.

The Developer shall provide the Corporation four (4) weeks advance notice before the commencement of the project so that proper inspection resources can be scheduled.

After the Electrical Plant has been inspected and approved by the Corporation, the Developer will then transfer ownership of the new plant to the Corporation. The Developer must provide a minimum of one-year maintenance period to the Corporation after the plant has been energized. During this time the Developer must correct all deficiencies resulting from incorrect installation (improper grade, location, settlement, etc.) to the satisfaction of the Corporation, in its sole discretion.

On completion of project, the Developer must supply the Corporation with the following:

- a detailed Final Capitalization Cost breakdown (distribution, transformation and streetlighting, if any) and
- a notarized Statutory Declaration confirming Final Capitalization Cost.

Upon receipt of these documents, an economic evaluation shall be performed again to determine, if the Corporation owes the Developer a refund or whether the Developer owes the Corporation additional money in the form of a capital contribution.

### **Notes**

The prices provided are estimates only and any amounts owed will be adjusted based on actual costs incurred.

This "Offer to Connect" does not include trenching in frost, cut & replace asphalt, fluctuations in base metals, additional sand backfill, cost to install secondary services from lot line to meter base and connection fee.

This cost is based on the plans submitted and electrical plan installation prior to construction of buildings. Any revisions to the plans that may necessitate modifications to the design and associated project costs will be put in writing. The Developer is responsible for all costs associated with these modifications.

If un-forecasted customers are connected within connection horizon of five (5) years, the developer shall be entitled to a rebate (without interest) from Enersource Hydro Mississauga.

The "Offer to Connect" is open for acceptance for a 45 day period with construction commencing six (6) months from such time.

Should you have any questions, please do not hesitate to call me at (905) 283-4065.

Yours truly,

Senior Manager, Customer Engineering Department

1                                    **INFORMATION TECHNOLOGY PROGRAM DESCRIPTIONS**

2                                    **CUSTOMER INFORMATION SYSTEM UPGRADE**

3  
4    The Customer Information System (“CIS”) Upgrade is a major strategic project for the  
5    Information Technology (“IT”) department.

6  
7    Enersource’s goal is to replace its existing Customer Information System with ORCALE/SPL’s  
8    (“SPL”) Customer Care and Billing CIS solution. The implementation of the SPL CIS solution  
9    is a joint development project between Toronto Hydro Electric System Limited and Enersource.  
10    SPL was the lowest cost proposal and the only vendor who would commit to provide ongoing  
11    updates such that the system remains compliant with Ontario market requirements and  
12    innovations. The costs related to maintaining ongoing compliance with the Ontario market will  
13    be covered under the regular maintenance fees.

14  
15    Moving to SPL’s CIS solution in conjunction with Toronto Hydro will address four main  
16    Enersource specific concerns:

- 17            • the existing CIS is eight years old and is fully depreciated;
- 18            • If Enersource remains on its existing CIS, there is a risk that required new functionality  
19            may not be able to be provided. Time of Use (“TOU”) commodity rates will become  
20            mandatory in the future. To be able to implement TOU rates, additional customer billing  
21            options will need to be developed and data will need to be captured and provided to  
22            customers with relative ease. It is unknown whether, and if so at what cost and level of  
23            quality, the existing CIS can be adapted to this purpose; and
- 24            • the original software vendor of the existing CIS has not supported the software for six  
25            years. It has been supported internally by Enersource and by outside contractors. As a  
26            result, Enersource has had to become self-reliant in supporting this heavily customized  
27            software platform. This is a high risk strategy and is contrary to Enersource’s IT  
28            resourcing strategy. Enersource needs to consider a more current CIS software package

1 that can support the on-going changes in the Ontario electricity market and is supported  
2 by the vendor.

3  
4 Prior to officially partnering with Toronto Hydro, a series of LDC meetings were held among  
5 London Hydro, Enwin, Hydro Ottawa, Horizon, Toronto Hydro and Enersource to discuss the  
6 benefits of developing a common core CIS solution. PowerStream subsequently joined the  
7 group. A series of presentations by CIS vendors and their integrators helped the group assess the  
8 capabilities of the CIS products for the Ontario market. A site visit to Hydro Ottawa - who uses  
9 SPL CIS software - demonstrated that SPL had a foothold in the Ontario market. This presence  
10 confirms SPL's willingness to continue to directly support the Ontario market regulatory changes  
11 and to keep their CIS product current.

12  
13 As result of their investigations, Toronto Hydro and Enersource issued a joint Request for  
14 Proposal for a vendor to configure, design, develop and implement a CIS, in accordance with  
15 their common and unique business processes, as well as being in full compliance with the  
16 Ontario market rules. Of the four vendor solutions that were presented, SPL was chosen.

17  
18 **Program Costs**

19 Enersource's costs amount to approximately \$7.914 million. Enersource commenced the CIS  
20 upgrade program with Toronto Hydro and has committed key Enersource personnel to the  
21 project full-time. The staff assigned to this project, have been back-filled by temporary staff.

22  
23 **Program Benefits**

24 The main benefits of moving to a core SPL CIS solution and of partnering with Toronto Hydro  
25 are:

- 26 • Reduced cost, enhanced regulatory compliance, improved customer service, increased  
27 productivity;

- 1       • Ability to share in future development costs and to achieve a collaborative approach to  
2       regulatory changes;
- 3       • The SPL CIS is compatible with Enersource's JD Edwards ERP solution and uses  
4       Oracle's databases, also presently used by Enersource. By adding Oracle's SPL  
5       Customer Care & Billing to other Oracle applications, Enersource expects to benefit from  
6       both an overall support and the products' ability to work effectively with each other.

7

8       A joint CIS implementation with Toronto Hydro provides several benefits to Enersource  
9       including:

- 10       • lower costs – implementation, software costs; and  
11       • reduced implementation risk.

12

13       In the future Enersource's cost per customer may be lower because of the ability to share  
14       development costs related to regulatory changes.

15

16       This project may realize benefits for the distribution industry in Ontario. For example, there is  
17       the potential for the continued reduction of on-going costs as the other interested LDCs join  
18       Toronto Hydro and Enersource in implementing the core CIS Ontario Market Ready solution.  
19       The SPL solution will eventually provide a standard, off the shelf billing system that is compliant  
20       with the Ontario Market.

21

22

1 **Capital Budget**

2 **Meters**

3  
4 In the 2008 Test Year Enersource will invest in:

- 5 • Conventional meters;  
6 • Wholesale meters.

7  
8 **Conventional Meters**

9  
10 Enersource invests in conventional meters to maintain its retail meter inventory to current  
11 standards and to ensure accurate and dependable customer billing. Failure to maintain an  
12 adequate or properly functioning meter inventory could produce inaccurate billing which may  
13 result in customer disputes concerning sales and revenues.

14  
15 Under Enersource's smart metering plan, all residential and small general service customers that  
16 do not require demand metering will have a smart meter installed. The rest of Enersource's  
17 customers include approximately 4,400 general service commercial and industrial customers that  
18 require demand metering. The investment also includes costs to:

- 19 • upgrade existing metering (e.g., due to customer electrical service upgrades);  
20 • to replace obsolete or damaged meters; and  
21 • to convert from 2.5 element to 3 element metering.

22  
23 The spending level in 2008 is assumes that 560 meters, including hardware (e.g., current  
24 transformers, potential transformers along with other miscellaneous parts such as cable wires,  
25 test blocks and meters seals required to complete the installation) are installed.

26  
27 The funding for this investment will insure that there is adequate inventory of meters and  
28 metering equipment for prompt installation of new services or replacement of damaged metering



1 equipment. Efficient and accurate meter installation and replacement ensures that all  
2 Measurement Canada and any other applicable regulatory requirements are upheld.

3

#### 4 Wholesale Metering

5

6 All wholesale metering installations used for settlement in the IESO-administered market must  
7 be registered with the IESO inline with the IESO Market Rules Chapter 6, section 3.2.  
8 Secondary, the metering installation shall comply in accordance to Measurement Canada's  
9 Electricity & Gas Inspection Act. Specifically, all instrument transformers and meters must be  
10 approved by Measurement Canada. If any of the Instrument Transformers ("ITs") are not  
11 approved by Measurement Canada, the non-compliant IT must be replaced or approved at the  
12 earliest seal expiry date.

13

14 Under the IESO Market Rules, Enersource is responsible for the costs of installing and  
15 maintaining the metering installations. However, Enersource must contract the services of an  
16 IESO registered Meter Service Provider ("MSP") since only registered MSPs are authorized to  
17 undertake the registration of meter installation for operation in the IESO wholesale electricity  
18 market.

19

20 Enersource will purchase and install wholesale metering at the new Winston Transmission  
21 Station expected to be constructed Hydro One in the spring of 2009.

22

23 Wholesale metering installations expiring in 2008 and beyond that have Measurement Canada  
24 Instrument Transformer temporary permission expiring in the same year require corrective action  
25 to ensure compliancy with Measurement Canada.

26

27 On June 10, 2004, Measurement Canada accepted Hydro One's proposed long-term corrective  
28 action plan to address the continued use of ITs that have not been approved by Measurement  
Canada. The following information outlines Measurement Canada's ruling on the IT temporary

1 permission and the actions required by Metered Market Participants (MMPs) to ensure  
2 compliance with Measurement Canada.

3 For metering installations with an earliest meter seal expiry date between 2003 and 2005 that use  
4 non-approved ITs, the temporary permission expires 6 years from the earliest meter seal expiry  
5 date. For metering installations with an earliest meter seal expiry date between 2006 and 2008,  
6 the temporary permission expires in the same year as the earliest meter seal expiry date. In all  
7 cases, the use of non-approved ITs must end by December 31<sup>st</sup> of the year temporary permission  
8 expires. For Enersource, in the 2008 rate year, three wholesale metering installations will  
9 require to be fully upgraded as a result of expiry of Measurement Canada's temporary  
10 permission for continued use of non-approved ITs.

11

**Rate Base  
Property, Plant & Equipment (000's)**

	2008 Test Year	2007 Bridge Year	2006 Historic Year
<b>DISTRIBUTION ASSETS:</b>			
Land and Buildings	\$ 19,882	\$ 18,639	\$ 18,392
TS Primary Above 50	\$ -	\$ -	\$ -
DS	\$ 67,941	\$ 65,898	\$ 63,673
Poles, Wires	\$ 593,896	\$ 565,674	\$ 539,021
Line Transformers	\$ 67,654	\$ 68,539	\$ 69,342
Services and Meters	\$ 36,762	\$ 34,731	\$ 32,976
General Plant	\$ -	\$ -	\$ -
Equipment	\$ 27,269	\$ 23,233	\$ 20,511
IT Assets	\$ 13,208	\$ 8,442	\$ 6,726
CDM Assets	\$ -	\$ -	\$ -
Other Distribution Assets	\$ 14,852	\$ 14,112	\$ 14,488
Contributions and Grants	\$ (53,858)	\$ (52,760)	\$ (51,926)
Construction Work In Progress	\$ 5,182	\$ 9,182	\$ 8,464
<b>TOTAL DISTRIBUTION ASSETS</b>	<b>\$ 792,787</b>	<b>\$ 755,691</b>	<b>\$ 721,665</b>
Total Distribution Assets (as above) - LESS:			
Construction Work In Progress	\$ (5,182)	\$ (9,182)	\$ (8,464)
Accumulated Amortization (check should exclude reg assets)	\$ (378,678)	\$ (350,221)	\$ (324,439)
<b>NET FIXED DISTRIBUTION ASSETS</b>	<b>\$ 408,928</b>	<b>\$ 396,287</b>	<b>\$ 388,762</b>

**FIXED ASSETS CONTINUITY SCHEDULE (000's)**

	2008 <u>Test Year</u>	2007 <u>Bridge Year</u>	2006 <u>Historic Year</u>	2005
<b><u>Property, Plant &amp; Equipment</u></b>				
<b>Opening Asset Value at Cost</b>	820,103	778,434	751,820	724,575
Capital Expenditure - Additions	52,345	46,769	37,669	36,733
Adjustments (1)	(9,625)	(5,100)	(11,055)	(9,488)
<b>Closing Asset Value at Cost</b>	<b>862,823</b>	<b>820,103</b>	<b>778,434</b>	<b>751,820</b>
<b><u>Opening Accumulated Depreciation</u></b>				
Depreciation Expense	(364,994)	(335,449)	(313,429)	(290,731)
Adjustments (1)	(37,041)	(34,535)	(32,689)	(31,931)
<b>Closing Accumulated Depreciation</b>	<b>(392,362)</b>	<b>(364,994)</b>	<b>(335,449)</b>	<b>(313,429)</b>
Opening Net Fixed Asset (2)	470,461	455,110	442,985	438,391
Less: Contribution in Aid of Construction	(54,391)	(53,325)	(52,196)	(51,656)
<b>Closing Net Fixed Asset (3)</b>	<b>416,070</b>	<b>401,785</b>	<b>390,789</b>	<b>386,735</b>
<b><u>Average Fixed Asset (Rate Base)</u></b>				
Opening Fixed Asset	401,785	390,789	386,735	
Closing Fixed Asset (4)	416,070	401,785	390,789	
	817,855	792,574	777,525	
<b>Average Fixed Asset (Rate Base) (5)</b>	<b>408,928</b>	<b>396,287</b>	<b>388,762</b>	

- Note (1) - Adjustments includes disposals, retirements etc.  
(2) - Closing Asset value at Cost less Closing Accumulated Depreciation.  
(3) - Opening Net Fixed Asset less Contribution in Aid of Construction  
(4) - Opening Fixed Asset plus Closing Fixed Asset divide by 2  
(5) - This Schedule Excludes CIP, which is not eligible for Rate Base

**Enersource Hydro Mississauga  
 Schedule of Capital Additions  
 2008 Test Year and 2007 Bridge Year**

	<u>2008 Test Year</u>	<u>2007 Bridge Year</u>
LAND	2,500,000	-
SUBSTATION EQUIPMENT	3,425,000	2,875,000
SUPERVISORY CONTROL EQUIPT.	1,400,000	1,370,000
O/H PRIMARY	9,200,000	12,406,717
U/G PRIMARY	19,475,000	19,175,000
METERS	2,008,418	2,726,241
GENERAL OFFICE EQUIPMENT	2,150,000	2,110,000
ROLLING STOCK & EQUIPMENT - 4 YR. LIFE	191,600	306,800
ROLLING STOCK & EQUIPMENT - 5 YR. LIFE	370,000	260,000
ROLLING STOCK & EQUIPMENT - 8 YR. LIFE	1,296,000	1,295,000
GARAGE EQUIPMENT	-	613,000
MAJOR TOOLS & INSTR.	150,000	150,000
COMPUTER EQUIPMENT	9,458,874	2,395,000
SOFTWARE	720,000	1,087,000
	<u>52,344,892</u>	<u>46,769,758</u>

ENERSOURCE HYDRO MISSISSAUGA  
2008 BUDGET  
CAPITAL EXPENDITURES

Enersource Hydro Mississauga Inc.  
EB-2007-0706  
2008 Electricity Distribution Rates Application  
Filed: August 15, 2007  
Exhibit C  
Schedule 3  
Tab 4

Note: all amounts in \$000'S

CATEGORY	2008 Test Year	2007 Bridge Year	2006 Actual
<i>System Capacity - Growth Driven Investment:</i>			
Subtransmission/Distribution Construction	5,850	5,850	4,810
Substation Construction	3,425	2,875	3,311
<b>Total Growth Driven Investment</b>	<b>9,275</b>	<b>8,725</b>	<b>8,121</b>
<i>System Maintenance - Reliability Driven Investment:</i>			
Subdivision Rebuilds	6,100	5,950	4,292
Overhead Distribution Upgrades	2,600	2,525	2,985
Underground Distribution Maintenance	2,200	2,125	2,303
Transformer Replacement	650	600	887
Protection and Control Upgrades (SCADA)	1,400	1,370	1,551
<b>Total Reliability Driven Investment</b>	<b>12,950</b>	<b>12,570</b>	<b>12,018</b>
<b>Total System Expansion Investment</b>	<b>22,225</b>	<b>21,295</b>	<b>20,139</b>
<i>System Expansion &amp; Upgrades - Customer Driven Investment:</i>			
New Industrial/Commercial Customer Services	4,200	4,000	4,526
New Subdivisions	2,575	2,500	2,385
Road Projects	750	750	505
Metering & Customer Additions	1,864	1,954	1,106
<b>Total Customer Driven Investment</b>	<b>9,389</b>	<b>9,204</b>	<b>8,521</b>
<i>Non-System Requirements - Regulatory Driven Investment:</i>			
Conservation & Demand (3rd Tranche)	-	613	1,874
Wholesale Metering	145	772	149
<b>Total Regulatory Driven Investment</b>	<b>145</b>	<b>1,385</b>	<b>2,023</b>
<i>Non-System Requirements - Internally Driven Investment:</i>			
CIS	3,914	4,000	
Rolling Stock	1,858	1,862	1,623
Major Tools	150	150	143
Information Technology	720	1,087	1,044
Engineering and Asset Systems	1,545	2,395	2,035
Grounds and Buildings (Capital Maintenance)	2,150	2,110	990
Grounds and Buildings (Land & Bldg)	2,500	-	-
<b>Information Systems and Facilities Total</b>	<b>12,836</b>	<b>11,604</b>	<b>5,834</b>
<b>TOTAL CAPITAL EXPENDITURES</b>	<b>44,595</b>	<b>43,488</b>	<b>36,517</b>

**Working Capital Allowance (000's)**

	2008 Test Year	2007 Bridge Year	2006 Historic Year
Cost of Power	\$601,101	\$564,470	\$557,590
Controllable Costs	<u>\$42,076</u>	<u>\$41,889</u>	<u>\$35,461</u>
Total eligible costs	\$643,177	\$606,359	\$593,051
Working Capital Allowance	<u>\$96,477</u>	<u>\$90,954</u>	<u>\$88,958</u>

**Variance Analysis (000's)**

	<u>2008 Test</u>	<u>2007 Bridge</u>	<u>Variance</u>
Cost of Power	\$601,101	\$564,470	\$36,631
Controllable Costs	<u>\$42,076</u>	<u>\$41,889</u>	<u>\$187</u>
Total eligible costs	\$643,177	\$606,359	\$36,818
15% of total eligible costs	\$96,477	\$90,954	\$5,523

	<u>2007 Bridge</u>	<u>2006 Historic</u>	<u>Variance</u>
Cost of Power	\$564,470	\$557,590	\$6,880
Controllable Costs	<u>\$41,889</u>	<u>\$35,461</u>	<u>\$6,428</u>
Total eligible costs	\$606,359	\$593,051	\$13,308
15% of total eligible costs	\$90,954	\$88,958	\$1,996



**Enersource Hydro Mississauga  
Property, Plant & Equipment  
Variance Analysis - 2008 Test Year vs 2007 Bridge Year**

Note: all amounts in \$ 000's

**Distribution Assets Rate Base**

	<u>2008 Test Year</u>	<u>2007 Bridge Year</u>	<u>Variance</u>	<u>Variance %</u>
<b><u>Property, Plant &amp; Equipment</u></b>				
Asset Value at Cost	\$ 792,787	\$ 755,690	\$ 37,097	4.9%
Less: Construction Work In Progress	(5,182)	(9,182)	4,000	-43.6%
Accumulated Depreciation	(378,678)	(350,221)	(28,457)	8.1%
Net Fixed Assets (2 yr average)	\$ 408,927	\$ 396,287	\$ 12,640	3.2%
<b><u>Allowance for Working Capital</u></b>				
TOTAL COST OF POWER	601,101	564,470	36,631	6.5%
TOTAL EXPENSES (excluding Depreciation)	42,076	41,889	187	0.4%
Total for consideration of Working Cash Allowance	\$ 643,177	\$ 606,359	\$ 36,818	6.1%
15% for Working cash Allowance	96,477	90,954	5,523	6.1%
RATE BASE	\$ 505,404	\$ 487,241	\$ 18,162	3.7%

Note: all amounts in \$ 000's

	<u>Test 2008</u>	<u>Bridge 2007</u>	<u>Variance</u>	<u>Variance %</u>
Land and Buildings	\$ 19,882	\$ 18,639	\$ 1,243	6.7%
Distribution System	67,941	65,898	2,043	3.1%
Poles, Wires	593,896	565,674	28,222	5.0%
Line Transformers	67,654	68,539	(885)	-1.3%
Services and Meters	36,762	34,731	2,031	5.8%
Equipment	27,269	23,233	4,036	17.4%
IT Assets	13,208	8,442	4,766	56.5%
Other Distribution Assets	14,852	14,112	740	5.2%
	<u>841,464</u>	<u>799,268</u>	<u>42,196</u>	<u>5.3%</u>
Contributions and Grants	(53,858)	(52,760)	(1,098)	2.1%
Construction In Progress (see note on CIP)	5,182	9,182	(4,000)	-43.6%
	<u>\$ 792,788</u>	<u>\$ 755,690</u>	<u>\$ 37,098</u>	<u>4.9%</u>
Less				
Construction In Progress (see note on CIP)	(5,182)	(9,182)	4,000	-43.6%
Accumulated Amortization	(378,678)	(350,221)	(28,457)	8.1%
	<u>\$ (383,860)</u>	<u>\$ (359,403)</u>	<u>\$ (24,457)</u>	<u>6.8%</u>
	<u>\$ 408,928</u>	<u>\$ 396,287</u>	<u>\$ 12,641</u>	<u>3.2%</u>

CIP: not included in determination of Rate Base.

Land and Buildings variance: reflects the proposed acquisition of additional property to accommodate Enersource's fleet.

Distribution System variance: reflects investment related to new customers and for reliability reasons.

Poles, Wires variance: reflects investment related to customer growth, overall load growth and reliability.

Line Transformers variance: reflects the proposed retirement of assets.

Services and Meters variance: reflects Enersource's proposed investment in Wholesale Meters, Smart Meters and all other meters related to compliance with regulations, government initiatives and to provide appropriate service.

Equipment variance reflects investment in Rolling Stock and Office Equipment.

IT Assets variance: reflects investment in the new CIS and in Enersource's SCADA system.

Other Distribution variance: reflects other non-IT asset investment in the SCADA system.

**Enersource Hydro Mississauga  
Property, Plant & Equipment  
Variance Analysis - 2007 Bridge Year vs 2006 Actual**

Note: all amounts in \$ 000's

**Distribution Assets Rate Base**

	<u>Bridge 2007</u>	<u>Actual 2006</u>	<u>Variance</u>	<u>Variance %</u>
<b><u>Property, Plant &amp; Equipment</u></b>				
Asset Value at Cost	\$ 755,691	\$ 721,665	\$ 34,026	4.7%
Less: Construction Work In Progress	(9,182)	(8,464)	(718)	8.5%
Accumulated Depreciation	(350,221)	(324,439)	(25,782)	7.9%
Net Fixed Assets (2 yr average)	\$ 396,288	\$ 388,762	\$ 7,526	1.9%
<b><u>Allowance for Working Capital</u></b>				
TOTAL COST OF POWER	564,470	557,590	6,880	1.2%
TOTAL EXPENSES (excluding Depreciation)	41,889	35,461	6,428	18.1%
Total for consideration of Working Cash Allowance	\$ 606,359	\$ 593,051	\$ 13,308	2.2%
15% for Working cash Allowance	90,954	88,958	1,996	2.2%
RATE BASE	\$ 487,242	\$ 477,720	\$ 9,522	2.0%

Note: all amounts in \$ 000's

	<u>Bridge 2007</u>	<u>Actual 2006</u>	<u>Variance</u>	<u>Variance %</u>
Land and Buildings	\$ 18,639	\$ 18,392	\$ 247	1.3%
Distribution System	65,898	63,673	2,225	3.5%
Poles, Wires	565,674	539,021	26,653	4.9%
Line Transformers	68,539	69,342	(803)	-1.2%
Services and Meters	34,731	32,976	1,755	5.3%
Equipment	23,233	20,511	2,722	13.3%
IT Assets	8,442	6,726	1,716	25.5%
Other Distribution Assets	14,112	14,488	(376)	-2.6%
	<u>799,268</u>	<u>765,129</u>	<u>34,139</u>	<u>4.5%</u>
Contributions and Grants	(52,760)	(51,926)	(834)	1.6%
Construction In Progress (see note on CIP)	9,182	8,464	718	8.5%
	<u>\$ 755,690</u>	<u>\$ 721,665</u>	<u>\$ 34,023</u>	<u>4.7%</u>
Less				
Construction In Progress (see note on CIP)	(9,182)	(8,464)	(718)	8.5%
Accumulated Amortization	(350,221)	(324,439)	(25,782)	7.9%
	<u>\$ (359,403)</u>	<u>\$ (332,903)</u>	<u>\$ (26,500)</u>	<u>8.0%</u>
	<u>\$ 396,287</u>	<u>\$ 388,762</u>	<u>\$ 7,523</u>	<u>1.9%</u>

CIP: not included in determination of Rate Base.

Land and Buildings variance: reflects additions to Enersource's offices.

Distribution System variance: reflects investment related to new customers and for reliability reasons.

Poles, Wires variance: reflects investment related to customer growth, overall load growth and reliability.

Line Transformers variance: reflects the proposed retirement of assets.

Services and Meters variance: reflects Enersource's proposed investment in Wholesale Meters, Smart Meters and all other meters related

Equipment variance reflects investment in Rolling Stock and Office Equipment.

IT Assets variance: reflects ongoing investment in Enersource's IT system.

Other Distribution variance: reflects other non-IT asset investment in the SCADA system.



**2007 HYDRO MISSISSAUGA**  
**SYSTEM CAPACITY REPORT**  
**PREPARED: SEPTEMBER 2006**

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## 1.0 EXECUTIVE SUMMARY

The Enersource Hydro Mississauga (EHM) System Capacity Report provides a discussion of EHM's anticipated capital developments for the year 2007. The projects that are recommended in this report are related to the reinforcement of a number of areas in the City of Mississauga.

Significant growth has occurred in a number of new housing, industrial and commercial service developments over the last few years. Extensive industrial development is continuing to occur within the North 27.6kV system and this trend is expected to continue over the next several years. A major water and waste water treatment plant (25MW) is expected to be fully operational by 2010 and will be fed by the South 27.6kV system. The 44kV system continues to serve predominantly residential and commercial loads and will be further significantly stressed by major residential loads that are planned and under construction in the western and central portion of the city over the next 2 to 3 years. EHM will have to expand if it is to effectively and reliably serve its customers. Additional 44kV capacity is urgently required by spring of 2008 in the form of a Hydro One 75/125 MVA 44kV 8-Breaker Transformer Station which will be located near Winston Churchill Blvd and Hwy 403 area. This new Transformer Station will mainly be used to off-load Meadowvale TS and Erindale TS which are currently overloaded.

The year to-date system peak (SCADA) for 2006 was 1622 MW on August 1<sup>st</sup>. This system peak, has surpassed our previous system peak record of 1570 MW set back in July 2005, an increase of 3.3%. The Enersource Hydro Mississauga system peak is almost entirely weather dependant, and the summer of 2006 marked some of the warmest stretches of days in recent history.

The summer of 2006 overall was cooler than the summer of 2005; this resulted in the reliability of the EHM system improving compared to last year. It is projected that our customers will experience an average of 26.9 minutes of power interruption for 2006. This is a decrease of 5.7 minutes from 2005; this is an improvement of 17.5%.

The proposed \$21,295,000 in system expansion projects includes \$14,675,000 in rebuilds and upgrades. This is \$1,900,000 more than last year and is mainly due to proactive measures on improving reliability and the fact that material costs have increased by more than 30%.

Additional capital costs include new customer service extensions and subdivisions, rolling stock (Fleet) requirements and the road projects. These will add an additional \$9,261,800 to the system expansion and maintenance capital budgets. The overall capital budget required for Enersource Hydro Mississauga for 2007 will be \$30,556,800. This investment, however, has been strategically targeted to maintain the system performance at the current level.

## 2.0 INTRODUCTION

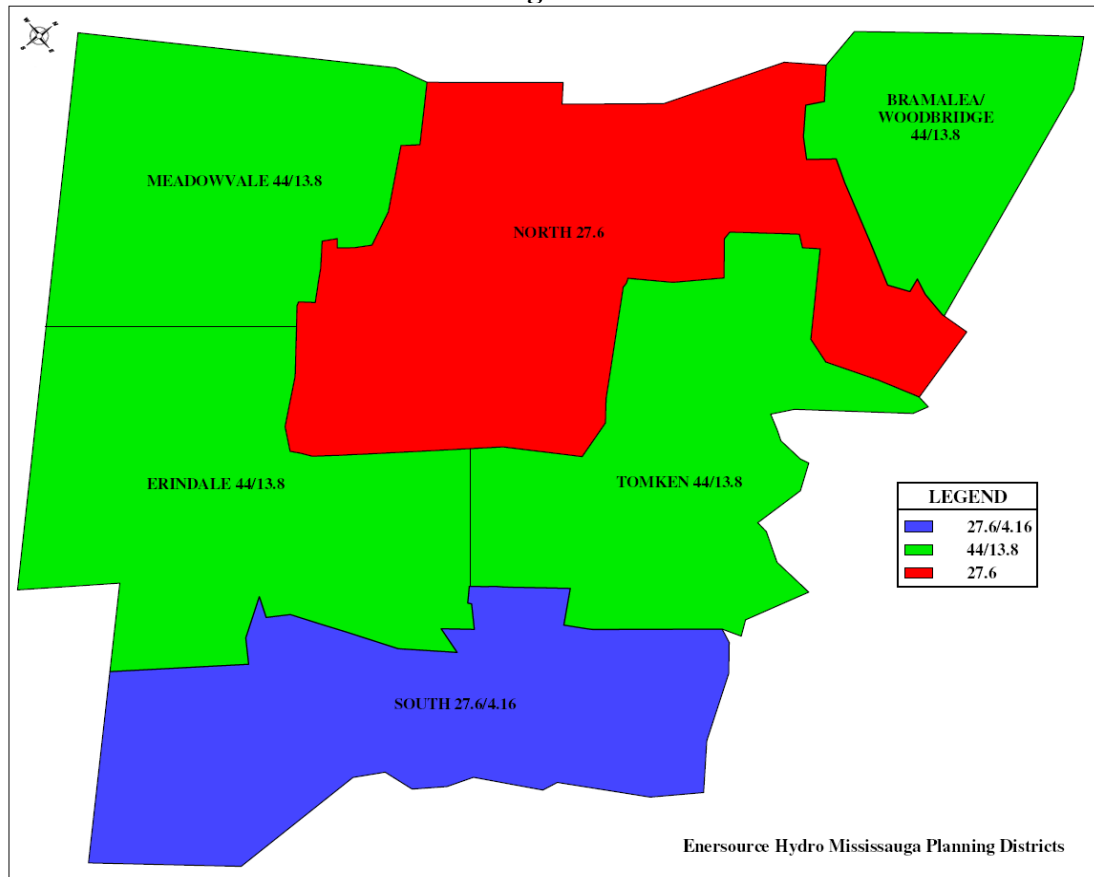
Electrical power in the City of Mississauga originates from 10 Hydro One Transformer Stations (T.S.). The power is transformed at these Stations from 230 kV down for municipal use to subtransmission voltages of 44 kV and 27.6 kV and to primary distribution voltage of 27.6/16 kV.

The subtransmission voltages of 44 kV and 27.6 kV are further transformed at the Municipal Substations (M.S.) owned by Enersource Hydro Mississauga, to primary distribution voltages of 13.8 kV and 4.16 kV.

The prime study area (see Figure 1) identified in the report is broken down into six study regions:

- Meadowvale 44/13.8
- Erindale 44/13.8
- Tomken 44/13.8
- Bramalea-Woodbridge 44/13.8
- North 27.6
- South 27.6/4.16

**Figure 1**





### **3.0 DEFINITION OF EHM'S FACILITIES**

#### **3.1 Subtransmission Facilities**

The subtransmission system consists of power lines that take electrical energy from the transformer stations and delivers it directly to larger customers, or to substations where it is transformed for delivery onto the EHM distribution system. EHM's subtransmission system is comprised of the following:

1. 44kV Subtransmission

- Delivery points include Meadowvale TS, Erindale TS, Tomken TS, Bramalea TS and Woodbridge TS.
- 41 operational supply feeders with a total capacity of 1435 MVA.
- 5 unused feeders with a capacity potential of 175 MVA (2 from Erindale, 1 from Bramalea & 2 possibly from Meadowvale – requires bus extension).
- 2 express feeders for export of generation (Trans Alta at Bramalea TS).
- 22 customers connected (9 industrial/commercial & 13 residential).
- 1405 km of 44kV power lines.
- 83 power transformers connected.

2. 27.6kV Subtransmission

- Delivery points include Cooksville TS, Lorne Park TS and Oakville TS.
- 26 operational supply feeders with a total capacity of 572 MVA.
- 767 km of 27.6kV power lines.
- 40 customers connected (25 industrial/commercial & 15 residential).
- 198 transformers connected.

#### **3.2 Distribution Facilities**

The distribution system delivers electrical energy from EHM's sub-stations to the majority of EHM's customers. The EHM distribution system consists of the following:

1. 27.6/16.0 kV Distribution

- Delivery points are Erindale TS, Bramalea TS, Richview TS and Cardiff TS.
- 28 operational supply feeders with a total capacity of 616 MVA.
- 4 unused feeders with a capacity potential of 110 MVA (Cardiff TS).
- 37,891 customers connected (3085 industrial/commercial & 34806 residential).
- 2778 km of 27.6/16kV power lines.
- 5851 transformers connected.

2. 13.8/8.0 kV Distribution

- 39 municipal stations comprised of 61 step-down transformers rated 44.0-13.8kV.
- 192 operational feeders with a total capacity of 1536 MVA.
- 109,892 customers connected (10,592 industrial/commercial & 99,300 residential).
- 5570 km of 13.8/8.0kV power lines.
- 15,584 transformers connected.

3. 4.16/2.4 kV Distribution

- 27 municipal substations comprised of 35 step-down transformers rated 27.6-4.16kV.
- 103 operational feeders with a total capacity of 247 MVA.
- 29,361 customers connected (1,324 industrial/commercial & 28,037 residential).
- 1,135 km of 4.16/2.4 kV power lines.
- 3,975 transformers connected.

## 4.0 MAJOR DRIVERS FOR FACILITIES REQUIREMENT

Additions to the EHM system are normally required because of an expected violation of EHM's performance criteria. Violation of system adequacy, in particular the ability to maintain satisfactory power capacity and voltage, are the performance criteria that most often drives requirements for new facilities. EHM checks for violations of its performance criteria using simulated computer models. Violations of the performance criteria predicted by the models usually results from forecast increases in power flow over the subtransmission or distribution facilities. Also, aging infrastructure (Reliability) is another factor, which is unrelated to increased power transfers, but may result in a requirement for new or upgrade of facilities.

The major drivers contributing to the need for new or upgrade of facilities include:

- Load Forecast
- Load Duration Curves
- Connection of New Major Loads
- Reliability

### 4.1 Load Forecast

The Enersource Hydro Mississauga long-term load forecast provides an indication as to where the load increases are occurring. An increase in the peak demand is normally the biggest factor in driving the requirement for reinforcement of the system. This forecast forms the primary basis for determining the requirements for reinforcing the system to supply increasing customer demand at the various delivery points on the EHM system. This forecast forms the basis for capacity additions, maintenance schedules, and operation budgets.

#### 4.1.1 EHM 25 Year Long Term Load Forecast

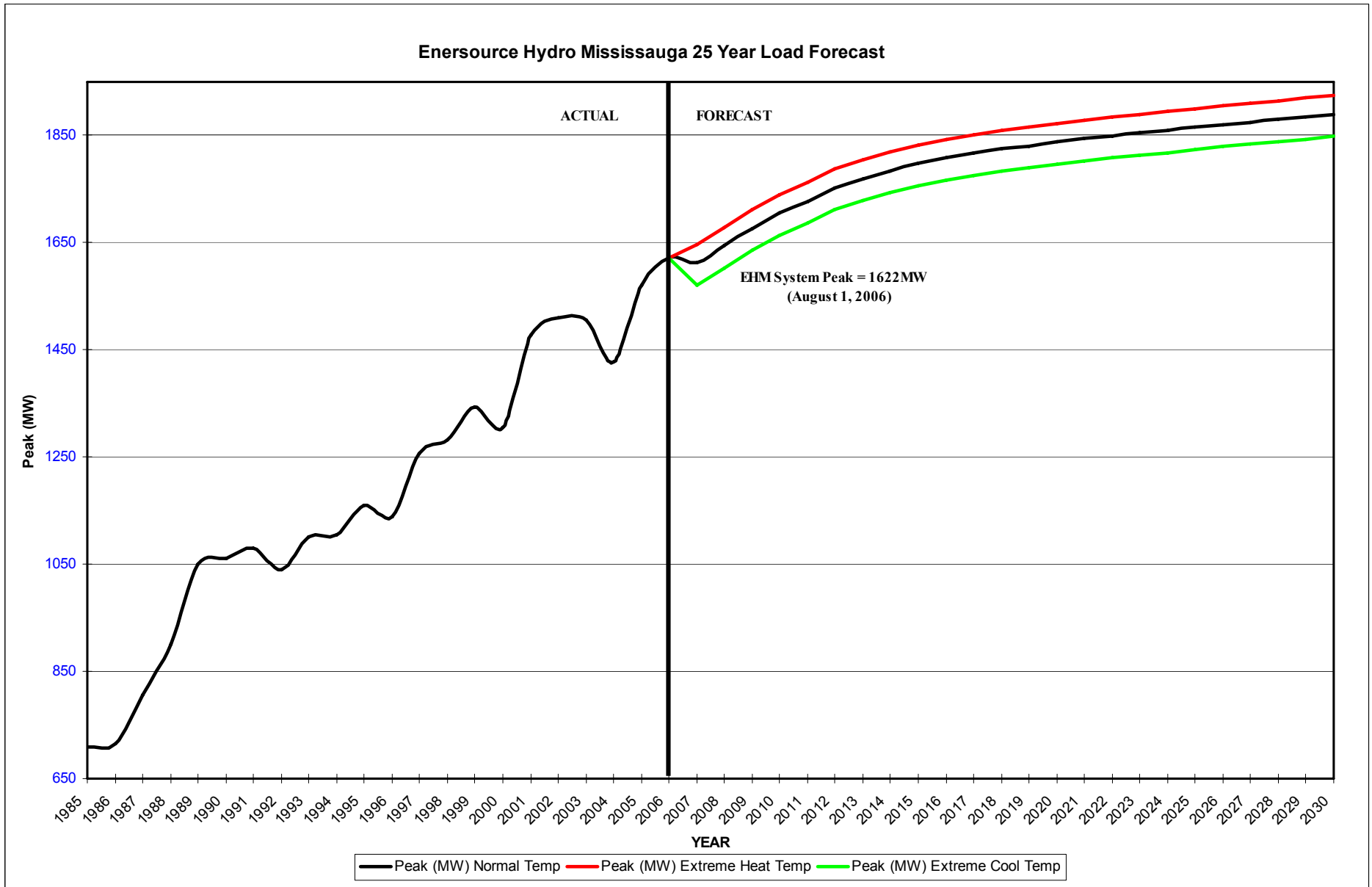
The System Planning department develops a Long Term Load Forecast report (see supporting document named "25 Year Load Forecast Summary" dated June 2006). This report predicts a system peak load under extreme weather conditions of 1610 MW for 2006 (actual to date un-officially is 1622 MW on August 1<sup>st</sup> 2006). This is an increase of 40 MW (actual is 52 MW) from the 1570 MW achieved in 2005. This equates to an annual growth rate increase of 2.55% (actual is 3.31%). Figure 2 shows the overall load projections for the City of Mississauga over the next 25 years. Projections are shown for normal summer temperatures, extreme heat temperatures and extreme cool temperatures. The projected peak load under extreme heat temperatures is expected to reach 1924 MW

by year 2030. The 44kV Load Forecast reveals the need for capacity in the form of a Hydro One 75/125 MVA 44kV 8-Breaker Transformer Station. This will mainly be used to off-load the Meadowvale 44/13.8 and Erindale 44/13.8 areas. The timeline for this requirement is expected to be in the spring of 2008. The location chosen will be in the Winston Churchill Blvd. and Hwy 403 area.

#### 4.1.2 Factors Affecting Daily EHM Peak Demand

1. **Economic** – growth patterns were developed for each planning district in the City of Mississauga with some of the following economic factors affecting peak demand:
  - a) Employment Growth
    - Major Office (20,000 sq-ft or over) - 1.25 kW each
    - Employment Land (Warehouse, manufacture etc.) – 1.75 kW each
    - Population Related (schools, retail etc.) – 1.0 kW each
  - b) Population Growth
    - Population: 1000 people = 800 kW
  - c) Housing Growth
    - Apartments/Condos: 1.5 kW each
    - ROW/Town Houses: 2.0 kW each
    - Semi-detached: 2.4 kW each
    - Detached: 3.25 kW each
2. **Weather** – some of the following factors were determined that affect peak demand:
  - Every 1 degree C increase in Temperature above 21 degrees C results in 14.3 MW increase in peak demand.
  - Every 1 degree C increase in Humidex above 35 degrees C results in an additional increase of 8.2 MW in peak demand.
  - Every 10% decrease in Cloud Cover results in an additional 4.1 MW increase in peak demand.
  - Every 10 km/hr decrease in Wind Speed results in an additional 1.2 MW increase in peak demand.

Figure 2



## 4.2 Connection of New Major Loads

The most significant industrial load to be connected in 2007 is from the expansion of the Lakeview Water & Waste Water Treatment Plants and other Water Pumping Stations. This will introduce a load of about 25 MW and will be served by the South 27.6kV system. There will be no capacity expansion required in the 27.6kV South to meet this new load requirement.

## 4.3 Load Duration Curves

Load duration curves were developed (see supporting document named “Load Duration Curves” dated August 2006), for 368 feeders and 103 station transformers (monitored by SCADA). The load duration curves will be used to identify prolonged or abnormal loading conditions for the feeders and transformers at the stations. This in combination with the reliability data discussed in section 4.4 of this document will be used to identify areas on the EHM system that require immediate attention.

Example of Use:

Figure 3

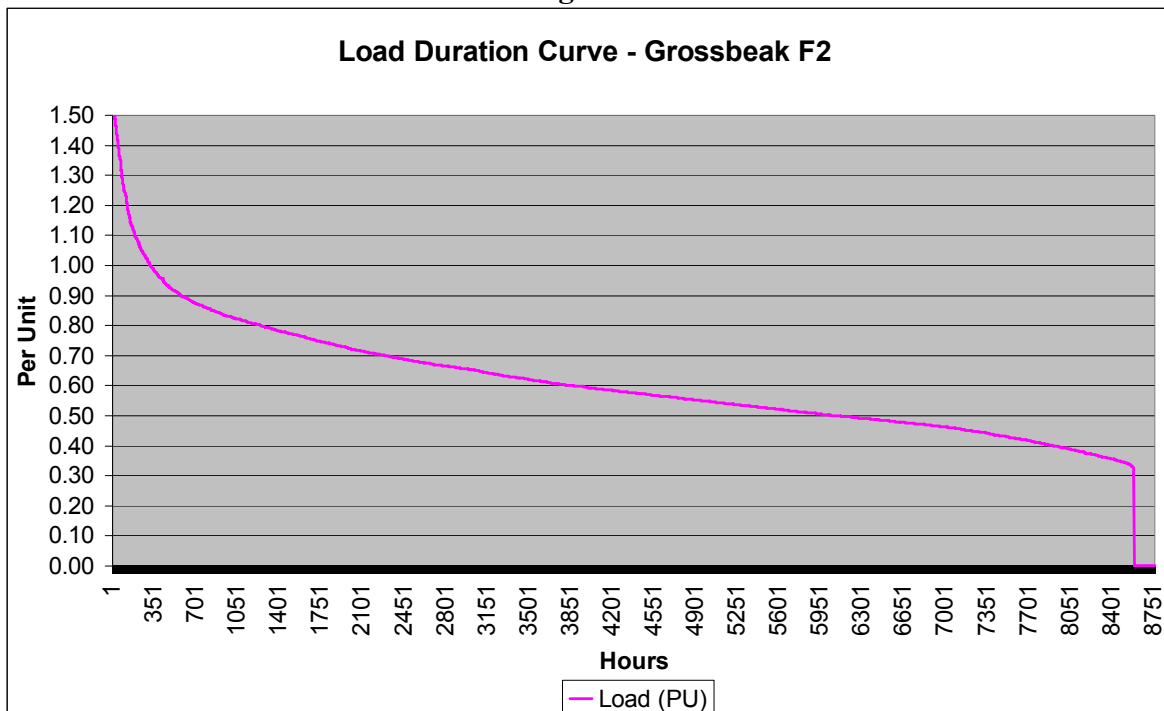


Figure 4

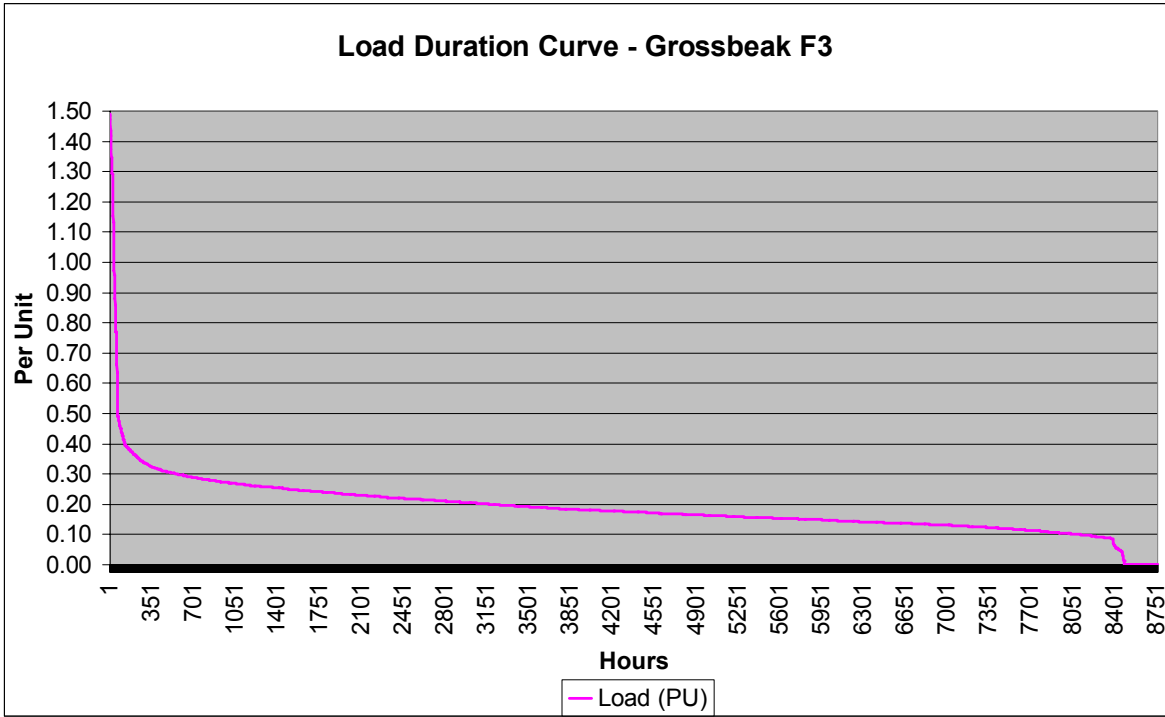


Figure 5

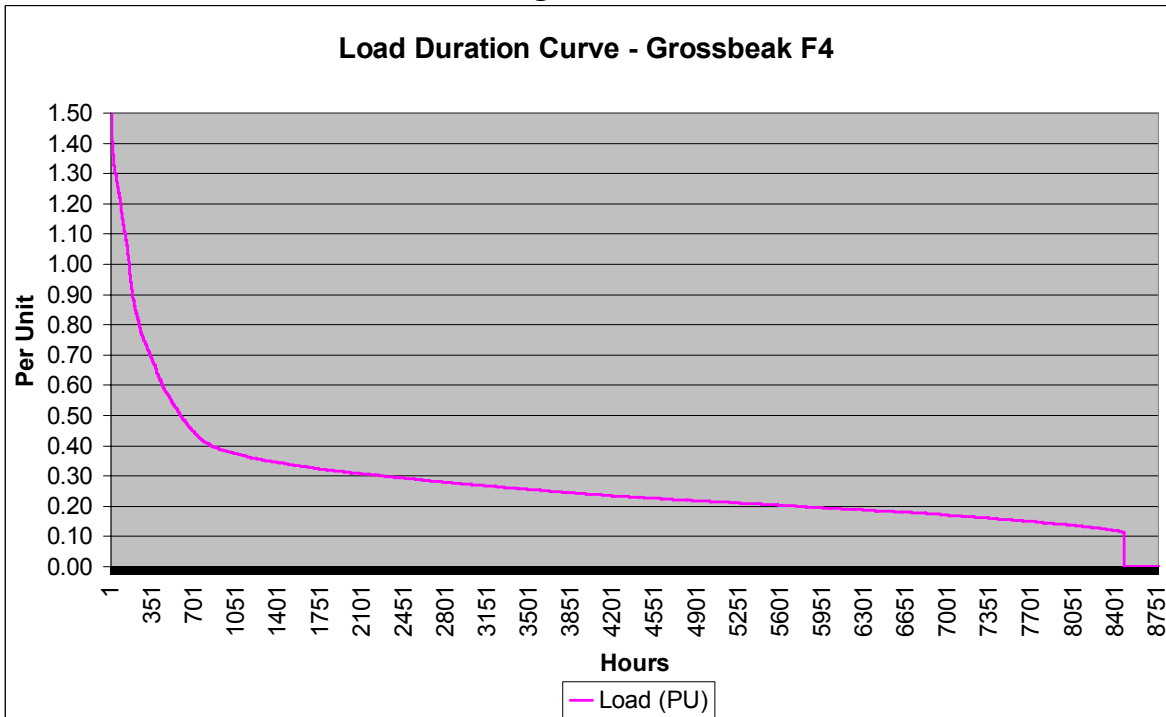
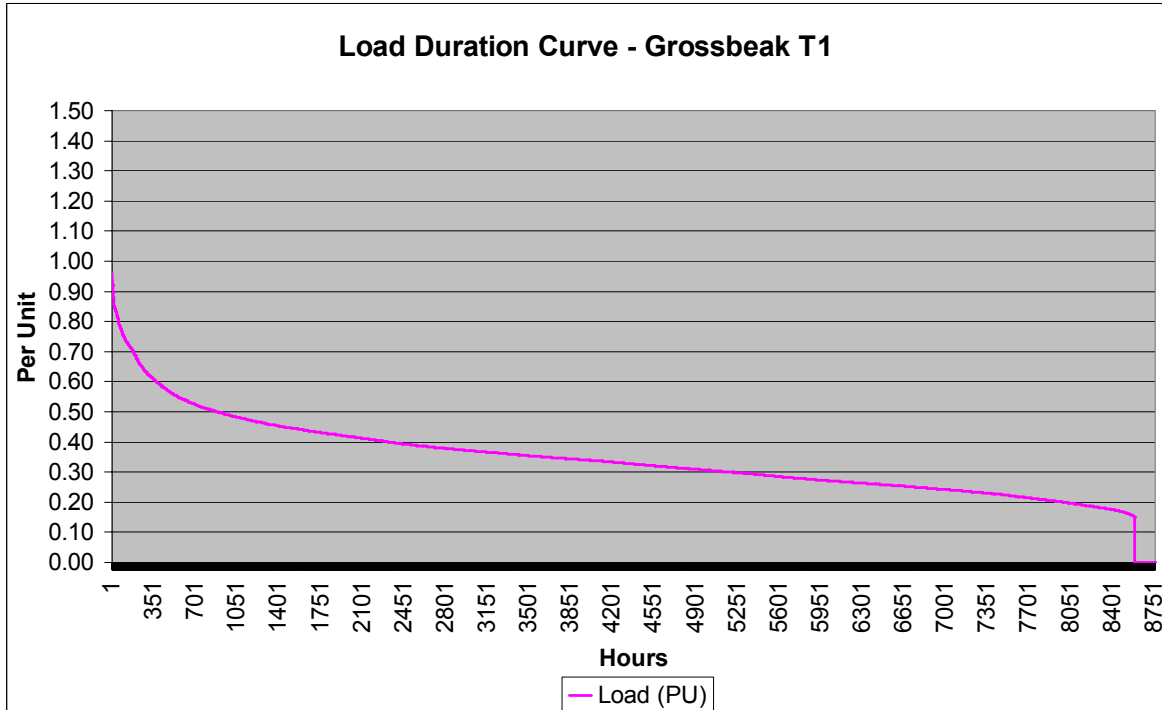


Figure 6



The curves shown in Figures 3 to 6 for Grossbeak MS indicate that several of the feeders often exceed their cable ratings by as much as 150%. This type of prolonged loading can lead to early failure of the cables. It can also be seen that during coincident peak the transformer T1 is already close to the 100% maximum rating (33MVA). With known data that the area which Grossbeak serves is experiencing further growth it has been recommended for projects in 2007 that a second 20/33 MVA transformer be added to Grossbeak MS.

#### 4.4 Reliability

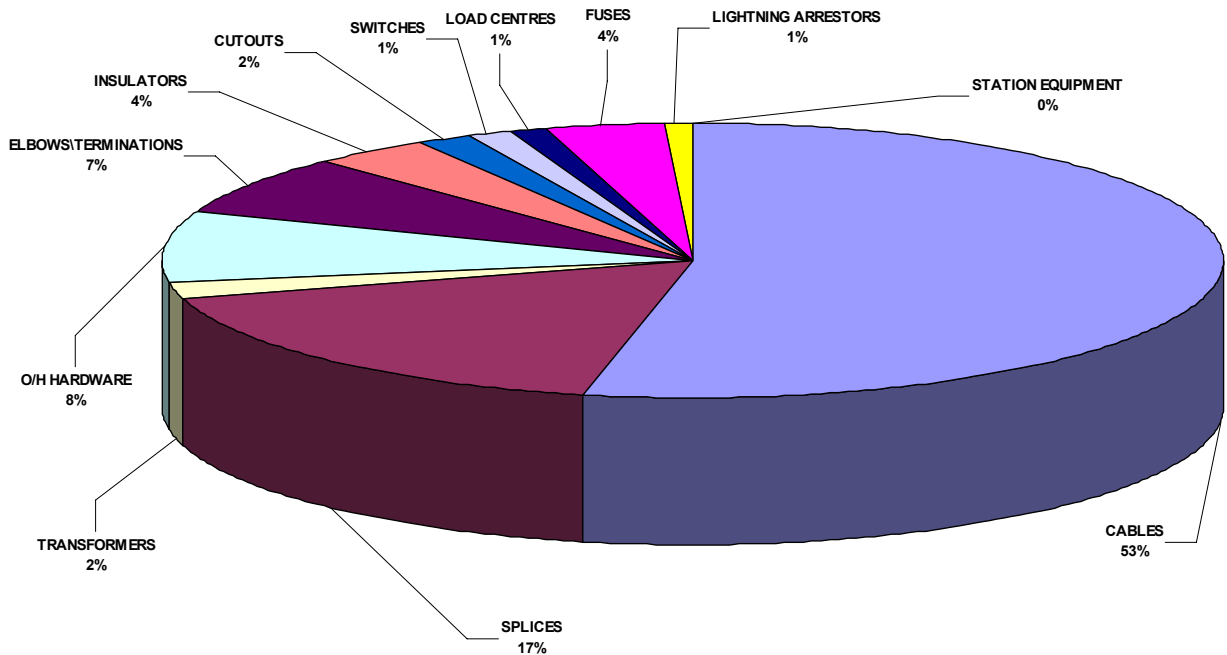
System reliability for 2006 will mark a slight improvement from the reliability numbers of 2005 (see supporting document named “EHM System Reliability Update” dated August 31<sup>st</sup> 2006). This is mainly due to the sustained stress on the system during the heat wave in the months of July and August 2006. It is projected that our customers will experience an average of 26.9 minutes of power interruption for 2006. This is a decrease of 5.7 minutes from 2005.



<b>Table 1 - TOTAL INTERRUPTIONS (52 Week Window)</b>				
	<b>2006</b>	<b>2005</b>	<b>2004</b>	<b>2003</b>
INTERRUPTIONS	438	523	330	377
CUSTOMERS AFFECTED	115,200	175,200	82,100	132,700
CUSTOMER MINUTES	4,821,900	5,750,900	3,513,800	4,328,600
SAIDI (Minutes)	<b>26.9</b>	<b>32.6</b>	<b>22.8</b>	<b>23.4</b>
CAIDI (Minutes)	41.8	32.8	30.9	35.7
SAIFI	0.64	0.99	0.74	0.60

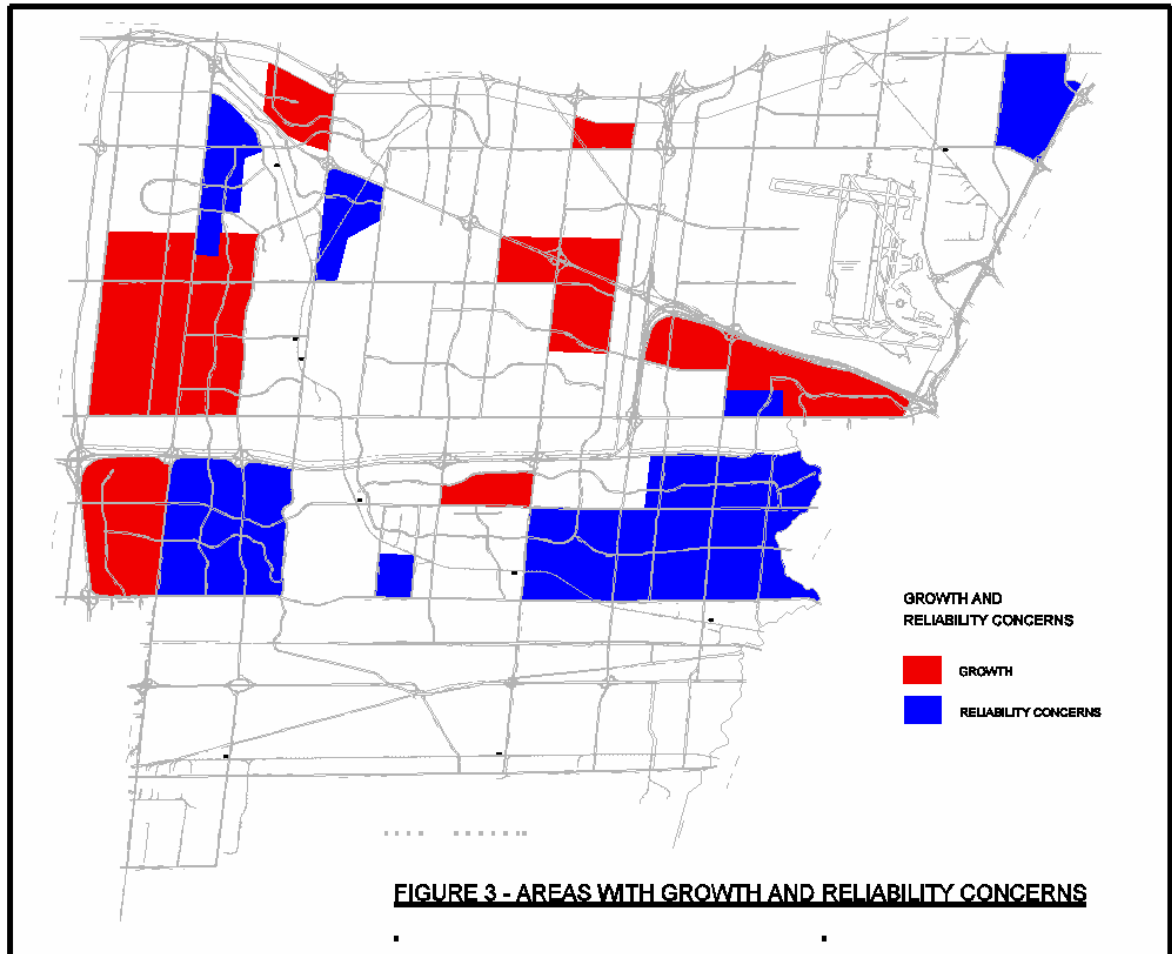
Cable and splice failures are still the main causes of customer outages (please refer to Figure 7). Enersource Hydro Mississauga's system continues to age and it is clear that cable replacement must be increased.

**Figure 7** **Equipment Failures**



The City map in Figure 8 indicates the areas with major growth and areas with reliability concerns.

**Figure 8**



To supply the increasing load and maintain the required system efficiency and reliability, a number of system expansion and rebuild projects are proposed for 2007. It is expected that approximately 4000 new services will be connected in 2007.

In addition, the plan recommends continuation of projects such as remote monitoring of the system, automation as well as upgrading to new RTUs will allow for accurate loading measurement on system components and faster switching for power restoration during outages. This will improve our ability to increase the loading of the power-carrying components of the electrical distribution network and reduce the need of future construction of additional redundancy in the system.

A number of projects relating to system upgrade, including transformer replacement, overhead distribution upgrade and underground distribution upgrade are also included.

## 5.0 EVALUATION AND RECOMMENDED PROJECTS

A detailed review of the performance of individual system components was undertaken. This included analysis of loading, line loss and reliability of the subtransmission feeders, substation transformers and primary feeders.

In addition, a district planning load forecast, based on site plan approvals, building permits, subdivision construction and commercial/industrial service applications, was developed.

For each of the feeders, the following items were used or computed:

- Operator monitoring and experience (daily operator report)
- Cost of line losses based on kW and kWh of heat losses.
- Reliability performance based on indices which measure the average duration and frequency of outages were calculated between July 2005 and July 2006.

Analysis of these feeders was performed and methods to overcome the exposure were identified. These methods included measuring the extent of feeder loading, reviewing and expanding maintenance programs and finally the need for new system capital projects.

A listing of potential projects to address the exposures was identified, and a cost benefit analysis was done for each of these projects.

The benefits identified included:

- Additional MW capacity
- Savings in line losses
- Savings to the community due to savings in Customer-minutes and Effective MW minutes of outages
- Projected revenue due to the ability to serve new and existing customers by expanding the network

### 5.1 Service Interruption Cost Model

The cost of outages to the community is calculated based on the results developed from customer surveys, analytic methods, and actual interruption or case study methods. The results are shown in the following table:

<b>Interruption Cost Models*</b>		
	<b>Duration of Outage</b>	<b>Average Cost \$/kW</b>
<b>Residential Model 1</b>	60 minutes	1.77
<b>Residential Model 2</b>	4 hours	7.08
<b>Commercial Model 1</b>	1 minute	0.47
<b>Commercial Model 2</b>	20 minutes	2.80
<b>Commercial Model 3</b>	8 hours	113.10
<b>Industrial Model 1</b>	1 minute	1.30
<b>Industrial Model 2</b>	20 minutes	4.18
<b>Industrial Model 3</b>	8 hours	42.0

*\*Based on Surveys and studies as reported to EDA, EPRI and US Department of Energy.*

Based on the above values, the savings to the community is conservatively estimated at \$5 per customer-minute of reduction in the power outage.

These potential projects were then ranked based on the payback periods.

The results and the recommended projects are detailed below.

## **5.2 Recommended Projects**

### **5.2.1 Meadowvale 44/13.8**

#### **1. Century MS (Substation & Automation Expansion)**

Complete construction of the 46kV switchgear, one 14 cell 15kV metal-clad switchgear and one 20/26.6/33.3 MVA transformer which will all be supervised by a HMI unit.

Also, includes the installation of 4 PMH units and underground connection to the new switchgear.

The estimated cost of this project is \$500,000.

#### **2. Spare 20MVA Substation Transformer**

Spare transformer to be purchased for future expansion or emergency.  
The estimated cost of this project is \$700,000.

3. Falconer Drive Phase 2 (Underground Rebuild)

This underground cable system in the area of Alpha Mills and Falconer is over 30 years old and has a history of poor performance.

The project involves the replacement of existing primary cables and transformers with new cables and transformers.

The benefits of this rebuild are:

- 2 MW of additional capacity at 13.8kV to service loads.
- Savings in losses estimated at \$2,500 per annum.
- Reduction in the customer-minutes of outage estimated at 21,000 per annum. This will result in savings of \$105,000 per annum in interruption costs to the community.

The estimated cost of this project is \$1,150,000 with a payback of 9.3 years from savings in line losses and customer outage costs.

4. Britannia Rd. 44kV Extension Creditview to Mississauga Road (Subtransmission)

This project will involve crossing the Credit River with two new overhead 44kV circuits. This will allow for the better utilization of the 44kV circuits in this area.

The estimated cost of this project is \$250,000.

5. 13.8kV Ninth Line Britannia to Derry (Distribution)

This project will involve stringing a single overhead 13.8kV circuit on an existing pole-line. This will allow for the better utilization of the 13.8kV circuits in this area.

The estimated cost of this project is \$200,000.

6. Argentia 58F2 (Underground Rebuild)

This underground cable system in the area of Argentia Road west of Creditview is over 30 years old and has a history of poor performance.

The project involves the replacement of existing primary main feeder cables with new cables.

The benefits of this rebuild are:

- 2 MW of additional capacity at 13.8kV to service loads.
- Savings in losses estimated at \$1,500 per annum.
- Reduction in the customer-minutes of outage estimated at 25,000 per annum. This will result in savings of \$125,000 per annum in interruption costs to the community.

The estimated cost of this project is \$500,000 with a payback of 4.0 years from savings in line losses and customer outage costs.

### 5.2.2 Erindale 44/13.8

#### 1. 44kV & 13.8kV Overhead Extension on Ninth Line from Eglinton to TACC Street (Subtransmission & Distribution)

This project is a continuation of the 44kV and 13.8kV overhead circuits from Eglinton Ave & will provide back-up to 44kV circuits and 13.8kV circuits currently sitting radial at TACC St/ Ninth Line

The estimated cost of this project is \$400,000.

#### 2. Council Ring Road Phase 2 (Underground Rebuild)

This underground cable system in the area of Council Ring Road is over 30 years old and has a history of poor performance.

The project involves the replacement of existing primary cables and transformers with new cables and transformers.

The benefits of this rebuild are:

- 2 MW of additional capacity at 13.8kV to service loads.
- Savings in losses estimated at \$1,500 per annum.
- Reduction in the customer-minutes of outage estimated at 55,000 per annum. This will result in savings of \$275,000 per annum in interruption costs to the community.

The estimated cost of this project is \$1,000,000 with a payback of 3.6 years from savings in line losses and customer outage costs.

3. Pheasant Run Phase 2 (Underground Rebuild)

This underground cable system in the area of Pheasant Run is over 28 years old and has a history of poor performance.

The project involves the replacement of existing primary cables and transformers with new cables and transformers:

The benefits of this rebuild are:

- 2 MW of additional capacity at 13.8kV to service loads.
- Savings in losses estimated at \$1,500 per annum.
- Reduction in the customer-minutes of outage estimated at 50,000 per annum. This will result in savings of \$250,000 per annum in interruption costs to the community.

The estimated cost of this project is \$1,000,000 with a payback of 4.0 years from savings in line losses and customer outage costs.

4. 44kV Pole Line for C5M29 & C5M30 out of Erindale TS (Subtransmission)

This project is to add additional 44kV capacity to the heavily loaded Meadowvale area. We will utilize two breakers currently not being used at Erindale TS, we will be extending circuits in the Hydro One ROW to Mavis Road, then going north to Britannia Rd and then going west along Britannia Road to Creditview Road, giving us a continuous connection from Erindale TS.

This project work scope will involve stringing on existing pole lines and the addition of new pole lines as required.

The estimated cost of this project is \$2,000,000

5. Grossbeak MS Expansion - Additional Transformer (Substation)

Add a new 20/26.6/33.3 MVA transformer (spare unit) to the existing station which will all be supervised by a HMI unit. This will improve loading and ties on our 44kV and 13.8kV systems,

The estimated cost of this project is \$200,000.

7. Confederation MS Expansion - Additional Transformer (Substation)

Add a new 20/26.6/33.3 MVA transformer to the existing station which will all be supervised by a HMI unit. This will improve loading and ties on our 44kV and 13.8kV systems,

The estimated cost of this project is \$895,000.

8. C5M27 Feeder Extension from Ontario Hydro ROW to Confederation MS (Subtransmission)

This project will involve extending a single 44kV circuit from the ROW along Hwy 403 to Confederation MS to allow for a double station. This will allow for the better utilization of the 44kV circuits in this area.

The estimated cost of this project is \$200,000.

5.2.3 Tomken 44/13.8

1. Burnhamthorpe/Pony Trail Phase 1 (Underground Rebuild)

This underground cable system in the area of Pony Trail is over 30 years old and is has a history of poor performance.

The project involves new cable and transformer placement within the boulevard and the removal of the existing transformers.

The benefits of this rebuild are:

- 2 MW of additional capacity at 13.8kV to service loads.
- Savings in losses estimated at \$1,500 per annum.
- Reduction in the customer-minutes of outage estimated at 35,000 per annum. This will result in savings of \$175,000 per annum in interruption costs to the community.

The estimated cost of this project is \$1,000,000 with a payback of 5.7 years from savings in line losses and customer outage costs.



2. Garnetwood Chase (Underground Rebuild)

This underground cable system in the area of Garnetwood Chase is over 30 years old and has a history of poor performance. The majority of the civil work will be completed in 2006.

The project involves the replacement of existing primary cables and transformers with new cables and transformers.

The benefits of this rebuild are:

- 2 MW of additional capacity at 13.8kV to service loads.
- Savings in losses estimated at \$1,500 per annum.
- Reduction in the customer-minutes of outage estimated at 30,000 per annum. This will result in savings of \$150,000 per annum in interruption costs to the community.

The estimated cost of this project is \$800,000 with a payback 5.3 years from savings in line losses and customer outage costs.

3. Bloor/Central Parkway (Underground Rebuild)

This underground cable system in this area is over 30 years old and has a history of poor performance.

The project involves the replacement of existing primary cables and transformers with new cables and transformers.

The benefits of this rebuild are:

- 2 MW of additional capacity at 13.8kV to service loads.
- Savings in losses estimated at \$1,500 per annum.
- Reduction in the customer-minutes of outage estimated at 70,000 per annum. This will result in savings of \$350,000 per annum in interruption costs to the community.

The estimated cost of this project is \$500,000 with a payback 1.4 years from savings in line losses and customer outage costs.

#### 5.2.4 Bramalea/Woodbridge 44/13.8

##### 1. New 74M49 Circuit/Pole Line 44kV out of Bramalea TS (Subtransmission)

This project is to add additional 44kV capacity to this heavily loaded area. We will utilize a 44kV breaker currently not being used at Bramalea TS by extending a circuit in the Hydro One ROW to Bramalea Road, then going south to Drew Rd and splitting the existing 44kV connection on the 74M45.

This project work scope will involve stringing on existing pole lines and the addition of a new pole line as required.

The estimated cost of this project is \$700,000

#### 5.2.5 North 27.6

##### 1. O/H 4 Circuits – Derry Road-Bramalea Road to Columbus (Subtransmission)

This project is to construct a new pole line which will extend 2 - 27.6kV one 13.8kV and one 44kV feeder from Bramalea Road to Columbus Street.

The estimated cost of this project is \$500,000.

##### 2. O/H Derry Road from Tomken to Mavis Crossing 410 (Subtransmission)

This project scope is to extend a total of 6 new 27.6 kV circuits westward. This will transfer load from Erindale TS onto Cardiff TS circuits. Two of the 6 circuits will be installed onto an existing pole line while the other 4 circuits will require the construction of a new pole line including a crossing over Hwy 410. Two circuits will then extend on existing pole lines from Kennedy Road to Mavis Road.

The estimated cost of this project is \$750,000.

##### 3. 2 – 27.6.kV circuits in the ROW near Hwy 410 from Hwy 403 to Eglinton Avenue (Subtransmission)

This project scope is to build a new pole line with 2 – 27.6kV circuits on it to ensure reliability of Erindale feeders and provide additional links and reliability.

The estimated cost of this project is \$600,000.

5.2.6 South 27.6/4.16

1. Clarkson T3 MS (Substation Expansion)

The equipment in this substation is old and has a history of poor performance. There is a concern that in the event of failure of the components the restoration will take a long time.

This proposal provides for the complete rebuild and retrofit of this substation with two new 3 MVA transformers.

The estimated cost of this project is \$300,000.

2. Bexhill MS (Substation Expansion)

Work includes the upgrade and installation of new MA switchgear.

The estimated cost of this project is \$150,000.

3. Overhead Backup to Mineola MS (Subtransmission & Distribution) from Park Street to QEW along Hurontario (Subtransmission)

The purpose of this project is to extend existing 27.6 kV & 4 kV circuits on Hurontario Street from QEW to Lakeshore Road. This project will improve system reliability, bring additional 27.6 kV backup supply to Mineola MS & Briarwood MS while the 4 kV circuits will provide additional capacity. The construction is significant and requires the rebuilding of approximately 100 poles and over 30 km of wire.

The estimated cost of this project is \$250,000.

**5.3 System Maintenance Projects**

5.3.1 Substation Equipment Replacement/Upgrade

- Substation Site Enhancements \$65,000
- Substation Roofs \$65,000

The substation equipment replacement/upgrades totals: \$130,000

5.3.2 Automation Equipment Replacement/Upgrade

• Automation at various MS's	\$300,000
• Summerville MS Protection/Breakers	\$275,000
• New Reclosures (York/Derry/Rubin MS)	\$350,000
• Battery & Charger Upgrades	\$50,000
• Implement Spread Spectrum Technology	\$50,000
• 10 New RTU Replacements	\$150,000
• 10 G&W RTU Retrofit	\$65,000
• Scadamate maintenance & R2 controller	\$100,000
• RTU Repairs	\$30,000

The automation equipment replacement/upgrade totals: \$1,370,000

5.3.3 Wood and Concrete Pole Replacement & Refurbishment

This proposal provides for the spot replacement of wood poles at various locations in the City. Most of the replacements will be part of an ongoing program to replace deteriorated gray painted poles and other poles that have tested poorly.

This project covers the replacement of 100 poles, and life extension treatment for 1000 wood poles.

The benefits of this project are:

- Reduction in the customer-minutes of outage estimated at 55,000 per annum. This will result in savings of \$275,000 per annum in interruption costs to the community.
- Extend the life of the wood poles.

The estimated cost of this program is \$800,000 with a payback of 2.9 years from savings in line losses and customer outage costs.

5.3.4 Overhead Switch and Insulator Replacement

During switch maintenance or as a follow-up to trouble calls, a number of overhead switches are beyond repair and require replacement.

In addition, a program of replacing porcelain mid-span openers with polymer insulators or solid blade switches on the electrical system will continue.

This project covers the replacement of 100 switches.

A program of upgrading insulators in high contamination areas and replacing specific types of insulators prone to early failure will continue. It is planned to replace 2,000 insulators.

The benefits of this program are:

- Reduction in the customer-minutes of outage estimated at 35,000 per annum. This will result in savings of \$175,000 per annum in interruption costs to the community.

The estimated cost of this project is \$450,000 with a payback of 2.6 years from savings in line losses and customer outage costs.

### 5.3.5 Feeder Overhauls

This project provides for the overhaul of feeders that have an unacceptable level of downtime. A thorough overhaul of 3 feeders (6 km) is anticipated in various areas of the city.

These feeders will be identified after analysis of outages during the heavy load season in the summer of 2006.

The benefits of this overhaul program (based on an average improvement in a feeder performance after an overhaul) are:

- Savings in losses estimated at \$5,000 per annum.
- Reduction in the customer-minutes of outage estimated at 35,000 per annum. This will result in savings of \$175,000 per annum in interruption costs to the community.

The estimated cost of this project is \$375,000 with a payback of 2.1 years from savings in line losses and customer outage costs.

### 5.3.6 Overhead Rebuilds

This project provides for the rebuild of some of the older sections of line, primarily in the south end of the city. These rebuilds are determined by an analysis of trouble call activity and an assessment of the future risks to public safety. This program will affect 350 homes.

The benefits of these rebuild are:

- Savings in losses estimated at \$2,000 per annum.

- Reduction in the customer-minutes of outage estimated at 45,000 per annum. This will result in savings of \$225,000 per annum in interruption costs to the community.

The estimated cost of this project is \$900,000 with a payback of 4.0 years from savings in line losses and customer outage costs.

### 5.3.7 Primary Distribution Equipment Replacement

As a result of the feeder overhaul program and the infrared inspection program, a number of primary components such as load centers, fault indicators, elbows, inserts and arresters are beyond repair and need replacement.

These aged or inadequate components require replacement to ensure a reliable and safe system. These components are identified through our inspection program and an assessment of potential reliability problems.

This project provides for the replacement of 140 fault indicators, 240 arresters, 4 load centers, 600 elbows and inserts.

The benefits of this program are:

- Reduction in the customer-minutes of outage estimated at 55,000 per annum. This will result in savings of \$275,000 per annum in interruption costs to the community.

The estimated cost of this project is \$600,000 with a payback of 2.2 years from savings in line losses and customer outage costs.

### 5.3.8 Underground Cable & Splice Replacement

Sections of underground cables experience failures in excess of acceptable standards and require replacement. These are typically older sections of cable. For areas where replacements costs are extremely high we may rehabilitate the cables. This will be the third time that we will use this process. It has established itself in the industry as a viable alternative to replacing cables. Cable failures remain the largest contributor to our customer minute total.

In addition, heat shrink splices have experienced failures in excess of acceptable standards and require replacement. Splice failures are the second largest contributor to our customer minute total. This project involves the replacement or rehabilitation of about 10 sections of cable and the replacement of 100 splices.

The benefits of these replacements are:

- Savings in losses estimated at \$6,000 per annum

- Reduction in the customer-minutes of outage estimated at 100,000 per annum. This will result in savings of \$500,000 per annum in interruption costs to the community.

The estimated cost of this project is \$1,400,000 with a payback of 2.8 years from savings in line losses and customer outage costs.

### 5.3.9 Meter Base Replacements

During response to residential trouble calls a number of defective meter bases or meter base components are identified. These meter bases require extensive repair or replacement. This proposal covers for the replacement of 75-meter bases.

The benefits of this replacement are:

- Reduction in the customer-minutes of outage estimated at 3,500 per annum. This will result in savings of \$17,500 per annum in interruption costs to the community.

The estimated cost of this project is \$50,000 with a payback of 2.9 year from savings in line losses and customer outage costs.

### 5.3.10 Secondary Cable Replacements

Every year a number of underground residential and commercial / industrial services fail beyond reasonable repair. This proposal covers for complete replacement of 35 secondary services.

The benefits of this replacement are:

- Reduction in the customer-minutes of outage estimated at 4,500 per annum. This will result in savings of \$22,500 per annum in interruption costs to the community.

The estimated cost of this project is \$75,000 with a payback of 3.3 years from savings in line losses and customer outage costs.

### 5.3.11 Underground Transformer Replacement

This project provides for the replacement of approximately 40 transformers on the underground system. During inspection and feeder overhauls a number of leaking padmount and vault type transformers require replacement.

The benefits of this replacement program are:

- Savings in losses estimated at \$2,000 per annum

- Reduction in the customer-minutes of outage estimated at 30,000 per annum. This will result in savings of \$150,000 per annum in interruption costs to the community.

The estimated cost of this project is \$400,000 with a payback of 2.6 years from savings in line losses and customer outage costs.

### 5.3.12 Overhead Transformer Replacement

During inspection programs and feeder overhauls a number of degenerated or overloaded overhead transformers are identified.

This project allows for the replacement of approximately 45 overhead transformers at various locations.

The benefits of this replacement program are:

- Savings in losses estimated at \$2,000 per annum
- Reduction in the customer-minutes of outage estimated at 15,000 per annum. This will result in savings of \$75,000 per annum in interruption costs to the community.

The estimated cost of this project is \$200,000 with a payback of 2.6 years from savings in line losses and customer outage costs.

## 5.4 Other Capital Project

### 5.4.1 Road Projects

#### 1. Road Projects – Miscellaneous

Work scope is to relocate existing EHM facilities to allow road reconstruction works as required and as per City and/or Region scheduling.

The estimated cost of this project is \$750,000.



#### 5.4.2 New Commercial/Industrial Customers

These projects provide for the installation of new and upgrade services for Industrial/Commercial customers. The following table shows the yearly connection trend for the previous five years:

Year	# of Connections
2002	595
2003	535
2004	544
2005	525
2006	530

It is anticipated that there will be about 535 new/upgrade services required for 2007. The estimated cost for the installation of these new/upgraded services will be \$4,000,000.

#### 5.4.3 New Subdivisions

These projects provide Capital Contribution Refunds (Under Section 3 of the Distribution System Code) to the developers and the Enersource Hydro Mississauga's contribution for installation of services for subdivisions including single lots and apartment buildings.

The following table shows the yearly connection trend for the previous five years:

Year	# of Connections
2002	5,973
2003	4,472
2004	3,029
2005	2,900
2006	3,500

It is anticipated that there will be about 4,000 new services required for 2007. The increase in the number of services is mainly due to the fact that EHM's Conditions of Service requires developers to have all condo/apartments individually metered.

The estimated cost for the installation of these new services will be \$2,500,000.

#### 5.4.4 Major Tools

This proposal covers the major tool requirements for 2007 and includes:

- Grounding Materials
- Sensorlink Ampstick
- Compression Connector Presses
- Phasing Sticks
- Load Bust Tools
- Spiking Tools
- Small Generators
- Heaters & Cutters
- TDR
- Battery Operated Presses

The estimated cost is \$150,000.

#### 5.4.5 Rolling Stock for 2007

<u>Type</u>	<u>Unit #</u>	<u>Year</u>	<u>Replacement Cycle</u>	<u>Year to Replace</u>	<u>Cost (\$)</u>
Car	00705	2004	3	2007	\$53,100
Car	01604	2004	3	2007	\$59,000
Car	01704	2004	3	2007	\$53,100
Car	01805	2004	3	2007	\$47,200
Car	02004	2004	3	2007	\$47,200
Car	01904	2004	3	2007	\$47,200
Bucket Truck	20195	1995	10	2007	\$180,000
Bucket Truck	23491	1991	12	2007	\$400,000
Dump Truck	404-97	1997	10	2007	\$45,000
Van	300-99	1999	7	2007	\$120,000
Van	307-99	1999	7	2007	\$120,000
Van	308-99	1999	7	2007	\$120,000
Van	309-99	1999	7	2007	\$120,000
Van	320-97	1997	7	2007	\$120,000
Pickup Truck, 4x4	44000	2000	7	2007	\$40,000
Pickup Truck	449-97	2000	7	2007	\$30,000
Pickup Truck	453-00	2000	7	2007	\$40,000
Pickup Truck	New		7	2007	\$50,000
Mini Van	50701	2001	5	2007	\$25,000
Mini Van	51297	1997	5	2002	\$35,000
Sport Utility Vehicle	51500	2000	7	2007	\$40,000
Backhoe Trailer	926-97	1997	10	2007	\$20,000
Hydraulic Tools & Equipment					\$50,000

The estimated cost is \$1,861,800.

## 6.0 SUMMARY OF CAPITAL PROJECTS

<b>2007 Budget Calendarized Expenditures</b>					
<b>Description of Projects</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Total 2007</b>
<b>SUBTRANSMISSION/DISTRIBUTION</b>	<b>\$1,500,000</b>	<b>\$1,500,000</b>	<b>\$1,500,000</b>	<b>\$1,350,000</b>	<b>\$5,850,000</b>
<b>SUBSTATIONS</b>	<b>\$500,000</b>	<b>\$800,000</b>	<b>\$1,200,000</b>	<b>\$375,000</b>	<b>\$2,875,000</b>
<b>AUTOMATION</b>	<b>\$300,000</b>	<b>\$300,000</b>	<b>\$300,000</b>	<b>\$470,000</b>	<b>\$1,370,000</b>
<b>UNDERGROUND REBUILDS</b>	<b>\$100,000</b>	<b>\$1,300,000</b>	<b>\$2,200,000</b>	<b>\$2,350,000</b>	<b>\$5,950,000</b>
<b>SYSTEM MAINTENANCE PROJECTS</b>	<b>\$1,125,000</b>	<b>\$1,425,000</b>	<b>\$1,325,000</b>	<b>\$1,375,000</b>	<b>\$5,250,000</b>
Overhead Distribution Upgrade	\$725,000	\$550,000	\$525,000	\$725,000	\$2,525,000
Transformer Replacements	\$100,000	\$200,000	\$200,000	\$100,000	\$600,000
Underground Distribution Upgrade	\$300,000	\$675,000	\$600,000	\$550,000	\$2,125,000
<b>OTHER CAPITAL</b>	<b>\$1,330,000</b>	<b>\$1,830,000</b>	<b>\$2,195,000</b>	<b>\$3,906,800</b>	<b>\$9,261,800</b>
Road Projects	\$100,000	\$150,000	\$150,000	\$350,000	\$750,000
Industrial and Commercial	\$750,000	\$1,000,000	\$1,000,000	\$1,250,000	\$4,000,000
New Subdivisions	\$300,000	\$500,000	\$700,000	\$1,000,000	\$2,500,000
Major Tools	\$30,000	\$30,000	\$45,000	\$45,000	\$150,000
Rolling Stock	\$150,000	\$150,000	\$300,000	\$1,261,800	\$1,861,800
<b>GRAND TOTAL</b>	<b>\$4,855,000</b>	<b>\$7,155,000</b>	<b>\$8,720,000</b>	<b>\$9,826,800</b>	<b>\$30,556,800</b>

## **SUMMARY**

Enersource Hydro Mississauga has prepared the System Capacity Report for 2007. A copy of this report is included in this agenda.

The report indicates which additional system capital projects are required to maintain system reliability at an acceptable level and to accommodate increased load on the system.

## **RECOMMENDATIONS (Resolution)**

See Resolution attached.

## APPENDIX - A

<b>SUMMARY OF RECOMMENDED OPERATION'S CAPITAL PROJECTS - 2007</b>		
<b>Item</b>	<b>Description</b>	<b>2007 Budget Amount</b>
	<b>SUBTRANSMISSION/DISTRIBUTION</b>	
1	4-27.6kV - Derry Rd - Crossing Hwy 410 to Mavis Rd	\$750,000
2	4 ckts - Derry Rd - Bramalea Rd to Columbus	\$500,000
3	27.6 & 4.16kV - Hurontario - QEW to Mineola	\$250,000
4	44kV - C5M27 Extension to Confederation MS	\$200,000
5	2-44kV - Erindale TS to Britannia/ Creditview	\$2,000,000
6	2 - 27.6kV feeders in ROW - Hwy 403 to Eglinton	\$600,000
7	2-13.8kV & 2-44kV - Ninth Line - Eglinton to Tacc Dr	\$400,000
8	44kV - Britannia Rd - Creditview to Miss. Rd	\$250,000
9	13.8kV - Ninth Line - Britannia Rd to Derry	\$200,000
10	44kV - 74M49 extension from Bramalea TS to Drew Rd	\$700,000
	<i><b>Total Subtransmission/Distribution</b></i>	<i><b>\$5,850,000</b></i>
	<b>SUBDIVISION REBUILDS</b>	
1	Garnetwood Chase	\$800,000
2	Burnhamthorpe/ Pony Trail Phase 1	\$1,000,000
3	Argentia 58F2	\$500,000
4	Council Ring Phase II	\$1,000,000
5	Falconer Drive	\$1,150,000
6	Pheasant Run	\$1,000,000
7	Bloor/ Central Parkway	\$500,000
8		
9		
	<i><b>Total Subdivision Rebuilds</b></i>	<i><b>\$5,950,000</b></i>

**SUMMARY OF RECOMMENDED OPERATION'S CAPITAL PROJECTS - 2007 (Cont'd)**

Item	Description	2007 Budget Amount
	<b>SUBSTATIONS</b>	
1	Grossbeak MS - add tx	\$200,000
2	Century MS	\$500,000
3	Confederation MS - add tx	\$895,000
4	Substation Site Enhancements	\$65,000
5	Substation Roofs	\$65,000
6	Clarkson T3 retrofit	\$300,000
7	Bexhill MS Gear installation	\$150,000
8	Spare 20MVA tx	\$700,000
	<i><b>Total Substations</b></i>	<i><b>\$2,875,000</b></i>
	<b>AUTOMATED SWITCHES AND SCADA</b>	
1	Automation at various MS's	\$300,000
2	Summerville Protection/ Breakers	\$275,000
3	New Reclosures ( York/ Derry/ Rubin)	\$350,000
4	Battery & Charger Upgrades	\$50,000
5	Implement Spread Spectrum technology	\$50,000
6	10 new RTU replacements	\$150,000
7	10 G&W RTU Retrofit	\$65,000
8	Scadamate mtnce & R2 controller	\$100,000
9	RTU Repairs	\$30,000
10		
11		
12		
13		
	<i><b>Total Automation</b></i>	<i><b>\$1,370,000</b></i>

**SUMMARY OF RECOMMENDED OPERATION'S CAPITAL PROJECTS - 2007 (Cont'd)**

<b>Item</b>	<b>Description</b>	<b>2007 Budget Amount</b>
	<b>SYSTEM MAINTENANCE PROJECTS</b>	
1	Wood & Concrete Pole Replacement (100)	\$800,000
2	Overhead Switch and Insulator Replacement (100)	\$450,000
3	Feeder Overhaul (3)	\$375,000
4	Overhead Rebuild (350 homes)	\$900,000
5	Primary Distribution Equipment Replacement	\$600,000
6	Underground Cable and Splice Replacement	\$1,400,000
7	Meter Base Replacements	\$50,000
8	Secondary Cable Replacements	\$75,000
9	Underground Transformer Replacement (40)	\$400,000
10	Overhead Transformer Replacement (45)	\$200,000
	<i>Total System Maintenance</i>	<i>\$5,250,000</i>
	<b>OTHER CAPITAL</b>	
1	<b>ROAD PROJECTS</b>	\$750,000
2	New Industrial/Commercial Customers	\$4,000,000
3	New Subdivisions	\$2,500,000
4	<b>MAJOR TOOLS</b>	\$150,000
5	<b>ROLLING STOCK</b>	\$1,861,800
	<i>Total Other Capital</i>	<i>\$9,261,800</i>
	<b>TOTALS</b>	
	Total - Subtransmission/Distribution	\$5,850,000
	Total - Subdivision Rebuilds	\$5,950,000
	Total - Substations	\$2,875,000
	Total - Automated Switches & SCADA	\$1,370,000
	Total - System Maintenance	\$5,250,000
	<b>TOTAL - SYSTEM EXPANSION</b>	<b>\$21,295,000</b>
	<b>GRAND TOTAL</b>	<b>\$30,556,800</b>

**DETAILS OF RECOMMENDED OPERATION'S CAPITAL PROJECTS - 2007**

Item	Description	2007 Budget Amount	BENEFITS (1)							
			Capital Contribution	Capacity (MW)	Annual Net Revenue	Payback Yrs	Annual Savings To Customer			Payback Yrs
							Losses	Cust-min.	Out. Costs*	
<b>SUBTRANSMISSION/DISTRIBUTION</b>										
1	4-27.6kV - Derry Rd - Crossing Hwy 410 to Mavis Rd	\$750,000								
2	4 cks - Derry Rd - Bramalea Rd to Columbus	\$500,000								
3	27.6 & 4.16kV - Hurontario - QEW to Mineola	\$250,000								
4	44kV - C5M27 Extension to Confederation MS	\$200,000								
5	2-44kV - Erindale TS to Britannia/ Creditview	\$2,000,000								
6	2 - 27.6kV feeders in ROW - Hwy 403 to Eglinton	\$600,000								
7	2-13.8kV & 2-44kV - Ninth Line - Eglinton to Tacc Dr	\$400,000								
8	44kV - Britannia Rd - Creditview to Miss. Rd	\$250,000								
9	13.8kV - Ninth Line - Britannia Rd to Derry	\$200,000								
10	44kV - 74M49 extension from Bramalea TS to Drew Rd	\$700,000								
	<b>Total Subtransmission/Distribution</b>	<b>\$5,850,000</b>								
<b>SUBDIVISION REBUILDS</b>										
1	Garnetwood Chase	\$800,000		2			\$1,500	30,000	\$150,000	5.3
2	Burnhamthorpe/ Pony Trail Phase 1	\$1,000,000		2			\$1,500	35,000	\$175,000	5.7
3	Argentia 58F2	\$500,000		2			\$1,500	25,000	\$125,000	4.0
4	Council Ring Phase II	\$1,000,000		2			\$1,500	55,000	\$275,000	3.6
5	Falconer Drive	\$1,150,000		2			\$2,500	21,000	\$105,000	9.3
6	Pheasant Run	\$1,000,000		2			\$1,500	50,000	\$250,000	4.0
7	Bloor/ Central Parkway	\$500,000		2			\$1,500	70,000	\$350,000	1.4
	<b>Total Subdivision Rebuilds</b>	<b>\$5,950,000</b>		<b>14</b>			<b>\$11,500</b>	<b>286,000</b>	<b>\$1,430,000</b>	<b>4.1</b>



**DETAILS OF RECOMMENDED OPERATION'S CAPITAL PROJECTS - 2007 (Cont'd)**

Item	Description	2007 Budget Amount	BENEFITS (1)							
			Capital Contribution	Capacity (MW)	Annual Net Revenue	Payback Yrs	Annual Savings To Customer			Payback Yrs
							Losses	Cust-min.	Out. Costs*	
<b>SUBSTATIONS</b>										
1	Grossbeak MS - add tx	\$200,000		20	\$60,000	3.3				
2	Century MS	\$500,000								
3	Confederation MS - add tx	\$895,000		20	\$60,000	14.9				
4	Substation Site Enhancements	\$65,000								
5	Substation Roofs	\$65,000								
6	Clarkson T3 retrofit	\$300,000								
7	Bexhill MS MA Gear installation	\$150,000								
7	Spare 20MVA tx	\$700,000								
	<b>Total Substations</b>	<b>\$2,875,000</b>		<b>40</b>	<b>\$120,000</b>					
<b>AUTOMATED SWITCHES AND SCADA</b>										
1	Automation at various MS's	\$300,000								
2	Summerville Protection/ Breakers	\$275,000								
3	New Reclosures ( York/ Derry/ Rubin)	\$350,000								
4	Battery & Charger Upgrades	\$50,000								
5	Implement Spread Spectrum technology	\$50,000								
6	10 new RTU replacements	\$150,000								
7	10 G&W RTU Retrofit	\$65,000								
8	Scadamate mtnce & R2 controller	\$100,000								
9	RTU Repairs	\$30,000								
	<b>Total Automation</b>	<b>\$1,370,000</b>								

**RECOMMENDED OPERATION'S CAPITAL PROJECTS - 2007 (Cont'd)**

Item	Description	2007 Budget Amount	BENEFITS (1)							
			Capital Contribution	Capacity (MW)	Annual Net Revenue	Payback Yrs	Annual Savings To Customer			Payback Yrs
							Losses	Cust-min.	Out. Costs*	
<b>SYSTEM MAINTENANCE PROJECTS</b>										
1	Wood & Concrete Pole Replacement (100)	\$800,000						55,000	\$275,000	2.9
2	Overhead Switch and Insulator Replacement (100)	\$450,000						35,000	\$175,000	2.6
3	Feeder Overhaul (3)	\$375,000					\$5,000	35,000	\$175,000	2.1
4	Overhead Rebuild (350 homes)	\$900,000					\$2,000	45,000	\$225,000	4.0
5	Primary Distribution Equipment Replacement	\$600,000						55,000	\$275,000	2.2
6	Underground Cable and Splice Replacement	\$1,400,000					\$6,000	100,000	\$500,000	2.8
7	Meter Base Replacements	\$50,000						3,500	\$17,500	2.9
8	Secondary Cable Replacements	\$75,000						4,500	\$22,500	3.3
9	Underground Transformer Replacement (40)	\$400,000					\$2,000	30,000	\$150,000	2.6
10	Overhead Transformer Replacement (45)	\$200,000					\$2,000	15,000	\$75,000	2.6
	<i>Total System Maintenance</i>	<i>\$5,250,000</i>					<i>\$17,000</i>	<i>378,000</i>	<i>\$1,890,000</i>	<i>2.8</i>
<b>OTHER CAPITAL</b>										
1	ROAD PROJECTS	\$750,000	\$187,500							
2	New Industrial/Commercial Customers	\$4,000,000	\$1,600,000		\$321,000	7.5				
3	New Subdivisions	\$2,500,000			\$1,200,000	2.1				
4	MAJOR TOOLS	\$150,000								
5	ROLLING STOCK	\$1,861,800								
	<i>Total Other Capital</i>	<i>\$9,261,800</i>	<i>\$1,787,500</i>		<i>\$1,521,000</i>	<i>4.3</i>				
<b>TOTALS</b>										
	Total - Subtransmission/Distribution	\$5,850,000		0	\$0	0.0	\$0	0	\$0	0.0
	Total - Subdivision Rebuilds	\$5,950,000		14	\$120,000	13.3	\$11,500	286,000	\$1,430,000	4.1
	Total - Substations C0504	\$2,875,000		40			\$0	0	\$0	0.0
	Total - Automated Switches & SCADA C0576	\$1,370,000					\$0	0	\$0	0.0
	Total - System Maintenance	\$5,250,000					\$17,000	378,000	\$1,890,000	2.8
	<b>TOTAL - SYSTEM EXPANSION</b>	<b>\$21,295,000</b>		<b>54</b>	<b>\$1,641,000</b>	<b>5.9</b>	<b>\$28,500</b>	<b>664,000</b>	<b>\$3,320,000</b>	<b>4.0</b>
	<b>GRAND TOTAL</b>	<b>\$30,556,800</b>								

**2006-2007 BUDGET SUMMARY & COMPARISON**

<b>CATEGORY</b>	<b>2006 Budget</b>	<b>2007 Budget</b>	<b>Variance Budget '06 to Forecast '07</b>
	('000)	('000)	
Subtransmission/ Distribution	\$ 5,500	\$ 5,850	6%
Substations	\$ 2,875	\$ 2,875	0%
Subdivision Rebuilds	\$ 4,250	\$ 5,950	40%
O/H Distribution Upgrade	\$ 2,525	\$ 2,525	0%
U/G Distribution Upgrade	\$ 2,125	\$ 2,125	0%
Transformer Replacements	\$ 600	\$ 600	0%
Auto Switches/ SCADA	\$ 1,370	\$ 1,370	0%
Major Tools	\$ 150	\$ 150	0%
<b>Normal System - Total</b>	<b>\$ 19,395</b>	<b>\$ 21,445</b>	10%
Road Relocations	\$ 900	\$ 750	-17%
Industrial & Commercial Services	\$ 4,000	\$ 4,000	0%
New Subdivisions	\$ 2,500	\$ 2,500	0%
<b>System Total</b>	<b>\$ 26,795</b>	<b>\$ 28,695</b>	7%
Rolling Stock	\$ 1,725	\$ 1,862	8%
<b>Non-System Total</b>	<b>\$ 1,725</b>	<b>\$ 1,862</b>	8%
<b>Engineering &amp; Operations Total</b>	<b>\$ 28,520</b>	<b>\$ 30,557</b>	7%



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# **EHM Project Business Cases**

## **2008 - 2010**

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**SYSTEM PLANNING DEPARTMENT**

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June 6, 2007

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## **1. Introduction**

In organizing and planning projects, EHM has five main facility investment categories for projects:

1. System Capacity – Growth Driven Investment;
2. System Maintenance – Reliability Driven Investment;
3. System Expansion & Upgrades – Customer Driven Investment;
4. Non-System Requirements – Regulatory Driven Investment and;
5. Non-System Requirements – Internally Driven Investment.

Each of these categories can have a Capital and/or OM&A component.

EHM's capital programs with detailed project business cases and proposed budget levels are described below:

## **2. System Capacity – Growth Driven Investments**

The capital projects for System Capacity – Growth Driven Investments are to ensure that EHM's capability to provide a secure and reliable supply of electrical energy in response to cumulative system wide load growth demands.

Growth is predicted through the combined use of load forecast models, historical growth patterns, and specific load measurements taken at times of heavy loading during the summer.

The projects in this section are designed to increase the capability of existing EHM feeders and substations or to construct new EHM feeders and new substations in response to system growth forecasts. These projects also include expansion to our overhead lines, underground feeders, substations and transformer stations to service new loading requirements. This expansion allows for future subdivisions and industrial/ commercial projects to be connected to the system to a suitable supply point.

During the year, the EHM's System Planning Department will perform various system studies to review the existing status of the grid and identify areas of future development that will need expansion to the system. We also review all of the feeders to ensure that they are within our loading criteria and are properly backed up for emergencies. On a daily basis the System Planning Department contacts the Control Room and reviews the system with the operators to identify issues. As the Control Operators perform switching on the system for reasons such as work permits, which provide switching steps to crews to provide for safe isolation of the feeders to allow them to perform work on system or when the Control Room has to do emergency switching to react to power problems they also help to identify weak spots in the system. System Planning also daily monitors the Control Room's SCADA system and reviews their daily log very carefully to look for problematic areas in the system. Information from SCADA is vital and is used to carefully assess supply, individual feeder loading, substation loading and transformer station loading and voltage issues.

Through this information and through knowledge, training and experience, System Planning can then specifically identify issues and areas of concern. This ensures that future capital projects are completed to take care of these problems. For simpler items, System Planning also creates the construction drawings and has a crew take corrective measures or with larger issues they will provide schematics to our other departments such as our overhead construction or maintenance group to implement.

Another way that System Planning gathers information on what system reinforcements are required is directly from the Region of Peel and the City of Mississauga. This information is from meetings with them or from site plans that all developers must do before they are allowed to do construction in the City or from their road projects. Road projects can entail new roads, road expansion of existing roads, new bridges or intersection work.

Future load growth information is also gathered through the numerous contacts EHM has with consultants representing various developers. Consultants regularly make

contact or actually come to EHM to discuss servicing issues on their projects. From this information, EHM knows in what areas of the City development will occur, the type of development, the expected load and the timing.

Based on all of this data System Planning produces overall electrical master plans for various planning locations in the City to indicate how certain areas of new development will be supplied. The master plans indicate where new substations will be required, what circuits will need to be installed or expanded to provide servicing, and when these circuits will be required. This ensures that we do not hold up development in the City which is vital to the economy and our customers.

EHM is a summer peaking utility which means that the load on system is at its highest in the summer and that is when the system is at its most vulnerable. Summer peak loading from our SCADA gives us clear indications as to where weaknesses are in our system and we then try to come up with solutions to best address them in the most effective manner. Our system is extremely weather dependent and because of this we need to ensure adequate supply is also available to meet this demand to avoid possible rotating blackouts i.e. load shedding.

Reliability statistics which come from our System Reliability department are also factored into our decision making. The Reliability Department carefully track individual stations and feeders supply issues to help identify weaknesses on the system caused by power issues. This will be more discussed later on.

Based on our current information we need 44kV capacity. This will be fulfilled by way of a new transformer station to be built in the Winston Churchill Blvd and Highway 403 area in the spring of 2009. This project requirement was confirmed by Hydro One as needed immediately in their overall power study that they did for the GTA called the “GTA West Supply Study“. This study was the result of several utilities in the nearby vicinity providing their load growth data to Hydro One. Hydro One then did an overall system study and identified numerous supply issues for various utilities. A large number of capital projects that we have identified in the next few years will be done to provide the new links to this new transformer station from our existing grid. These projects will ensure the best optimized system to service present growth and new load growth.

The City provides us with studies that they do. These help to give clear indication of where population will be increasing and where they expect economic growth to occur. Combined with weather information which factor in because EHM’s load is very weather dependent we then use software called “Metrix ND“. This program allows for adjustment on the peak loading on the system for weather also and determines comprehensive load forecasts. The software helps to predict what our peaks will be on our feeders and stations and so it also helps guide us as to which areas of the grid need re-enforcement or expansion so that EHM can properly manage our supply.

Based on current information, the largest growth area in the City is in the central Square One area where numerous high rise condominiums are being built in rapid succession. Also the north western area of the City is showing huge load growth due mainly to residential construction. The north central portion of City is also growing rapidly from industrial/ commercial subdivisions that are being constructed.



Throughout the City we have also noticed a recent trend in existing industrial/commercial business to do substantial service upgrades. This again is causing stresses on the system because areas of the City that EHM thought had basically been static for load increase are now showing growth. This has caused us to have to re-enforce or add feeders in established areas to service this new growth impact.

Also certain customers because of their very nature i.e. the airport, water plants require alternate supplies in case of emergency so those issues also factor into our decisions on what projects are to be built.

System Planning is moving forward to put the entire system into a computerized load flow program that will provide analysis of the system in a quicker, more sophisticated and methodical fashion. The load flow program will allow EHM to more efficiently analyze weaknesses in the system. EHM presently does most of the analysis work manually or from past experience, training and knowledge but this is very time consuming and onerous. EHM wants to ensure that the money we are spending on the system is properly allocated to where the system needs it the most. Our very good reliability statistics are a clear indication that our work to date has been well directed.

Load flow will allow the:

- quick review of the best way to optimize the system including switching to balance loading on the feeders,
- optimize substations and transformer stations right down to the individual buses at the stations,
- best way to optimize what capacity we have and identify where stations or circuits are overloaded and additional ties to help offload them,
- identify which circuits lack proper redundancy,
- which circuits are overloaded and will become overloaded in the future,
- how best to optimize the switches on our system to allow for lower line losses which will in turn reduce overall system demand?
- where to provide additional network capacity,
- shorter feeders will ensure that there is less exposure to the system for autoreclosures or feeder lockouts
- identification of switches that should be changed out to different types of switches to allow for flexibility in switching,
- where automation should be added
- voltage studies
- other power studies as needed
- doing all this in turn improve the reliability numbers such as customer minutes, SAIDI and SAIFI.

All of these items are currently being done to some fashion by System Planning already but not in a computerized fashion.

The 44kV system for example has to a large extent entered into the load flow program and this has helped to identify areas of the 44kV system that will need support. As utilization of the program increases it will provide even more accurate information to ensure that projects are justified and the money spent is done in the most impactful way.

## 2.1. Subtransmission/ Distribution Construction

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	System Capacity - Growth Driven Investments		
<b>INVESTMENT NAME:</b>	Subtransmission/ Distribution Construction		
<b>PROJECT NAME:</b>	Winston Transmission Station Egress Feeders Phase 1		
<b>Business Need:</b>			
<p>Hydro One will be building EHM an eight breaker 44kV - 75/125 MVA transformer station in the Spring of 2009 in the central western side of the City of Mississauga where substantial load growth is causing serious supply issues. This project will drive the requirement for EHM to provide the eight feeder connections needed from the new TS location to our distribution system.</p>			
<b>Investment Summary:</b>			
<p>Hydro One with co-operation from EHM and several other nearby utilities completed a report in 2006 called the "GTAA West Supply Study" which looked at loading issues and requirements in the GTAA area. HONI has advised us that loading at Erindale and Meadowvale TS exceeds the 10-day Limited Transformer Rating (LTR – or the time required to re-establish supply in event of failure). As a result of this study there was a clear need for additional 44kV capacity in the western and central area of the City of Mississauga because of existing loading issues and for meeting future load growth and reliability.</p> <p>After careful analysis of alternatives, HONI recommended the construction of the new 44kV Winston TS to provide load relief and to meet future demand in the area of Winston Churchill Blvd and Hwy 403 areas. Load growth is forecasted to continue at 2.6% per year over the next few years.</p> <p>This project will start the associated feeder work that is required by EHM to get the capacity of the new station out onto EHM's overhead distribution network. This project spending covers the installation of the overhead feeder egress from the new TS and integration of these 8 circuits to the existing distribution feeders on Winston Churchill Blvd and at Ninth Line and Eglinton.</p> <p>One new pole line with four circuits on it will run from the TS southwards to the HONI ROW that runs along Hwy 403 and then run westerly to Ninth Line. Similarly the other new pole line with four 44kV overhead circuits will run from the TS southwards to the HONI ROW that runs along Hwy 403 and easterly to Winston Churchill Blvd.</p> <p>An additional pole line with four 44kV circuits will be built in ROW from the TS to Glen Erin in 2009 also for the same reasons as above.</p> <p>Not completing this work will result in load shedding (rotating blackouts) in case of failure of a TS transformer that supplies load in this area.</p>			
<b>Results:</b>			
<ul style="list-style-type: none"> <li>▪ Prepare for feeder egress from Winston TS</li> <li>▪ Ensure adequate capacity and reliability of supply to the customers in the Meadowvale, Square 1 and Erin Mills area of the City of Mississauga for the next 10-15 years.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
COST TYPE	2008	2009	2010
Capital Costs funded by Board	\$ 1,750		
Capital Costs funded by Others			
Total Capital Costs	<b>\$ 1,750</b>		

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Subtransmission/ Distribution Construction</b>		
<b>PROJECT NAME:</b>	<b>Winston Transmission Station Egress Feeders Phase 2</b>		
<b><u>Business Need:</u></b>			
<p>This project will build an overhead line with four 44kV circuits to best utilize the new Winston TS 44kV capacity and deliver it to EHM's customers</p>			
<b><u>Investment Summary:</u></b>			
<p>This project will complete the associated feeder work that will be started in 2008. This project is required by EHM to get the full capacity of the new station out onto EHM's distribution network. This project spending covers the installation of feeder egress from the new TS and integration of these new overhead feeders on a new pole line with four 44kV circuits on it to the existing overhead distribution feeders on Glen Erin Drive and the Hwy 403 HONI ROW. The new feeders will run from the TS southwards to the HONI ROW that runs along Hwy 403, easterly to Glen Erin to provide load relief capability.</p> <p>Not completing this work will result in load shedding in the case of a failure of a TS transformer that supplies load in this area.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Completion of integration of the new Winston TS into the distribution network.</li> <li>▪ Ensure adequate capacity and reliability of supply to the customers in the Meadowvale, Square 1 and Erin Mills area of the City of Mississauga for the next 10-15 years.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board		\$ 800	
Capital Costs funded by Others			
Total Capital Costs		<b>\$ 800</b>	

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Subtransmission/ Distribution Construction</b>		
<b>PROJECT NAME:</b>	<b>Lakeshore Road – Hurontario Street to Cawthra Road</b>		
<b><u>Business Need:</u></b>			
<p>This project will improve better utilization of existing South 16/ 27.6kV feeders from Cooksville TS and create additional ties with the other Cooksville TS yard. This project spending is required to also increase capacity in the South 16/ 27.6kV &amp; 2.4/ 4.16kV system to meet forecast load growth.</p>			
<b><u>Investment Summary:</u></b>			
<p>EHM distribution customer loads on the South 16/ 27.6kV have been increasing rapidly due mainly to ongoing rapid development by the Region of Peel of the Lakeview Water and Waste Water Treatment plants with other additional plants to come. The Region of Peel has been expanding their plants at a rapid rate to ensure the GTA has adequate water supply and also to ensure that they are able to treat waste water also in this area. There has also been development with condominiums along the lakefront that have contributed to growth.</p> <p>After analysis and consideration of alternatives, the preferred plan was to continue to build easterly a 16/ 27.6kV and 2.4/ 4.16kV circuit from existing circuits on Hurontario Street to Cawthra Road. This would involve replacing the existing old, wooden pole line that currently has one 16/ 27.6 and one 2.4/ 4.16kV overhead circuit on it. The new pole line which would run along Queen Street and then down Seneca Street to Lakeshore Road and then proceed easterly to Cawthra Road. The new pole line would then have two 16/ 27.6kV and two 2.4/ 4.16kV feeders on it that would improve service to the new load and better balance loading on the 2.4/ 4.16kV and 27.6kV circuits in this area.</p> <p>Not proceeding with this plan will result in loading of area facilities beyond their design ratings, creating an increased risk of equipment failure and customer outages. Restrictions on the load capacity and load balancing in the South 16/ 27.6kV area of the City will increase.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Ensure adequate capacity to reliably supply customers in the South 16/ 27.6kV and 2.4/ 4.16kV area</li> <li>▪ Create additional ties between Cooksville TS yards to improve reliability and switching capability</li> <li>▪ Provide adequate feeder conductor capacity on the 2.4/ 4.16kV and 16/ 27.6kV feeders in this area.</li> <li>▪ Expansion of system capability to serve additional load growth.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board		\$ 1,800	
Capital Costs funded by Others			
<b>Total Capital Costs</b>		<b>\$ 1,800</b>	

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Subtransmission/ Distribution Construction</b>		
<b>PROJECT NAME:</b>	<b>Lakeshore Road – Hurontario Street to Dryden Gate</b>		
<b><u>Business Need:</u></b>			
<p>This project will better utilize existing South 16/ 27.6kV feeders from Cooksville TS. This project will also create an additional tie with Lorne Park TS. This project spending is required to also increase capacity in the South 16/ 27.6kV &amp; 2.4/ 4.16kV system to meet forecast load growth.</p>			
<b><u>Investment Summary:</u></b>			
<p>EHM distribution customer loads on the South 16/ 27.6kV have been increasing rapidly due to ongoing development by the Region of Peel of the Lakeview Water and Waste Water Treatment plants with other additional plants to come. The Region of Peel has been expanding their plants at a rapid rate to ensure the GTA has adequate water supply and also to ensure that they are able to treat waste water also in this area. There has been condominium development along the lakefront that has contributed to growth. In addition this project would provide another 16/ 27.6kV tie between Cooksville and Lorne Park TS which could be very important in an emergency if a transformer at either of the TS's is lost.</p> <p>After analysis and consideration of alternatives, the preferred plan is to build westerly a 16/ 27.6kV and 2.4/ 4.16kV circuit from the existing circuits on Hurontario Street to Mississauga Road. This will involve replacing the existing old, wooden pole line that currently has one 16/ 27.6 and one 2.4/ 4.16kV overhead circuit on it. The new pole line which would run along Park Street, north along Mississauga Road and then westerly along the railway tracks to Drydan Gate. The new pole line would then have two 16/ 27.6kV and two 2.4/ 4.16kV feeders that would be able to improve service to the new load and improve balance in loading on the 2.4/ 4.16kV and 16/ 27.6kV circuits in this area.</p> <p>Not proceeding with this plan will result in loading of area facilities beyond their design ratings, creating an increased risk of equipment failure and customer outages. Restrictions on the load capacity and load balancing in the South 16/ 27.6kV area of the City will increase.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Ensure adequate capacity to reliably supply customers in the South 16/ 27.6kV and 2.4/ 4.16kV area</li> <li>▪ Create additional ties between Cooksville TS and Lorne Park TS to improve reliability and switching capability</li> <li>▪ Provide adequate feeder conductor capacity on the 2.4/ 4.16kV and 16/ 27.6kV feeders in this area.</li> <li>▪ Expansion of system capability to serve additional load growth.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board			\$ 1,750
Capital Costs funded by Others			
<b>Total Capital Costs</b>			<b>\$ 1,750</b>

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	System Capacity - Growth Driven Investments		
<b>INVESTMENT NAME:</b>	Subtransmission/ Distribution Construction		
<b>PROJECT NAME:</b>	Royal Windsor Dr – South on Southdown Road to Avonhead		
<b><u>Business Need:</u></b>			
<p>This project spending will better utilize existing South 16/ 27.6kV feeders from Lorne Park TS to Oakville TS and improve the 2.4/ 4.16kV system. This project spending is required to also increase capacity in the South 16/ 27.6kV and 2.4/ 4.16kV system to meet forecast load growth.</p>			
<b><u>Investment Summary:</u></b>			
<p>EHM distribution customer loads on the South 16/ 27.6kV have been increasing rapidly due mainly to ongoing rapid development by the Region of Peel. The Region of Peel is looking to expand the Clarkson Wastewater Treatment plant and the Lorne Park Water Pumping Station. The Region of Peel has been expanding their plants at a rapid rate to ensure the GTA has adequate water supply and also to ensure that they are able to treat waste water also in this area. Also one of our largest customers, St Lawrence Cement is also looking at further possible expansion also. There is also still a lot of green field area in this area that has not developed yet but will in the near future. In addition this project would give us another 16/ 27.6kV tie between Oakville TS and Lorne Park TS which could be very important in an emergency if we lose a transformer at either of the TS's.</p> <p>After analysis and consideration of alternatives, the preferred plan was replacing the existing old, wooden pole line that currently has one 16/ 27.6 and one 2.4/ 4.16kV overhead circuit on it that runs along Southdown Road from Royal Windsor to Lakeshore Road. The new pole line would replace this and then we would add an additional 27.6kV and 2.4/ 4.16kV feeders on it. This would give us two 27.6kV and two 2.4/ 4.16kV feeders from Royal Windsor Drive on Southdown to Lakeshore Road and then westerly to Avonhead Road. This pole line would be able to better service the new loads and improve load balancing on the 2.4/ 4.16kV and 16/ 27.6kV circuits in this area.</p> <p>Not proceeding with this plan will result in loading of area facilities beyond their design ratings, creating an increased risk of equipment failure and customer outages. Restrictions on the load capacity and load balancing in the South 16/ 27.6kV area of the City will increase.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Ensure adequate capacity to reliably supply customers in the South 16/ 27.6kV and 2.4/ 4.16kV area</li> <li>▪ Create additional ties between Oakville TS and Lorne Park TS to improve reliability and switching capability</li> <li>▪ Provide adequate feeder conductor capacity on the 2.4/ 4.16kV and 16/ 27.6kV feeders in this area.</li> <li>▪ Expansion of system capability to serve additional load growth.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
COST TYPE	2008	2009	2010
Capital Costs funded by Board		\$ 750	
Capital Costs funded by Others			
<b>Total Capital Costs</b>		<b>\$ 750</b>	

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Subtransmission/ Distribution Construction</b>		
<b>PROJECT NAME:</b>	<b>Winston Churchill Blvd – Royal Windsor Drive to Lakeshore Rd, then east to Avonhead Road</b>		
<b><u>Business Need:</u></b>			
<p>This project spending will better utilize existing South 16/ 27.6kV feeders from Lorne Park TS to Oakville TS and improve the 2.4/ 4.16kV system. This project spending is required to also increase capacity in the South 16/ 27.6kV and 2.4/ 4.16kV system to meet forecast load growth.</p>			
<b><u>Investment Summary:</u></b>			
<p>EHM distribution customer loads on the South 16/ 27.6kV have been increasing rapidly due to ongoing development by the Region of Peel. The Region of Peel is looking to expand the Clarkson Wastewater Treatment plant and the Lorne Park Water Pumping Station. The Region of Peel has been expanding their plants at a rapid rate to ensure the GTA has adequate water supply and also to ensure that they are able to treat waste water also in this area. Also one of our largest customers, St Lawrence Cement is also looking at further possible expansion also. There is still a lot of green field development in this area that is that will occur in the near future. In addition this project would give us another 16/ 27.6kV tie between Oakville TS and Lorne Park TS which could be very important in an emergency if we lose a transformer at either of the TS's.</p> <p>After analysis and consideration of alternatives, the preferred plan is to add to the existing pole line that currently has one 27.6 and one 2.4/ 4.16kV overhead circuit on it that runs along Winston Churchill Blvd from Royal Windsor to Lakeshore Road and then eastwards to Avonhead. We would then add an additional 16/ 27.6kV and 2.4/ 4.16kV feeder on it. This would give us two 27.6kV and two 2.4/ 4.16kV feeders. This pole line would be able to improve service to the new loads and improve load balancing on the 2.4/ 4.16kV and 16/ 27.6kV circuits in this area.</p> <p>Not proceeding with this plan will result in loading of area facilities beyond their design ratings, creating an increased risk of equipment failure and customer outages. Restrictions on the load capacity and load balancing in the South 16/ 27.6kV area of the City will increase.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Ensure adequate capacity to reliably supply customers in the South 16/ 27.6kV and 2.4/ 4.16kV area</li> <li>▪ Create additional ties between Oakville TS and Lorne Park TS to improve reliability and switching capability</li> <li>▪ Provide adequate feeder conductor capacity on the 2.4/ 4.16kV and 27.6kV feeders in this area.</li> <li>▪ Expansion of system capability to serve additional load growth.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
COST TYPE	2008	2009	2010
Capital Costs funded by Board	\$ 750		
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 750</b>		

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Subtransmission/ Distribution Construction</b>		
<b>PROJECT NAME:</b>	<b>44kV - Meadowvale TS Feeder Relief</b>		
<b><u>Business Need:</u></b>			
<p>This project spending is needed to relieve overloaded nearby 44kV conductors and to provide for future load growth. Two 44kV feeders will be built from Meadowvale TS and be connected to two new breakers that will be provided by HONI, the R3107M1 and M2.</p>			
<b><u>Investment Summary:</u></b>			
<p>During past summer peak loads, loading on 44kV overhead lines that emanate from Meadowvale TS have exceeded the conductor ampacity rating. The study also concluded that additional 44kV feeder capacity is required for the study area, based on EHM distribution planning and design criteria of an average of 25 MVA for 44kV feeders.</p> <p>A number of possible alternatives were analyzed and compared to address this situation. The preferred plan is to build two new overhead 44kV circuits from two new breakers to be supplied by Hydro One from Meadowvale TS easterly on an existing pole line to Tenth Line. The existing pole line on Tenth Line to the railway tracks just south of Argentia would have the existing two 8/ 13.8kV circuits removed and they would be re-insulated for 44kV to the railway tracks. At the railway tracks the two 44kV circuits would travel on the existing pole line to Winston Churchill Blvd. At Winston Churchill Blvd and the railway tracks the taps would be modified to allow for the two new 44kV circuits to go east and the existing two 44kV circuits would go south. The switches in this area would be re-arranged to allow the extra capacity now available from Meadowvale TS to allow for loading to be better equalized among eight feeders when before there were only six available. This project is contingent on HONI having the breakers installed and the bus extension completed in time.</p> <p>Not proceeding with this project spending will result in continued thermal overloading of feeders from Meadowvale TS with an increased risk of failure and interruption to supply and will improve the load capacity in the Meadowvale area over the planning period.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Provide adequate feeder conductor capacity on the Meadowvale feeders and relieve conductor overloading.</li> <li>▪ Creation of new feeders with additional supply capability to increase operating flexibility.</li> <li>▪ Expansion of system capability to serve additional load over the next few years</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board	\$ 950		
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 950</b>		



<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Subtransmission/ Distribution Construction</b>		
<b>PROJECT NAME:</b>	<b>44kV - Bramalea TS Feeder Relief</b>		
<b><u>Business Need:</u></b>			
<p>This project spending is needed to relieve overloaded nearby 44kV conductors and to provide for future load growth. A new 44kV feeder will be built from Bramalea TS and be connected to a new breaker that will be provided by HONI, the 74M49.</p>			
<b><u>Investment Summary:</u></b>			
<p>During past summer peak loads, loading on 44kV overhead lines that emanate from Bramalea TS have exceeded the conductor ampacity rating. The study also concluded that additional 44kV feeder capacity is required for the study area, based on EHM distribution planning and design criteria of an average of 25 MVA for 44kV feeders.</p> <p>A number of possible alternatives were analyzed and compared to address this situation. The preferred plan is to build a new overhead 44kV circuit from the new breaker to be supplied by Hydro One from Bramalea TS easterly on a pole line in the ROW adjacent to Hwy 407 to Bramalea Rd. The existing pole line on Bramalea Road would be used to go southwards to Drew Rd where the taps would be re-arranged to allow for the expressing of the new feeder towards the Derry Rd/ Dixie Rd area. The switches in this area would be re-arranged to allow for the extra capacity now available from Bramalea TS to allow for loading to be equalized among several feeders. This project is contingent on HONI allowing us to use the existing 74M49 circuit breaker.</p> <p>Not proceeding with this project spending will result in continued thermal overloading of feeders from Bramalea TS with an increased risk of failure and interruption to supply and will improve the load capacity in the Derry/ Dixie Rd area over the planning period.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Provide adequate feeder conductor capacity on the Bramalea feeders and relieve conductor overloading.</li> <li>▪ Creation of new feeder with additional supply capability to increase operating flexibility.</li> <li>▪ Expansion of system capability to serve additional load</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board	\$ 800		
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 800</b>		

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Subtransmission/ Distribution Construction</b>		
<b>PROJECT NAME:</b>	<b>44kV - Dixie Rd – Derry Rd to Britannia Rd Feeder Relief</b>		
<b><u>Business Need:</u></b>			
<p>This project spending is needed to relieve overloaded nearby 44kV conductors and to provide for future load growth. A new 44kV feeder will be built on a existing pole line on Dixie Rd from Derry to Britannia Rd.</p>			
<b><u>Investment Summary:</u></b>			
<p>During past summer peak loads, loading on 44kV overhead lines that emanate from Bramalea TS and Tomken TS have exceeded the conductor ampacity rating. The study also concluded that additional 44kV feeder capacity is required for the study area, based on EHM distribution planning and design criteria of an average of 25 MVA for 44kV feeders.</p> <p>A number of possible alternatives were analyzed and compared to address this situation. The preferred plan is to build a new overhead 44kV circuit on a existing pole line on Dixie Road from Derry Rd to Britannia Road. A portion of the project would have to be under grounded in the vicinity of the airport runway near Dixie Rd and Courtney Park. The taps would be then re-arranged to allow for the new feeder to be utilized in the Dixie Rd/ Britannia area. The switches in this area would be re-arranged to allow for the extra capacity now available from Bramalea TS to allow for loading to be equalized among several feeders. This project would also create a extra tie between Bramalea TS and Tomken TS which would be vital in a situation if we lose a transformer at the either of he TS's because it will allow for additional backup and switching flexibility</p> <p>Not proceeding with this project spending will result in continued thermal overloading of feeders from Bramalea TS and Tomken Ts with an increased risk of failure and interruption to supply and this will improve the loading capacity in the Dixie Rd/ Britannia Rd area which is heavily loaded industrial over the planning period.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Provide adequate feeder conductor capacity on the Bramalea and Tomken feeders and relieve conductor overloading.</li> <li>▪ Creation of a feeder tie between Tomken TS and Bramalea TS</li> <li>▪ Additional supply capability to increase operating flexibility.</li> <li>▪ Expansion of system capability to serve additional load</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board			\$ 750
Capital Costs funded by Others			
<b>Total Capital Costs</b>			<b>\$ 750</b>

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Subtransmission/ Distribution Construction</b>		
<b>PROJECT NAME:</b>	<b>44/ 13.8kV - Dundas Street – Cawthra Rd to Hurontario Street Feeder Relief</b>		
<b><u>Business Need:</u></b>			
<p>This project spending is needed to relieve overloaded nearby 44kV and 8/ 13.8kV conductors and to provide for future load growth. An existing aged pole line that has reached its end of life will be replaced with a new pole line.</p>			
<b><u>Investment Summary:</u></b>			
<p>During the past summer peak loads, loading on 44kV overhead lines in this area that emanate from Tomken TS and Erindale TS have exceeded the conductor ampacity rating. The study also concluded that additional 44kV and 8/ 13.8kV feeder capacity is required for the study area, based on EHM distribution planning and design criteria of an average of 25 MVA for 44kV feeders and 6 MVA for 8/ 13.8kV feeders.</p> <p>A number of possible alternatives were analyzed and compared to address this situation. The preferred plan is to replace the existing old wooden/ cross arm pole line that has reached its end of life and is in poor shape. This existing pole line is underutilized and only carries two 8/ 13.8kV circuits on it.</p> <p>A new overhead pole line will be built on Dundas Street from Cawthra Road westerly to Jaguar Valley and then to Hurontario Street. This pole line will have two additional 44kV circuits in addition to the two 8/ 13.8kV circuits that were there. This would also provide for important ties between Erindale TS and Tomken TS which would be vital in a situation if we lost a transformer at the either of the TS's because it will allow for additional backup and switching flexibility. This circuit would also improve 44kV and 8/ 13.8kV loading and switching issues and provide for suitable backup.</p> <p>Not proceeding with this project spending will result in the continued thermal overloading of feeders from Tomken TS and Erindale TS with an increased risk of failure and interruption to supply and this will improve the loading capacity in the Dundas/ Hurontario Street area which was heavily loaded over the planning period.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Provide adequate feeder conductor capacity on the Erindale and Tomken TS feeders and relieve conductor overloading.</li> <li>▪ Creation of two new feeder ties between Tomken TS and Erindale TS</li> <li>▪ Additional supply capability to increase operating flexibility.</li> <li>▪ Expansion of system capability to serve additional load</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board		\$ 1,800	
Capital Costs funded by Others			
<b>Total Capital Costs</b>		<b>\$ 1,800</b>	

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	System Capacity - Growth Driven Investments		
<b>INVESTMENT NAME:</b>	Subtransmission/ Distribution Construction		
<b>PROJECT NAME:</b>	44/ 13.8kV - Thomas Street – Erin Mills Parkway to Mississauga Road Feeder Relief		
<b><u>Business Need:</u></b>			
<p>This project spending is needed to relieve loading on nearby 44kV and 8/ 13.8kV overloaded conductors and to provide for future load growth. An existing aged pole line that has reached its end of life will also be replaced with a new pole line.</p>			
<b><u>Investment Summary:</u></b>			
<p>During the past summer peak loads, loading on 44kV overhead lines in this area that emanate from Meadowvale TS and Erindale TS have exceeded the conductor ampacity rating. The study also concluded that additional 44kV and 8/ 13.8kV feeder capacity is required for the study area, based on EHM distribution planning and design criteria of an average of 25 MVA for 44kV feeders and 6 MVA for 8/ 13.8kV feeders.</p> <p>A number of possible alternatives were analyzed and compared to address this situation. The preferred plan is to replace the existing old wooden/ cross arm pole line that has reached its end of life and is in poor shape. This existing pole line is also underutilized and only carries one 44kV and one 8/ 13.8kV circuit on it. Thomas MS which is at the NE corner of Thomas/ Erin Mills Parkway is also without proper backup on the 44kV. In addition the area of Streetsville is without proper backup also and is being fed on a radial 2.4/ 4.16kV system. This system is very old and is being quickly converted to 8/ 13.8kV by our forces.</p> <p>This existing pole line will have one additional 44kV circuit and one additional 8/ 13.8kV circuit on it also in addition to the 8/ 13.8kV and 44kV circuits that are there now. This would ensure that Thomas MS has suitable 44kV backup in an emergency and provide for additional 8/ 13.8kV capacity in the conversion of Streetsville from 2.4/ 4.16kV to 8/ 13.8kV. This work will also provide for important 44kV ties between Erindale TS and Tomken TS. This will be vital in a situation if a transformer is lost at either of the TS's because it will allow for additional backup and switching flexibility. This also applies to the 8/ 13.8kV system.</p> <p>Not proceeding with this project spending will result in the continued thermal overloading of feeders from Meadowvale TS and Erindale TS with an increased risk of failure and interruption to supply. This project will also improve the loading capacity in the Streetsville area and allow cutover work from the 2.4/ 4.16kV radial system to occur more quickly.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Provide adequate feeder conductor capacity on the Meadowvale and Erindale TS 44kV feeders and relieve conductor overloading.</li> <li>▪ Creation of two new feeder ties between Meadowvale TS and Erindale TS</li> <li>▪ Provide 44kV and 8/ 13.8kV backup to Thomas MS</li> <li>▪ Provide capacity on the 8/ 13.8kV to transfer load in Streetsville from the 2.4/ 4.16kV system.</li> <li>▪ Additional supply capability to increase operating flexibility.</li> <li>▪ Expansion of system capability to serve additional load</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
COST TYPE	2008	2009	2010
Capital Costs funded by Board			\$ 850
Capital Costs funded by Others			
<b>Total Capital Costs</b>			<b>\$ 850</b>

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	System Capacity - Growth Driven Investments		
<b>INVESTMENT NAME:</b>	Subtransmission/ Distribution Construction		
<b>PROJECT NAME:</b>	44/ 13.8kV - Dundas Street – Erindale Station Road to Mississauga Road Feeder Relief		
<b><u>Business Need:</u></b>			
<p>This project spending is needed to relieve overloaded nearby 44kV and 8/ 13.8kV conductors and to provide for future load growth. An existing aged wooden/ cross arm pole line that has reached its end of life will also be replaced with a new pole line.</p>			
<b><u>Investment Summary:</u></b>			
<p>During the past summer peak loads, loading on 44kV overhead lines in this area that emanate from Erindale TS have exceeded the conductor ampacity rating. The study also concluded that additional 44kV capacity is required for the study area, based on EHM distribution planning and design criteria of an average of 25 MVA for 44kV feeders.</p> <p>A number of possible alternatives were analyzed and compared to address this situation. The preferred plan is to replace the existing old wooden/ cross arm pole line that has reached its end of life and is in poor shape. This existing pole line is also underutilized and only carries one 44kV and two 8/ 13.8kV circuits on it.</p> <p>A new overhead pole line would be built on Dundas Street from Erindale Station Road to Mississauga Road. This pole line will have one additional 44kV circuit added in addition to the two 8/ 13.8kV and one 44kV circuits that are there now. This will ensure that this area has suitable 44kV backup in an emergency. This work will also provide for important 44kV ties between Erindale TS yards and the future Winston TS yard. This will be vital in a situation if a transformer is lost at the either of the TS's because it will allow for additional backup and switching flexibility. This also applies to the 8/ 13.8kV system.</p> <p>Not proceeding with this project spending will result in the continued thermal overloading of feeders from Erindale TS with an increased risk of failure and interruption to supply. This project will also improve the 8/ 13.8kV loading capacity in this area.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Provide adequate feeder conductor capacity on the Erindale TS 44kV feeders and relieve conductor overloading.</li> <li>▪ Creation of two new feeder ties between new Winston TS and existing Erindale TS yards</li> <li>▪ Additional supply capability to increase operating flexibility.</li> <li>▪ Expansion of 44kV system capability to serve additional load</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
COST TYPE	2008	2009	2010
Capital Costs funded by Board			\$ 1,600
Capital Costs funded by Others			
<b>Total Capital Costs</b>			<b>\$ 1,600</b>

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	System Capacity - Growth Driven Investments		
<b>INVESTMENT NAME:</b>	Subtransmission/ Distribution Construction		
<b>PROJECT NAME:</b>	44/ 13.8kV - Hurontario Street – Burnhamthorpe Rd to Kirwin Drive Feeder Relief		
<b><u>Business Need:</u></b>			
<p>This project spending is needed to relieve loading on nearby 44kV and 8/ 13.8kV overloaded conductors and to provide for future load growth by installing a new 44kV circuit on an existing pole line. This will also allow for the construction of a new 44/8/ 13.8kV transformer at our existing John MS to better service loading in this area.</p>			
<b><u>Investment Summary:</u></b>			
<p>During the past summer peak loads, loading on 44 and 8/ 13.8kV overhead lines in this area that emanate from Erindale TS and Tomken TS have exceeded the conductor ampacity rating. The study also concluded that additional 44kV and 8/ 13.8kV capacity is required for the study area, based on EHM distribution planning and design criteria of an average of 25 MVA for 44kV feeders and 6 MVA for 8/ 13.8kV feeders.</p> <p>A number of possible alternatives were analyzed and compared to address this situation. The preferred plan is to add a new 44/8/ 13.8kV transformer at existing John MS. However before we do this we need to install an additional 44kV circuit to allow for station backup for the new transformer. This existing pole line is also underutilized and only carries one 44kV and two 8/ 13.8kV circuits on it.</p> <p>A new 44kV overhead circuit will be strung on the existing pole line from Burnhamthorpe to Kirwin Drive. This will allow for one additional 44kV circuit on it also in addition to the two 8/ 13.8kV and one 44kV circuits that are there now. This would ensure that when we add the new 13.8/ 44kV transformer at John MS that it would be on a different 44kV feeder allowing for proper backup. This would ensure that this area has suitable 44kV backup in a emergency. This work would also provide for important 44kV ties between Erindale TS and Tomken TS. This would be vital in a situation if we lost a transformer at the either of the TS's because it will allow for additional backup and switching flexibility.</p> <p>Not proceeding with this project spending will result in the continued thermal overloading of feeders from Tomken TS with an increased risk of failure and interruption to supply. This project will also improve the 8/ 13.8kV loading capacity in this area by allowing a new 20 MVA transformer to be installed at John MS to properly service the load that is there.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Provide adequate feeder conductor capacity on the Tomken TS 44kV feeders and relieve conductor overloading.</li> <li>▪ Creation of two new feeder ties between new Tomken TS and Erindale TS</li> <li>▪ Additional supply capability to increase operating flexibility.</li> <li>▪ Expansion of 44/ 8/ 13.8kV kV system capability to serve additional load</li> <li>▪ Will provide a separate 44kV source for a new 20MVA transformer to be installed later on at John MS</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
COST TYPE	2008	2009	2010
Capital Costs funded by Board			\$ 500
Capital Costs funded by Others			
<b>Total Capital Costs</b>			<b>\$ 500</b>

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Subtransmission/ Distribution Construction</b>		
<b>PROJECT NAME:</b>	<b>8/ 13.8kV - Etude Drive – Goreway Drive to Cambrett Drive Feeder Relief</b>		
<b><u>Business Need:</u></b>			
<p>This project spending is needed to relieve 8/ 13.8kV loading in the Malton area, specifically the area served by Goreway MS which has reached its end of life.</p>			
<b><u>Investment Summary:</u></b>			
<p>Goreway MS is located outside of the City of Mississauga in the City of Brampton. Goreway MS is also at the end of its life, with equipment that is very difficult to replace and is also situated in an odd location on Goreway Drive north of Brandon Gate and needs to be decommissioned. Currently, Goreway MS supplies two 8/ 13.8kV feeders from it and the load it now serves needs to be taken from elsewhere.</p> <p>In anticipation of Goreway being decommissioned, Chinook MS was upgraded to two 20 MVA transformers. This station is underutilized and can be used to pick up the load that Goreway MS now serves. In order to do this an overhead link must be built from Chinook MS feeders to the circuits now being fed by Goreway MS on Goreway Drive.</p> <p>A number of possible alternatives were analyzed and compared to address this situation. The preferred plan is to add a new 8/ 13.8kV circuit on a pole line on Etude Drive from Goreway Drive to Cambrett Drive. However, this existing wooden/ cross arm pole line has also reached its end of life and does not have space on it to accept another 13.8kV circuit.</p> <p>A new overhead pole line will be built in its place with two 8/ 13.8kV circuits on it. These circuits will then be used to offload the circuits that Goreway MS now feed on Goreway Drive.</p> <p>This will ensure that Goreway MS can be decommissioned in a timely fashion. This will ensure that this area has suitable 8/ 13.8kV backup in an emergency. This will also allow for Chinook MS to be further utilized.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Provide for the decommissioning of Goreway MS</li> <li>▪ Increase utilization of existing Chinook MS</li> <li>▪ Increase supply to the area of Malton</li> <li>▪ Creation of two new feeder 8/ 13.8kV ties between Chinook MS and Malton MS</li> <li>▪ Additional supply capability to increase operating flexibility.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board	\$ 400		
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 400</b>		

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Subtransmission/ Distribution Construction</b>		
<b>PROJECT NAME:</b>	<b>Chinook MS Overhead Update Phase 1</b>		
<b><u>Business Need:</u></b>			
<p>This project spending is needed to relieve 8/ 13.8kV loading in the Malton area, specifically the area served by Chinook MS.</p>			
<b><u>Investment Summary:</u></b>			
<p>Chinook MS was energized last year to help alleviate loading issues that we are having in the Malton area. Chinook MS will also allow for the decommissioning of Goreway MS that has reached its end of life.</p> <p>New overhead feeders from Chinook MS are required to fully utilize the capability of the station breakers, to provide alternate backup to other nearby Municipal Substations and to help alleviate loading issues in the area.</p> <p>A number of possible alternatives were analyzed and compared to address this situation. The preferred plan is to add two more 8/ 13.8kV circuits on a pole line that currently westwards from the Chinook MS to Rena Road. However, the existing pole line has reached its end of life and has only one 8/ 13.8kV and one 44kV circuit on it.</p> <p>A new overhead pole line will be built in its place with three 8/ 13.8kV and one 44kV circuit on it.</p> <p>This project will ensure that Goreway MS can be decommissioned in a timely fashion. This will ensure that this area has suitable 8/ 13.8kV backup in an emergency. This will also allow for Chinook MS to be further utilized.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Provide for the decommissioning of Goreway MS</li> <li>▪ Increase utilization of existing Chinook MS</li> <li>▪ Increase supply to the area of Malton</li> <li>▪ Creation of new feeder 8/ 13.8kV ties between Chinook MS and Malton MS</li> <li>▪ Additional supply capability to increase operating flexibility</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board	\$ 600		
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 600</b>		



<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Subtransmission/ Distribution Construction</b>		
<b>PROJECT NAME:</b>	<b>Chinook MS Overhead Update Phase 2</b>		
<b>Business Need:</b>			
This project spending is needed to relieve 8/ 13.8kV loading in the Malton area, specifically the area served by Chinook MS.			
<b>Investment Summary:</b>			
Chinook MS was energized last year to help alleviate loading issues that we are having in the Malton area. Chinook MS will also allow for the decommissioning of Goreway MS that has reached its end of life.			
New overhead feeders from Chinook MS are required to fully utilize the capability of the station breakers, to provide alternate backup to other nearby Municipal Substations and to help alleviate loading issues in the area.			
A number of possible alternatives were analyzed and compared to address this situation. The preferred plan is to add two more 8/ 13.8kV circuits on a pole line that currently westwards from Rena Road to Tobram Road. However, the existing pole line has reached its end of life and has only one 8/ 13.8kV and one 44kV circuit on it.			
A new overhead pole line will be built in its place with three 8/ 13.8kV and one 44kV circuit on it.			
This project will ensure that Goreway MS can be decommissioned in a timely fashion. This will ensure that this area has suitable 8/ 13.8kV backup in an emergency. This will also allow for Chinook MS to be further utilized.			
<b>Results:</b>			
<ul style="list-style-type: none"> <li>▪ Provide for the decommissioning of Goreway MS</li> <li>▪ Increase utilization of existing Chinook MS</li> <li>▪ Increase supply to the area of Malton</li> <li>▪ Creation of new feeder 8/ 13.8kV ties between Chinook MS and Malton MS</li> <li>▪ Additional supply capability to increase operating flexibility</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
COST TYPE	2008	2009	2010
Capital Costs funded by Board		\$ 600	
Capital Costs funded by Others			
<b>Total Capital Costs</b>		<b>\$ 600</b>	

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Subtransmission/ Distribution Construction</b>		
<b>PROJECT NAME:</b>	<b>44kV - Cawthra Rd - Dundas Street to Bloor MS Feeder Relief</b>		
<b><u>Business Need:</u></b>			
<p>This project spending is needed to relieve overloaded nearby 44kV conductors and to provide for future load growth. An existing aged wooden/ cross arm pole line that has reached its end of life will also be replaced with a new pole line.</p>			
<b><u>Investment Summary:</u></b>			
<p>During the past summer peak loads, loading on 44kV overhead lines in this area that emanate from Tomken TS have exceeded the conductor ampacity rating. The study also concluded that additional 44kV capacity is required for the study area, based on EHM distribution planning and design criteria of an average of 25 MVA for 44kV feeders.</p> <p>A number of possible alternatives were analyzed and compared to address this situation. The preferred plan is to replace the existing old wooden/ cross arm pole line that has reached its end of life and is in poor shape. This existing pole line is also underutilized and only carries two 8/ 13.8kV circuits on it.</p> <p>A new overhead pole line would be built on Cawthra Rd from Dundas Street to Bloor MS. This pole line will have two additional 44kV circuit added in addition to the two 8/ 13.8kV that are there now. This will ensure that this area has suitable 44kV backup in an emergency. This work will also provide for important 44kV ties between Tomken and Erindale TS yard. This will be vital in a situation if a transformer is lost at the either of the TS's because it will allow for additional backup and switching flexibility.</p> <p>Not proceeding with this project spending will result in the continued thermal overloading of feeders from Tomken and Erindale TS with an increased risk of failure and interruption to supply.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Provide adequate feeder conductor capacity on the Tomken TS 44kV feeders and relieve conductor overloading.</li> <li>▪ Creation of two new feeder ties between new Tomken TS and Erindale TS</li> <li>▪ Additional supply capability to increase operating flexibility.</li> <li>▪ Expansion of 44 kV system capability to serve additional load</li> <li>▪ Will provide proper backup to Bloor MS</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board	\$ 500		
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 500</b>		

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Subtransmission/ Distribution Construction</b>		
<b>PROJECT NAME:</b>	<b>Hurontario Street – QEW to The Queensway</b>		
<b><u>Business Need:</u></b>			
<p>This project will improve better utilization of existing South 16/ 27.6kV feeders from Cooksville TS and create additional ties with the other Cooksville TS yard. This project spending is required to also increase capacity in the South 16/ 27.6kV &amp; 2.4/ 4.16kV system to meet forecast load growth.</p>			
<b><u>Investment Summary:</u></b>			
<p>EHM distribution customer loads on the South 16/ 27.6kV have been increasing due mainly to ongoing development</p> <p>After analysis and consideration of alternatives, the preferred plan was to continue to build on Hurontario St a 16/ 27.6kV and 2.4/ 4.16kV circuit from existing circuits on Hurontario Street/ QEW to The Queensway. This would involve stringing on an existing pole line that currently has one 16/ 27.6 and one 2.4/ 4.16kV overhead circuit on it. The pole line would then have two 16/ 27.6kV and two 2.4/ 4.16kV feeders on it that would improve service to the new load and better balance loading on the 2.4/ 4.16kV and 27.6kV circuits in this area.</p> <p>Not proceeding with this plan will result in loading of area facilities beyond their design ratings, creating an increased risk of equipment failure and customer outages. Restrictions on the load capacity and load balancing in the South 16/ 27.6kV area of the City will increase.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Ensure adequate capacity to reliably supply customers in the South 16/ 27.6kV and 2.4/ 4.16kV area</li> <li>▪ Create additional ties between Cooksville TS yards to improve reliability and switching capability</li> <li>▪ Provide adequate feeder conductor capacity on the 2.4/ 4.16kV and 16/ 27.6kV feeders in this area.</li> <li>▪ Expansion of system capability to serve additional load growth.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board			\$ 150
Capital Costs funded by Others			
<b>Total Capital Costs</b>			<b>\$ 150</b>

**2.2. Substation Construction**

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Substation Construction</b>		
<b>PROJECT NAME:</b>	<b>Bromsgrove Municipal Substation Refurbishment</b>		
<b><u>Business Need:</u></b>			
<p>This project spending is required to ensure that the municipal station provides a safe, secure and reliable supply of electricity to customers.</p> <p>Not proceeding with this project spending would result in a decline in reliability due to unplanned outages from failed components.</p>			
<b><u>Investment Summary:</u></b>			
<p>EHM's distribution system is designed as a loop feed system with an open point in the middle. Municipal Substations are a major element in the system and are composed of individual components that must function as designed in order to maintain an acceptable level of reliability and security.</p> <p>Stations require refurbishment because equipment and structures lose their capability to perform as intended with age. The component replacement program addresses individual assets, such as breakers, protection relays, reclosures, tap changers, switchgear and battery chargers that have reached the end of their service lives and are no longer capable of fulfilling their intended function. Project spending is prioritized based on the condition of the asset. Criteria include reliability, safety, and improvement in design standards or as a result of recommendations from prior operations.</p> <p>This project will provide for 4 new electronic reclosers, Remote Terminal Unit to communicate with our SCADA system and upgrade feeder egress.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Improved system reliability with reduced outage duration and frequency.</li> <li>▪ Enhance safety to the public and EHM personnel &amp; equipment.</li> <li>▪ Replace end of life assets to comply with regulatory requirements.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board	\$ 300		
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 300</b>		

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Substation Construction</b>		
<b>PROJECT NAME:</b>	<b>McNeice Municipal Substation Refurbishment</b>		
<b><u>Business Need:</u></b>			
<p>This project spending is required to ensure that the municipal station provides a safe, secure and reliable supply of electricity to customers.</p> <p>Not proceeding with this plan will lead to a risk of being unable to adequately clear faults in some locations that could result in equipment damage, safety and reductions in system reliability. Below standard voltage and current unbalance will result, as well as the potential of contributing to reduced substation transformer life.</p>			
<b><u>Investment Summary:</u></b>			
<p>EHM's distribution system is designed as a loop feed system with an open point in the middle. Municipal Substations are a major element in the system and are composed of individual components that must function as designed in order to maintain an acceptable level of reliability and security.</p> <p>Stations require refurbishment because equipment and structures lose their capability to perform as intended with age. The component replacement program addresses individual assets, such as breakers, protection relays, reclosures, tap changers, switchgear and battery chargers that have reached the end of their service lives and are no longer capable of fulfilling their intended function. Project spending is prioritized based on the condition of the asset. Criteria include reliability, safety, and improvement in design standards or as a result of recommendations from prior operations.</p> <p>This project will provide for new protection relays at McNeice Municipal Substation to enhance public safety by enhancing sensitivity to power system disturbances.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Improved system reliability with reduced outage duration and frequency.</li> <li>▪ Enhance safety to the public and EHM personnel &amp; equipment.</li> <li>▪ Replace end of life assets to comply with regulatory requirements.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board	\$ 50		
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 50</b>		

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	System Capacity - Growth Driven Investments		
<b>INVESTMENT NAME:</b>	Substation Construction		
<b>PROJECT NAME:</b>	Melton Municipal Substation Refurbishment		
<b><u>Business Need:</u></b>			
<p>This project spending is required to ensure that the municipal station provides a safe, secure and reliable supply of electricity to customers.</p> <p>Not proceeding with this plan will lead to a risk of being unable to adequately clear faults in some locations that could result in equipment damage, safety and reductions in system reliability. Below standard voltage and current unbalance will result, as well as the potential of contributing to reduced substation transformer life.</p>			
<b><u>Investment Summary:</u></b>			
<p>EHM's distribution system is designed as a loop feed system with an open point in the middle. Municipal Substations are a major element in the system and are composed of individual components that must function as designed in order to maintain an acceptable level of reliability and security.</p> <p>Stations require refurbishment because equipment and structures lose their capability to perform as intended with age. The component replacement program addresses individual assets, such as breakers, protection relays, reclosures, tap changers, switchgear and battery chargers that have reached the end of their service lives and are no longer capable of fulfilling their intended function. Project spending is prioritized based on the condition of the asset. Criteria include reliability, safety, and improvement in design standards or as a result of recommendations from prior operations.</p> <p>This project will provide for new protection relays at Melton Municipal Substation to enhance public safety by enhancing sensitivity to power system disturbances.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Improved system reliability with reduced outage duration and frequency.</li> <li>▪ Enhance safety to the public and EHM personnel &amp; equipment.</li> <li>▪ Replace end of life assets to comply with regulatory requirements</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
COST TYPE	2008	2009	2010
Capital Costs funded by Board	\$ 50		
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 50</b>		

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Substation Construction</b>		
<b>PROJECT NAME:</b>	<b>Bexhill Municipal Substation Refurbishment</b>		
<b><u>Business Need:</u></b>			
<p>This project spending is required to ensure that the municipal station provides a safe, secure and reliable supply of electricity to customers.</p> <p>Not proceeding with this project spending would result in a decline in reliability due to unplanned outages from failed components.</p>			
<b><u>Investment Summary:</u></b>			
<p>EHM's distribution system is designed as a loop feed system with an open point in the middle. Municipal Substations are a major element in the system and are composed of individual components that must function as designed in order to maintain an acceptable level of reliability and security.</p> <p>Stations require refurbishment because equipment and structures lose their capability to perform as intended with age. The component replacement program addresses individual assets, such as breakers, protection relays, reclosures, tap changers, switchgear and battery chargers that have reached the end of their service lives and are no longer capable of fulfilling their intended function. Project spending is prioritized based on the condition of the asset. Criteria include reliability, safety, and improvement in design standards or as a result of recommendations from prior operations.</p> <p>This project will provide for the complete replacement of the high voltage switchgear, power transformer, low voltage switchgear and remote terminal unit for SCADA for Bexhill Municipal Substation.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Improved system reliability with reduced outage duration and frequency.</li> <li>▪ Enhance safety to the public and EHM personnel &amp; equipment.</li> <li>▪ Replace end of life assets to comply with regulatory requirements.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board	\$ 650		
Capital Costs funded by Others			
Total Capital Costs	<b>\$ 650</b>		

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Substation Construction</b>		
<b>PROJECT NAME:</b>	<b>Chalkdene Municipal Substation Refurbishment</b>		
<b><u>Business Need:</u></b>			
<p>This project spending is required to ensure that the municipal station provides a safe, secure and reliable supply of electricity to customers.</p> <p>Not proceeding with this project spending would result in a decline in reliability due to unplanned outages from failed components.</p>			
<b><u>Investment Summary:</u></b>			
<p>EHM's distribution system is designed as a loop feed system with an open point in the middle. Municipal Substations are a major element in the system and are composed of individual components that must function as designed in order to maintain an acceptable level of reliability and security.</p> <p>Stations require refurbishment because equipment and structures lose their capability to perform as intended with age. The component replacement program addresses individual assets, such as breakers, protection relays, reclosures, tap changers, switchgear and battery chargers that have reached the end of their service lives and are no longer capable of fulfilling their intended function. Project spending is prioritized based on the condition of the asset. Criteria include reliability, safety, and improvement in design standards or as a result of recommendations from prior operations.</p> <p>This project will provide for the complete replacement of the low voltage switchgear and our remote terminal unit at Chalkdene Municipal Substation.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Improved system reliability with reduced outage duration and frequency.</li> <li>▪ Enhance safety to the public and EHM personnel &amp; equipment.</li> <li>▪ Replace end of life assets to comply with regulatory requirements.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board		\$ 550	
Capital Costs funded by Others			
Total Capital Costs		\$ 550	



<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	System Capacity - Growth Driven Investments		
<b>INVESTMENT NAME:</b>	Substation Construction		
<b>PROJECT NAME:</b>	Substation Site Enhancements		
<b><u>Business Need:</u></b>			
<p>As a result of monthly inspections, an infrared inspection program, a number of substation components such as roofs, gutters, doors &amp; locks and fences are beyond repair and need replacement.</p>			
<b><u>Investment Summary:</u></b>			
<p>These aged or inadequate components require replacement to ensure a reliable and safe system. These components are identified through our inspection program and an assessment of potential safety issues and reliability problems by not guarding the electrical equipment properly.</p> <p>This project provides for on annual basis the replacement of 2 roofs and fences/doors/locks as required.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ To maintain system security, building &amp; property security and customer service reliability</li> <li>▪ Replace end of life assets to comply with regulatory requirements</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
COST TYPE	2008	2009	2010
Capital Costs funded by Board	\$ 100	\$ 100	\$ 100
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 100</b>	<b>\$ 100</b>	<b>\$ 100</b>

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	System Capacity - Growth Driven Investments		
<b>INVESTMENT NAME:</b>	Substation Construction		
<b>PROJECT NAME:</b>	Summerville Municipal Substation Refurbishment		
<b><u>Business Need:</u></b>			
<p>This project spending is required to ensure that municipal station provides a safe, secure and reliable supply of electricity to customers.</p> <p>Not proceeding with this project spending would result in a decline in reliability due to unplanned outages from failed components.</p>			
<b><u>Investment Summary:</u></b>			
<p>EHM's distribution system is designed as a loop feed system with an open point in the middle. Municipal Substations are a major element in the supply and are composed of individual components that must function as designed in order to maintain an acceptable level of reliability and security.</p> <p>Stations require refurbishment because equipment and structures lose their capability to perform as intended. The component replacement program addresses individual assets, such as breakers, protection relays, reclosures, tap changers, switchgear and battery chargers that have reached the end of their service lives and are no longer capable of fulfilling their intended function. Project spending is prioritized based on condition of asset and criteria that includes reliability, safety, and improvement in design standards or as a result of recommendations from an incident.</p> <p>This project will provide for the complete replacement of the low voltage switchgear and remote terminal unit at Summerville Municipal Substation.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Improved system reliability with reduced outage duration and frequency.</li> <li>▪ Replace end of life assets to comply with regulatory requirements.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
COST TYPE	2008	2009	2010
Capital Costs funded by Board		\$ 650	
Capital Costs funded by Others			
<b>Total Capital Costs</b>		<b>\$ 650</b>	

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	System Capacity - Growth Driven Investments		
<b>INVESTMENT NAME:</b>	Substation Construction		
<b>PROJECT NAME:</b>	Sheridan Park Municipal Substation Refurbishment		
<b><u>Business Need:</u></b>			
<p>This project spending is required to ensure that municipal station provides a safe, secure and reliable supply of electricity to customers.</p> <p>Not proceeding with this project spending would result in a decline in reliability due to unplanned outages from failed components.</p>			
<b><u>Investment Summary:</u></b>			
<p>EHM's distribution system is designed as a loop feed system with an open point in the middle. Municipal Substations are a major element in the supply and are composed of individual components that must function as designed in order to maintain an acceptable level of reliability and security.</p> <p>Stations require refurbishment because equipment and structures lose their capability to perform as intended. The component replacement program addresses individual assets, such as breakers, protection relays, reclosures, tap changers, switchgear and battery chargers that have reached the end of their service lives and are no longer capable of fulfilling their intended function. Project spending is prioritized based on condition of asset and criteria that includes reliability, safety, and improvement in design standards or as a result of recommendations from an incident.</p> <p>This project will provide for the complete replacement of the low voltage switchgear and remote terminal unit at Sheridan Park Municipal Substation.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Improved system reliability with reduced outage duration and frequency.</li> <li>▪ Replace end of life assets to comply with regulatory requirements.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
COST TYPE	2008	2009	2010
Capital Costs funded by Board			\$ 650
Capital Costs funded by Others			
<b>Total Capital Costs</b>			<b>\$ 650</b>

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Substation Construction</b>		
<b>PROJECT NAME:</b>	<b>Installation of a new # 90 Municipal Substation</b>		
<b><u>Business Need:</u></b>			
<p>This project spending is required to meet new load growth in the north/west area of Mississauga so that secure and reliable supply of electricity is provided to customers.</p> <p>Not proceeding with this project spending would result in a decline in reliability due to unplanned outages from overloaded neighbouring substations.</p>			
<b><u>Investment Summary:</u></b>			
<p>EHM's distribution customer loads in the North/ West 8/ 13.8 kV area have been increasing rapidly due to ongoing residential and commercial development. Load growth of 2% to 3% per year is expected over the next few years. A Municipal Substation is required to meet the new demand in this area.</p> <p>This project will provide for a new substation at Station # 90 location with a new building, high voltage breaker, 20 MVA transformer, low voltage switchgear and remote terminal unit for SCADA.</p> <p>In 2008, cost will include the installation of the new building</p> <p>In 2009, cost will include the installation of equipment and connection to the distribution network</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Ensure adequate capacity to reliably supply customers in the North/ West 8/ 13.8 kV area</li> <li>▪ Creation of new feeders with additional supply capacity to increase operating flexibility</li> <li>▪ Expansion of system capability to serve additional loads.</li> <li>▪ Improve system reliability with reduced outage duration and frequency</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board	\$ 700	\$ 1,100	
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 700</b>	<b>\$ 1,100</b>	

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Substation Construction</b>		
<b>PROJECT NAME:</b>	<b>Increase capacity of Century Municipal Substation</b>		
<b><u>Business Need:</u></b>			
<p>This project spending is required to meet the new load growth in the north/west area of Mississauga so that secure and reliable supply of electricity is provided to customers.</p> <p>Not proceeding with this project spending would result in a decline in reliability due to unplanned outages from overloaded neighbouring substations.</p>			
<b><u>Investment Summary:</u></b>			
<p>EHM's distribution customer loads on the North/West 13.8 kV have been increasing rapidly due to ongoing residential and commercial development, and load growth of 2% to 3% per year is expected over the next few years. Municipal Substations are required to meet this new demand in this area.</p> <p>This project will provide for the addition of a 20 MVA power transformer and high voltage breaker at the existing substation.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Ensure adequate capacity to reliably supply customers in the North/ West 8/ 13.8 kV area</li> <li>▪ Expansion of system capability to serve additional loads.</li> <li>▪ Improve system reliability with reduced outage duration and frequency.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
COST TYPE	2008	2009	2010
Capital Costs funded by Board	\$ 350	\$ 500	
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 350</b>	<b>\$ 500</b>	

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Substation Construction</b>		
<b>PROJECT NAME:</b>	<b>Increase capacity of Confederation Municipal Substation</b>		
<b><u>Business Need:</u></b>			
<p>This project spending is required to meet the new load growth in the city centre area of Mississauga so that secure and reliable supply of electricity is provided to customers.</p> <p>Not proceeding with this project spending would result in a decline in reliability due to unplanned outages from overloaded neighbouring substations.</p>			
<b><u>Investment Summary:</u></b>			
<p>EHM's distribution customer loads in the City Centre area have been increasing rapidly due to ongoing residential, high rise and commercial development. Load growth of 2% to 3% per year is expected over the next few years. Municipal Substations are required to meet this new demand in this area.</p> <p>This project will provide for the addition of a 20 MVA power transformer and high voltage breaker at the existing substation. The addition of automated load centres will also be installed to provide faster restoration during system disturbances. This project includes the installation of equipment including a spare 20 MVA spare transformer.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Ensure adequate capacity to reliably supply customers in the city centre area</li> <li>▪ Expansion of system capability to serve additional loads.</li> <li>▪ Improve system reliability with reduced outage duration and frequency.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
COST TYPE	2008	2009	2010
Capital Costs funded by Board	\$ 300		
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 300</b>		

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Substation Construction</b>		
<b>PROJECT NAME:</b>	<b>Increase capacity of Grossbeak Municipal Substation</b>		
<b>Business Need:</b>			
<p>This project spending is required to meet the new load growth in the north/west area of Mississauga so that secure and reliable supply of electricity is provided to customers.</p> <p>Not proceeding with this project spending would result in a decline in reliability due to unplanned outages from overloaded neighbouring substations.</p>			
<b>Investment Summary:</b>			
<p>EHM's distribution customer loads on the North/West 13.8 kV have been increasing rapidly due to ongoing residential and commercial development, and load growth of 2% to 3% per year is expected over the next few years. Municipal Substations are required to meet this new demand in this area city.</p> <p>This project will provide for the addition of a 20 MVA power transformer and high side circuit breaker at the existing substation.</p>			
<b>Results:</b>			
<ul style="list-style-type: none"> <li>▪ Ensure adequate capacity to reliably supply customers in the North/West 13.8 kV area</li> <li>▪ Expansion of system capability to serve additional loads.</li> <li>▪ Improve system reliability with reduced outage duration and frequency.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board	\$ 525		
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 525</b>		

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Substation Construction</b>		
<b>PROJECT NAME:</b>	<b>Increase capacity of Ridgeway Municipal Substation</b>		
<b>Business Need:</b>			
<p>This project spending is required to meet the new load growth in the central/west area of Mississauga so that secure and reliable supply of electricity is provided to customers.</p> <p>Not proceeding with this project spending would result in a decline in reliability due to unplanned outages from overloaded neighbouring substations.</p>			
<b>Investment Summary:</b>			
<p>EHM's distribution customer loads on the Central/West 13.8 kV have been increasing rapidly due to ongoing residential and commercial development, and load growth of 2% to 3% per year is expected over the next few years. Municipal Substations are required to meet this new demand in this area.</p> <p>This project will provide for the addition of a 20 MVA power transformer and high side circuit breaker at the existing substation.</p>			
<b>Results:</b>			
<ul style="list-style-type: none"> <li>▪ Ensure adequate capacity to reliably supply customers in the Central/West 13.8 kV area</li> <li>▪ Expansion of system capability to serve additional loads.</li> <li>▪ Improve system reliability with reduced outage duration and frequency.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board		\$ 350	
Capital Costs funded by Others			
<b>Total Capital Costs</b>		<b>\$ 350</b>	



<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Capacity - Growth Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Substation Construction</b>		
<b>PROJECT NAME:</b>	<b>Purchase of a spare 20 MVA power transformer</b>		
<b>Business Need:</b>			
This project spending is required to meet the spare requirement for our spare off load 20 MVA Power Transformer.			
Not proceeding with this project spending could result in the inability to deliver electricity in case of a Power Transformer failure.			
<b>Investment Summary:</b>			
EHM presently have 43 dead front secondary Power Transformers in service and a spare unit is required for quick replacement should one of our units fail in service. The existing spare unit is being placed in service at the Confederation Municipal Substation project.			
<b>Results:</b>			
<ul style="list-style-type: none"> <li>▪ Ensure proper amount of system spare within our Power Transformers.</li> <li>▪ Ensure the supply of electricity should a Power Transformer fail</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board	\$ 400		
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 400</b>		

### **3. System Maintenance – Reliability Driven Investments**

System Maintenance – Reliability Driven Investments are defined as projects required for maintaining the existing infrastructure and facilities at their required performance level. Customers in the City of Mississauga have grown accustomed to our outstanding service levels and they now expect the reliability that EHM has given them. The goal is to keep our service levels where they are now or possibly improve service reliability by reducing customer outage times and frequency.

Disruptions to customers are usually as a result of:

- Autoreclosers, which are the brief power outages that customers get or “momentary blips” that occur. They typically occur from animal contact or from a tree limb pushing two phases together on the overhead. Exposure to trees and animals is an inherent difficulty of having a system within the given environment. A balance must be struck.
- Feeder lockouts which are much longer power outages. This is where portions of feeders are actually completely with no power where a customer has a prolonged outage mainly due to failure in electrical equipment. The top reason that we still get power outages is from cable splices that have failed. These are easier to try and remedy through underground reliability projects.

Customers are very concerned with power issues. Power quality is becoming more and more of a concern. In the community many people work from home and have all sorts of computerized or electronic equipment plus many of our industrial/commercial customers have sensitive electronic equipment that is very susceptible to power outages. Power quality requirements are becoming more and more important.

Our Reliability Department carefully tracks instances of these outages, their duration and on what circuits they occurred on and what the causes were so it can pinpoint trouble spots or areas in the City. From this data, it is easy to develop plans to accurately decide where major equipment problems are and then we can carefully select what areas of the City to perform maintenance on.

Safety is very important to EHM and so careful assessments of equipment failures are studied to see if there are any trends in certain types of devices or equipment failing. Then an action plan to remove these devices from service is developed. This ensures that safety to the public and personnel is always ensured.

The capital component of the System Maintenance – Reliability Driven Investment projects deal with replacement of assets at end of life, i.e. transformer replacements, subdivision rebuilds and pole replacements.

The Operations and Maintenance component of the sustainment work addresses preventative and breakdown (corrective) maintenance within the useful life span of the equipment, i.e. underground distribution maintenance, overhead distribution upgrades and refurbish/upgrade data acquisition components, including automatic system controls, which monitor and control the operation of the EHM system.

### 3.1. Subdivision Rebuilds

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	System Maintenance - Reliability Driven Investments – C0505		
<b>INVESTMENT NAME:</b>	Subdivision Rebuilds		
<b>PROJECT NAME:</b>	Various		
<b><u>Business Need:</u></b>			
<p>This project spending is required to replace underground cables that have failed and the related equipment attached to it.</p>			
<b><u>Investment Summary:</u></b>			
<p>EHM has obligations as a public utility to deliver, maintain reliable electrical energy with minimal service interruptions to its customers. Therefore the system must be kept reliable, robust and well maintained to perform as designed under all normal conditions. The artery used to deliver power to the system is the underground cable. Underground cable failures are the leading cause of equipment failures in the distribution system. Typical life expectancy for underground cable is approximately 35 years. Cables installed prior to 35 years were not jacketed and are more susceptible to failures</p> <p>Many of the failures in cables can occur for one or more of the following reasons:</p> <ul style="list-style-type: none"> <li>• Age of the cable,</li> <li>• Insulation deterioration resulting from long term exposure to high temperatures due to sustained loading,</li> <li>• Moisture and other deleterious factors,</li> <li>• Physical damage from diggings or poor installation methods used by contractors,</li> <li>• Exposure to high currents during cable faults.</li> </ul> <p>Each year after the summer peak, the cable and equipment failure rates are reviewed in the City of Mississauga. This is used to determine the areas to rebuild. As a part of the program we also replace transformers, secondary cables and meter bases to ensure the area is fully rehabilitated.</p> <p>On annual basis we will spend approximately \$ 6.129 million per year to ensure our customer reliability performance numbers and service expectations do not suffer.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>• Maintain customer reliability with reduced outage duration and frequency,</li> <li>• Replace end of life asset to comply with regulatory requirements,</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
COST TYPE	2008	2009	2010
Capital Costs funded by Board	\$ 6,100	\$ 6,300	\$ 6,500
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 6,100</b>	<b>\$ 6,300</b>	<b>\$ 6,500</b>

### 3.2. Overhead Distribution Upgrades

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	System Maintenance - Reliability Driven Investments		
<b>INVESTMENT NAME:</b>	Overhead Distribution Upgrades		
<b>PROJECT NAME:</b>	Wood & Concrete Pole Replacement Program		
<b>Business Need:</b>			
<p>This program is needed to ensure that substandard &amp; defective wood poles, cross arms and concrete poles that have reached their end of life are replaced on an annual basis.</p> <p>Not proceeding with this project spending would increase the risk of failure under adverse conditions, leading to reduced reliability and safety hazards to the public and our personnel.</p>			
<b>Investment Summary:</b>			
<p>EHM Distribution's system includes over 14, 159 wooden poles and 7, 244 concrete poles to support approximately 1, 757 km of overhead primary and over 926 km of overhead secondary on its overhead circuits. This program funds the spot replacement of poles over various parts of the City that have been determined to be at the end of life. Poles deteriorate over time and when their strength is reduced to the point that there is a risk of failure under adverse weather conditions, they are deemed to be at end of life.</p> <p>There is currently an ongoing program to replace gray painted poles that have been identified previously that have tested poorly in the past. Based on past experience and deducting substandard poles and their associated crossarms that will be replaced under other programs, it is projected that 100 poles will need to be replaced per year. Wood pole crossarms are replaced as well. They typically support conductors and associated insulating equipment and provide separation between energized components and publicly used roads, driveways, and right-of-ways. Cross arms are also replaced when they pose safety and reliability hazards.</p> <p>Aside from this program, poles are also replaced under other programs including those dealing with trouble calls, storm damage, system capability reinforcement, sustainment projects, from line relocations and from road projects.</p> <p>The replacement of these poles will remove substandard poles from the system thereby maintaining reliability, and ensuring compliance with Canadian Standard Association requirements for end of life pole replacement. Planned replacement of poles costs much less than "emergency" or reactive replacements and will be less disruptive to customers, as such over the long term there is a strong business need to replace poles in a proactive manner.</p>			
<b>Results:</b>			
<ul style="list-style-type: none"> <li>▪ Replace end of life assets.</li> <li>▪ Maintain customer reliability with reduced outage duration and frequency.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board	\$ 824	\$ 850	\$ 875
Capital Costs funded by Others			
Total Capital Costs	\$ 824	\$ 850	\$ 875

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	System Maintenance - Reliability Driven Investments		
<b>INVESTMENT NAME:</b>	Overhead Distribution Upgrades		
<b>PROJECT NAME:</b>	Overhead Switch & Insulator Equipment Replacement Program		
<b><u>Business Need:</u></b>			
<p>This project spending is required to replace inoperable and end of life equipment such as switches and insulators. During switch maintenance or as a follow-up to trouble calls, a number of overhead switches are beyond repair and require replacement. In addition, a program of replacing EPACS, porcelain mid-span openers with polymer insulators or solid blade switches on the electrical system will continue.</p>			
<b><u>Investment Summary:</u></b>			
<p>Distribution line equipment deteriorates over time and must be replaced when reliability and safety risks reach unacceptable levels. Switches and insulators are essential elements of the distribution system and when they become inoperable and reach end of life, replacement is required. Also during switch maintenance or as a follow-up to trouble calls, a number of overhead switches are beyond repair and require replacement. In addition, a program of replacing porcelain mid-span openers with polymer insulators or solid blade switches on the electrical system will continue annually.</p> <p>Line equipment is exposed to various adverse conditions and failure can also occur as a result of a number of causes, some of which are described in the following:</p> <ul style="list-style-type: none"> <li>▪ Mechanical stress on operating linkages, operating rods, springs and contacts due to wear and tear during fault interrupting conditions;</li> <li>▪ Exposure to contaminants such as salt and pollutants, and extreme environmental weather conditions;</li> <li>▪ Chemical contamination such as dust and powder produced by arc erosion during switching and fault interruptions; and</li> <li>▪ Thermal stress because of localized heating and varying load currents.</li> </ul> <p>The distribution system has approximately 746 load break switches; 1,579 in line solid blade switches, 136, 292 insulators as well as other components.</p> <p>Equipment replacement is an annual program needed to replace equipment that reaches end of life or becomes inoperable.</p> <p>Based on available condition information, it is expected that a combined total of 100 switches and load break devices will need to be replaced annually along with several other substandard components. A program of upgrading insulators in high contamination areas and replacing specific types of insulators prone to early failure will continue on an annual basis. It is planned to replace approximately 2,000 insulators per year.</p> <p>Not proceeding with this project spending will jeopardize reliability, power quality and the safe operation of the distribution lines facilities.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Maintain safety, system security and customer service reliability.</li> <li>▪ Replace end of life assets to comply with regulatory requirements.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
COST TYPE	2008	2009	2010
Capital Costs funded by Board	\$ 464	\$ 475	\$ 492
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 464</b>	<b>\$ 475</b>	<b>\$ 492</b>

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	System Maintenance - Reliability Driven Investments		
<b>INVESTMENT NAME:</b>	Overhead Distribution Upgrades		
<b>PROJECT NAME:</b>	Overhead Rebuilds		
<b><u>Business Need:</u></b>			
<p>This project provides for the rebuild of some of the older sections of line, primarily in the south end of the city. This project provides for the overhaul of feeders that have an unacceptable level of downtime in various areas of the city.</p>			
<b><u>Investment Summary:</u></b>			
<p>These rebuilds are determined by an analysis of trouble call activity and an assessment of the future risks to public safety. Furthermore, these feeders will be identified after analysis of outages each year during the heavy loading season in the summer.</p> <p>Streetsville is one of the older parts of the City of Mississauga and has been fed for years by two 2.4/ 4.16kV substations, Ontario MS and Alpha Mills MS. This area of 2.4/ 4.16kV is a small pocket that is surrounded by 8/ 13.8kV system. EHM has for several years been slowly converting this area from 2.4/ 4.16kV to 8/ 13.8kV. One of the substations, Alpha Mills failed in 2007 and is not repairable. Streetsville is now only served with one 2.4/ 4.16kV station, Ontario MS has also reached its end of life.</p> <p>This project provides for quickly converting Streetsville to 8/ 13.8kV. It is planned to be fully complete project by the end of 2008. There is approximately 700 kW's of load remaining mainly on overhead that needs to be moved to the 8/ 13.8kV system. This will involve replacing the existing end of life overhead equipment in various pockets.</p> <p>Once this is complete Ontario MS will be retired and decommissioned.</p> <p>This program will affect approximately 350 homes on an annual basis.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Maintain system security and customer service reliability.</li> <li>▪ Replace end of life assets to comply with regulatory requirements.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board	\$ 926	\$ 975	\$ 983
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 926</b>	<b>\$ 975</b>	<b>\$ 983</b>

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Maintenance - Reliability Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Overhead Distribution Upgrades</b>		
<b>PROJECT NAME:</b>	<b>Primary Distribution Equipment Replacement</b>		
<b><u>Business Need:</u></b>			
<p>As a result of the feeder overhaul program and the infrared inspection program, a number of primary components such as load centers, fault indicators, elbows, inserts and arresters are beyond repair and need replacement.</p>			
<b><u>Investment Summary:</u></b>			
<p>These aged or inadequate components require replacement to ensure a reliable and safe system. These components are identified through our inspection program and an assessment of potential reliability problems.</p> <p>This project provides for on annual basis the replacement of approximately 140 fault indicators, 240 arresters, 4 load centers, 600 elbows and inserts.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Maintain system security and customer service reliability.</li> <li>▪ Replace end of life assets to comply with regulatory requirements</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board	\$ 600	\$ 600	\$ 600
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 600</b>	<b>\$ 600</b>	<b>\$ 600</b>

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	System Maintenance - Reliability Driven Investments		
<b>INVESTMENT NAME:</b>	Overhead Distribution Upgrades		
<b>PROJECT NAME:</b>	Feeder Overhauls		
<b><u>Business Need:</u></b>			
This project spending provides for the overhaul of feeders that have an unacceptable reliability rating.			
<b><u>Investment Summary:</u></b>			
A thorough overhaul of several overhead feeders (approx. 6 km) is anticipated in various areas of the City that we identify per year.			
These feeders will be identified after analysis of outages during the heavy loading in the summer season			
The benefits of this overhaul program are based on an average improvement in a feeder performance after an overhaul			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Maintain system security and customer service reliability – improve feeder performance.</li> <li>▪ Savings in line losses and customer outage costs</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board	\$ 386	\$ 400	\$ 410
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 386</b>	<b>\$ 400</b>	<b>\$ 410</b>



### 3.3. Underground Distribution Maintenance

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	System Maintenance - Reliability Driven Investments		
<b>INVESTMENT NAME:</b>	Underground Distribution Maintenance		
<b>PROJECT NAME:</b>	Secondary Cable Replacements		
<b><u>Business Need:</u></b>			
This project spending replaces a number of underground residential and commercial / industrial services that fail and are beyond reasonable repair.			
<b><u>Investment Summary:</u></b>			
Every year a number of underground residential and commercial / industrial services fail beyond reasonable repair. EHM has over 180,000 services on the distribution network; this proposal covers for complete replacement of 35 secondary services on an annual basis.			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Maintain system security and customer service reliability.</li> <li>▪ Replace end of life assets to comply with regulatory requirements</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
COST TYPE	2008	2009	2010
Capital Costs funded by Board	\$ 75	\$ 75	\$ 80
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 75</b>	<b>\$ 75</b>	<b>\$ 80</b>

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	System Maintenance - Reliability Driven Investments		
<b>INVESTMENT NAME:</b>	Underground Distribution Maintenance		
<b>PROJECT NAME:</b>	Underground Cable & Splice Replacement		
<b><u>Business Need:</u></b>			
<p>This project spending is to replace sections of underground cables that experience failures in excess of acceptable standards and require replacement.</p>			
<b><u>Investment Summary:</u></b>			
<p>These are typically older sections of cable. For areas where replacements costs are extremely high we may also try to rehabilitate the cables in a process that we have used successfully in the past. This process has established itself in the industry as a viable alternative to replacing cables. Cable failures still remain the largest contributor to our customer outage time.</p> <p>In addition, splices have experienced failures in excess of acceptable standards and require replacement. There are over 3, 277 splices on the system. Splice failures are the second largest contributor to our customer outage time. This project on an annual basis involves the replacement or rehabilitation of about 10 sections of cable and the replacement of 100 splices.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Maintain system security and customer service reliability.</li> <li>▪ Replace end of life assets to comply with regulatory requirements</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
COST TYPE	2008	2009	2010
Capital Costs funded by Board	\$ 1,375	\$ 1,375	\$ 1,400
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 1,375</b>	<b>\$ 1,375</b>	<b>\$ 1,400</b>

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Maintenance - Reliability Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Underground Distribution Maintenance</b>		
<b>PROJECT NAME:</b>	<b>Meter Base Replacements</b>		
<b><u>Business Need:</u></b>			
<p>This project spending is to replace a number of defective meter bases or meter base components are identified yearly that require extensive repair or replacement.</p>			
<b><u>Investment Summary:</u></b>			
<p>During response to residential trouble calls a number of defective meter bases or meter base components are identified that require extensive repair or replacement. EHM has well over 180, 000 meter bases on our system. As a part of the Smart Metering program we will be changing out a large number of meters per year to time of use meters. We suspect as a result of this program that we will find a number of additional meter bases that will be identified that will also need replacement. This proposal covers for the replacement of seventy five meter bases on an annual basis.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ To maintain system security and customer service reliability.</li> <li>▪ Replace end of life assets to comply with regulatory requirements</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board	\$ 50	\$ 50	\$ 55
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 50</b>	<b>\$ 50</b>	<b>\$ 55</b>

### 3.4. Transformer Replacements

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	System Maintenance - Reliability Driven Investments		
<b>INVESTMENT NAME:</b>	Transformer Replacements		
<b>PROJECT NAME:</b>	Underground Transformer Replacement		
<b><u>Business Need:</u></b>			
<p>This project spending is required to allow for the replacement of transformers on the underground system.</p>			
<b><u>Investment Summary:</u></b>			
<p>During our inspection and feeder overhauls a number of leaking pad mount and vault type transformers are identified on a annual basis that require replacement.</p> <p>There are over 5, 727 underground transformers on the system.</p> <p>This allows for the replacement of approximately 40 transformers on the underground system on annual basis.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Mitigate potential environmental liabilities.</li> <li>▪ Replace end of life assets to comply with legal and regulatory requirements.</li> <li>▪ Maintain customer reliability with reduced outage duration and frequency</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
COST TYPE	2008	2009	2010
Capital Costs funded by Board	\$ 420	\$ 450	\$ 470
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 420</b>	<b>\$ 450</b>	<b>\$ 470</b>

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Maintenance - Reliability Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Transformer Replacements</b>		
<b>PROJECT NAME:</b>	<b>Overhead Transformer Replacement</b>		
<b><u>Business Need:</u></b>			
<p>This project spending is to replace degenerated or overloaded overhead transformers that are identified during our inspection programs and feeder overhauls.</p> <p>During our inspection and feeder overhauls a number of leaking overhead transformers are identified on a annual basis that require replacement This allows for the replacement of approximately 45 transformers on the overhead system on annual basis.</p>			
<b><u>Investment Summary:</u></b>			
<p>During our inspection and feeder overhauls a number of leaking overhead transformers are identified on an annual basis that require replacement</p> <p>There are over 19, 447 overhead transformers on the system.</p> <p>On an annual basis we will replace approximately 45 overhead transformers at various locations.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Mitigate potential environmental liabilities.</li> <li>▪ Replace end of life assets to comply with legal and regulatory requirements.</li> <li>▪ Maintain customer reliability with reduced outage duration and frequency</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board	\$ 230	\$ 250	\$ 260
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 230</b>	<b>\$ 250</b>	<b>\$ 260</b>

### 3.5. Protection & Control, Automation and SCADA Upgrades

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	System Maintenance - Reliability Driven Investments		
<b>INVESTMENT NAME:</b>	Protection & Control, Automation and SCADA Upgrades		
<b>PROJECT NAME:</b>	Automated Switches & Scada		
<b><u>Business Need:</u></b>			
<p>This project spending is required to improve distribution system reliability by targeting under performing subtransmission and distribution feeders.</p> <p>Not proceeding with this project spending would result in not being able to ensure our customers have reliability of supply.</p>			
<b><u>Investment Summary:</u></b>			
<p>A study undertaken by EHM concluded that a cost effective approach to improve reliability of supply to EHM Distribution customers would be to install automation at strategic locations along a feeder. As part of the strategy to improve overall distribution system reliability, the worst performing distribution feeders were targeted.</p> <p>From a list of the poor performing feeders, several feeders suitable for automation are selected. Automation is done only on 44 kV, 16/ 27.6 kV and 8/ 13.8kV feeders. These have the greatest impact on reliability with respect to the number of customers served and the load supplied.</p> <p>This ongoing program is part of a longer term initiative to improve reliability to maintain our distribution reliability to what our customers have become accustomed too. We also compare to similar utilities, for both System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency (SAIFI).</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Reduce outage duration for individual distribution feeders supplying distribution customers by approximately 20 % where automation has been installed.</li> <li>▪ Improved customer reliability.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
COST TYPE	2008	2009	2010
Capital Costs funded by Board	\$ 700	\$ 700	\$ 700
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 700</b>	<b>\$ 700</b>	<b>\$ 700</b>

### 3.6. Protection & Control, Automation and SCADA Upgrades

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Maintenance - Reliability Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Protection &amp; Control, Automation and SCADA Upgrades</b>		
<b>PROJECT NAME:</b>	<b>Automated Switches &amp; Scada</b>		
<b><u>Business Need:</u></b>			
<p>This project spending is required to ensure continued reliability of our Supervisory Control and Data Acquisition System (SCADA) equipment by upgrading or replacement of aging infrastructure.</p> <p>Not proceeding with this project spending would result in a decline in reliability due to the increase in time to respond to system problems. It would also expose our substations to undue risks such as Power Transformer temperature alarms as it would be unmonitored from our System Control Centre.</p>			
<b><u>Investment Summary:</u></b>			
<p>Automation and SCADA components require refurbishment because they lose their capability to perform as intended. The component replacement program addresses individual assets, such as Substation Remote Terminal Units, Pole Top Remote terminal Units, protection relays and battery chargers that have reached the end of their service lives and are no longer capable of fulfilling their intended function reliably. Presently we have 65 Pole Top RTU's and 45 Substation RTU's that are 20 years old. This continuing project will see all RTU's replaced in 5 years.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Reduce outage duration for individual distribution feeders supplying distribution customers by 25% where automation has been installed.</li> <li>▪ Improve customer satisfaction.</li> <li>▪ Maintain reliable communication to remotely monitor and control EHM's critical infrastructure from our System Control Centre.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board	\$ 700	\$ 700	\$ 700
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 700</b>	<b>\$ 700</b>	<b>\$ 700</b>

#### **4. System Expansion & Upgrades – Customer Driven Investments**

System Expansion & Upgrades – Customer Driven Investments are defined as projects required to connect new customers or from customer requests for upgrades to their electrical service. Projects of this nature are not in our control as to when they will occur.

It is mandatory for us to include and make provision for this type of work such as:

- new residential/ commercial/ industrial services connections or upgrades,
- City, MTO or Peel Region new roads, intersection work, highway work, road widening or renewal projects
- and new/ upgrade of metering equipment. Also as a part of this demand the new metering necessary for all of the projects is included.



#### 4.1. New Commercial/ Industrial Customer Services

<b>EHM PROJECT BUSINESS CASE</b>															
<b>INVESTMENT CATEGORY:</b>	<b>System Expansion &amp; Upgrades - Customer Driven Investments</b>														
<b>INVESTMENT NAME:</b>	<b>New Commercial/ Industrial Customer Services – C0542</b>														
<b>PROJECT NAME:</b>	<b>Various</b>														
<b><u>Business Need:</u></b>															
<p>This project spending is required to meet the on-going demand to connect new industrial/ commercial customers to Enersource Hydro Mississauga's Distribution System and upgrade services of existing customers.</p> <p>Not proceeding with this project spending would result in non-compliance with Distribution License requirements and with our obligations under Distribution System Code. This work is therefore a regulatory requirement.</p>															
<b><u>Investment Summary:</u></b>															
<p>Each year, Enersource Hydro Mississauga connects new customers to the distribution system and upgrades existing customers.</p> <ul style="list-style-type: none"> <li>As a part of the obligation in Enersource Hydro Mississauga's electricity distribution license and the distributor's responsibility in the Distribution System Code, Enersource Hydro Mississauga is required to connect all customers on a non-discriminatory basis, upon written request for connection.</li> <li>A service upgrade occurs when an existing customer requires a larger service entrance. A service upgrade requires the preparation of a service layout and replacement of secondary service cables. Transformers may also have to be upgraded and meters replaced.</li> </ul> <p>Individual project spending within these programs are managed on a project basis. Projects include design (service layouts), labour, material and other costs associated with actual physical connection. The following table shows the yearly connection trend for the previous five years:</p>															
<table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Year</th> <th style="width: 60%;"># of Connections</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">2002</td><td style="text-align: center;">595</td></tr> <tr><td style="text-align: center;">2003</td><td style="text-align: center;">535</td></tr> <tr><td style="text-align: center;">2004</td><td style="text-align: center;">544</td></tr> <tr><td style="text-align: center;">2005</td><td style="text-align: center;">558</td></tr> <tr><td style="text-align: center;">2006</td><td style="text-align: center;">500</td></tr> </tbody> </table>				Year	# of Connections	2002	595	2003	535	2004	544	2005	558	2006	500
Year	# of Connections														
2002	595														
2003	535														
2004	544														
2005	558														
2006	500														
<p>It is anticipated that there will be about 525 new/ upgrade services required on an annual basis.</p>															
<b><u>Results:</u></b>															
<ul style="list-style-type: none"> <li>Connect new customers and upgrade the services of the existing customers. There by satisfying the requirements of the Distribution System Code and Distribution License.</li> </ul>															
<b>Estimated Annual Expenditure (\$ 1,000's)</b>															
COST TYPE	2008	2009	2010												
Capital Costs funded by Board	\$ 5,300	\$ 5,300	\$ 5, 300												
Capital Costs funded by Others															
<b>Total Capital Costs</b>	<b>\$ 5, 300</b>	<b>\$ 5, 300</b>	<b>\$ 5, 300</b>												

## 4.2. New Subdivisions

<b>EHM PROJECT BUSINESS CASE</b>															
<b>INVESTMENT CATEGORY:</b>	<b>System Expansion &amp; Upgrades - Customer Driven Investments</b>														
<b>INVESTMENT NAME:</b>	<b>New Subdivision Connections &amp; Capital Contribution Refunds – C0541</b>														
<b>PROJECT NAME:</b>	<b>Various</b>														
<b>Business Need:</b>															
<p>This project spending is required to meet the on-going demand to connect new subdivisions to EHM's distribution system and capital contribution refunds to the developer.</p> <p>Not proceeding with these project spending would result in non-compliance with Distribution License requirements and with obligations under Distribution System Code. This work is therefore a regulatory requirement.</p>															
<b>Investment Summary:</b>															
<p>Each year, EHM connects new subdivisions to the distribution system.</p> <ul style="list-style-type: none"> <li>• As a part of the obligation in EHM's electricity distribution license and the distributor's responsibility in the Distribution System Code, EHM is required to make an "Offer to Connect" to all customers on a non-discriminatory basis, upon written request for connection.</li> </ul> <p>For customers that require expansion of the distribution system in order to connect customer/subdivision, a discounted cash-flow model is used to determine customer contributions. The capital contribution is based on any shortfall between future revenues and the cost of connection, expansion and reinforcement.</p> <p>For customers that require expansion of the network in order to be connected, a discounted cash flow model is used to determine customer contributions. The capital contribution is based on any shortfall between future revenues and the cost of connection, network expansion and reinforcement.</p> <p>The following table shows the yearly connection trend for the previous five years:</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Year</th> <th style="text-align: center;"># of Connections</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">2002</td><td style="text-align: center;">5,973</td></tr> <tr><td style="text-align: center;">2003</td><td style="text-align: center;">4,472</td></tr> <tr><td style="text-align: center;">2004</td><td style="text-align: center;">3,029</td></tr> <tr><td style="text-align: center;">2005</td><td style="text-align: center;">2,384</td></tr> <tr><td style="text-align: center;">2006</td><td style="text-align: center;">3,447</td></tr> </tbody> </table>				Year	# of Connections	2002	5,973	2003	4,472	2004	3,029	2005	2,384	2006	3,447
Year	# of Connections														
2002	5,973														
2003	4,472														
2004	3,029														
2005	2,384														
2006	3,447														
<p>It is anticipated that there will be about 3,500 new services required per year. The increase in the number of services is mainly due to the fact that EHM's Conditions of Service requires developers to have all condo/ apartments individually metered.</p>															
<b>Results:</b>															
<ul style="list-style-type: none"> <li>▪ Connect new expansion projects. This will satisfy the requirements of the Distribution System Code and Distribution License.</li> <li>▪ Connect new customers, upgrade the services of existing customers and satisfy the requirements of the Distribution System Code and Distribution License.</li> </ul>															
<b>Estimated Annual Expenditure (\$ 1,000's)</b>															
COST TYPE	2008	2009	2010												
Capital Costs funded by Board	\$ 2,575	\$ 2,650	\$ 2,730												
Capital Costs funded by Others															
<b>Total Capital Costs</b>	<b>\$ 2, 575</b>	<b>\$ 2,650</b>	<b>\$ 2,730</b>												

### 4.3. Road Projects

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Expansion &amp; Upgrades - Customer Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Road Projects</b>		
<b>PROJECT NAME:</b>	<b>Various</b>		
<b><u>Business Need:</u></b>			
<p>This is a demand program that covers joint use work that EHM is obligated to provide in order to meet its contractual obligations to joint use partners such as the City of Mississauga, Ministry of Transportation and the Region of Peel.</p> <p>This program also covers line relocation work that must be carried out at the request of Municipal and Provincial road authorities under applicable legislation and Ministry of Transportation guidelines.</p>			
<b><u>Investment Summary:</u></b>			
<p>This work covers changes/ upgrades to EHM distribution assets to accommodate the needs of joint use partners. The requests result in pole class and height changes to accommodate increases in the pole loading and to obtain appropriate ground clearances for public safety.</p> <p>Also EHM distribution occupies road allowances at no cost and in return is required to install, relocate or reconstruct its facilities in order to accommodate the specific requirements of the road authorities. The typical requests are to relocate lines to accommodate changes to roads, highways and bridges. The recoverable portions of the relocation costs are dependent on the specific circumstances of each project.</p> <p>These projects are typically driven by other authorities' schedules for road works and vary in location. They are often difficult for EHM to predict since these projects are dependent on other authorities getting necessary approvals/property in order to construct in the Right-of-Ways.</p> <p>Typically \$ 773,000 is spent on an annual basis but this number can fluctuate depending on which pole lines need to be located and how many circuits are affected. A 3% growth has been added per year</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ EHM will meet its contractual and legal obligations, and maintain property rights for EHM Distribution line located on road allowances.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board	\$ 750	\$ 750	\$ 750
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 750</b>	<b>\$ 750</b>	<b>\$ 750</b>

**4.4. Metering Equipment**

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>System Expansion &amp; Upgrades - Customer Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Metering Equipment</b>		
<b>PROJECT NAME:</b>	<b>Update to Follow – Separate write-up provided at ExC/Sched2/Tab4</b>		
<b><u>Business Need:</u></b>			
<b><u>Investment Summary:</u></b>			
<b><u>Results:</u></b>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board			
Capital Costs funded by Others			
<b>Total Capital Costs</b>			

## **5. Non-System Requirements – Regulatory Driven Investments**

Non-System Requirements – Regulatory Driven Investments are defined as projects which are mandated by electricity regulations.

Projects of this nature include:

- wholesale metering upgrades per IESO market rules and OEB sponsored initiatives such as smart metering
- and conservation/ demand management programs.

**5.1. Conservation & Demand Side Management Programs**

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>Non-System Requirements - Regulatory Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Conservation &amp; Demand Side Management Programs</b>		
<b>PROJECT NAME:</b>	<b>There is no Capital Spending Projected for CDM in the 2008 Test Year</b>		
<b><u>Business Need:</u></b>			
<b><u>Investment Summary:</u></b>			
<b><u>Results:</u></b>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board			
Capital Costs funded by Others			
<b>Total Capital Costs</b>			

**5.2. Wholesale Metering**

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>Non-System Requirements - Regulatory Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Wholesale Metering</b>		
<b>PROJECT NAME:</b>	<b>Update to Follow – Separate write-up provided at ExC/Sched2/Tab4</b>		
<b><u>Business Need:</u></b>			
<b><u>Investment Summary:</u></b>			
<b><u>Results:</u></b>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board			
Capital Costs funded by Others			
<b>Total Capital Costs</b>			

**5.3. Smart Metering**

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>Non-System Requirements - Regulatory Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Smart Metering</b>		
<b>PROJECT NAME:</b>	<b>Update to Follow – Separate write-up provided at ExC/Sched2/Tab4</b>		
<b><u>Business Need:</u></b>			
<b><u>Investment Summary:</u></b>			
<b><u>Results:</u></b>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board			
Capital Costs funded by Others			
<b>Total Capital Costs</b>			



## **6. Non-System Requirements – Internally Driven Investments**

Non-System Requirements – Internally Driven Investments are defined as projects required to:

- enhance, refurbish and replace computer management systems,
- major tools,
- building facilities,
- fleet, information systems
- engineering & asset systems.

These investments support all of the other categories of capital projects and are essential to having them completed in an efficient, reliable and safe manner.

**6.1. Customer Information Systems**

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>Non-System Requirements - Internally Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Customer Information Systems</b>		
<b>PROJECT NAME:</b>	<b>Update to Follow – Separate write-up provided at ExC/Sched2/Tab3</b>		
<b><u>Business Need:</u></b>			
<b><u>Investment Summary:</u></b>			
<b><u>Results:</u></b>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board			
Capital Costs funded by Others			
<b>Total Capital Costs</b>			

## 6.2. Rolling Stock

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>Non-System Requirements - Internally Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Rolling Stock</b>		
<b>PROJECT NAME:</b>	<b>Various 2008</b>		
<b><u>Business Need:</u></b>			
This project spending is required to meet vehicle and equipment fleet capital requirements based on replacement requirements and increased work program size and staff growth.			
<b><u>Investment Summary:</u></b>			
Not proceeding or delaying this project spending would lead to lower-than-required fleet levels increased maintenance costs and a shift to more expensive rental units if available.			
EHM controls and manages 192 fleet units which support the organization. Fleet vehicles must be maintained at an optimum level to comply with various regulations (Highway Traffic Act, CVOR regulations, etc.) and to maintain productivity by minimizing downtime & travel time and taking advantage of technological improvement opportunities.			
Present replacement criteria are based on manufacturers' recommendations and repair history. Light vehicles are replaced after 3 -5 years or 170,000 km; service trucks are replaced after 5 - 7 years or 200,000 km; heavy equipment trucks are replaced after 10 – 12 years or after 230,000 km and work equipment is replaced on a condition based assessment.			
Additional capital is also required to meet additional equipment requirements for staff growth resulting from succession planning and work program increases.			
<ul style="list-style-type: none"> <li>▪ <b><u>Results:</u></b></li> <li>▪ Decreased down time and increased fleet utilization.</li> <li>▪ Safer equipment for personnel.</li> <li>▪ Reduced environmental impacts.(Alternative fuel considerations, compliance with new diesel standards)</li> <li>▪ Increased operator training and service equipment diagnostics.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
COST TYPE	2008	2009	2010
Capital Costs funded by Board	\$ 1,850	\$ 1, 900	\$ 1,900
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 1,850</b>	<b>\$ 1, 900</b>	<b>\$ 1,900</b>

### 6.3. Major Tools

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>Non-System Requirements - Internally Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Major Tools</b>		
<b>PROJECT NAME:</b>	<b>Various</b>		
<b><u>Business Need:</u></b>			
<p>This project spending is for major tools that are required to be replaced at end of life, replace technologically obsolete equipment as a new standards and safer work practices come into effect. It also provides for sufficient levels of new equipment consistent with work program expansion and increased staffing levels.</p>			
<b><u>Investment Summary:</u></b>			
<p>This project is necessary to replace end of life equipment used by field staff to execute the work program in a cost effective manner.</p> <p>Major tools are used by field staff to carry out day-to-day work activities. The equipment must be maintained at appropriate levels such that work can be executed in a safe and cost effective manner.</p> <p>Purchases in this category include:</p> <ul style="list-style-type: none"> <li>▪ Measuring and testing equipment to carry out a variety of work activities including trouble shooting, performance testing of equipment, resistance testers, phasing sticks, spiking tools, presses, cutters etc.</li> </ul> <p>Major tool requirements will vary year to year depending on a number of factors including the overall asset condition service equipment, the number of larger cost "one-time" items that occur from year to year, the size of the work program and associated staffing levels projected in the business plan, random equipment failures and weather severity and trends which affect the intensity and use of certain types of service equipment particularly related to storm and trouble call programs.</p> <p>Not proceeding with the appropriate project spending level in service equipment leads to increased job costs and outage duration and decreases work program efficiencies.</p> <p>A budget provision of \$150, 000 annually for this equipment is required.</p>			
<b><u>Results:</u></b>			
<ul style="list-style-type: none"> <li>▪ Maintain major tools at required levels.</li> </ul>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board	\$ 150	\$ 150	\$ 150
Capital Costs funded by Others			
<b>Total Capital Costs</b>	<b>\$ 150</b>	<b>\$ 150</b>	<b>\$ 150</b>

**6.4. Information Technology**

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>Non-System Requirements - Internally Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Information Technology</b>		
<b>PROJECT NAME:</b>	<b>Update to Follow – Separate write-up provided at ExC/Sched1/Tab3</b>		
<b><u>Business Need:</u></b>			
<b><u>Investment Summary:</u></b>			
<b><u>Results:</u></b>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board			
Capital Costs funded by Others			
Total Capital Costs			

**6.5. Engineering & Asset Systems**

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	<b>Non-System Requirements - Internally Driven Investments</b>		
<b>INVESTMENT NAME:</b>	<b>Engineering &amp; Asset Systems</b>		
<b>PROJECT NAME:</b>	<b>Update to Follow – Separate write-up provided at ExC/Sched1/Tab3</b>		
<b><u>Business Need:</u></b>			
<b><u>Investment Summary:</u></b>			
<b><u>Results:</u></b>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board			
Capital Costs funded by Others			
<b>Total Capital Costs</b>			

**6.6. Grounds & Buildings**

<b>EHM PROJECT BUSINESS CASE</b>			
<b>INVESTMENT CATEGORY:</b>	Non-System Requirements - Internally Driven Investments		
<b>INVESTMENT NAME:</b>	Grounds & Buildings		
<b>PROJECT NAME:</b>	Update to Follow – Separate write-up provided at ExC/Sched1/Tab6		
<b><u>Business Need:</u></b>			
<b><u>Investment Summary:</u></b>			
<b><u>Results:</u></b>			
<b>Estimated Annual Expenditure (\$ 1,000's)</b>			
<b>COST TYPE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Capital Costs funded by Board			
Capital Costs funded by Others			
Total Capital Costs			

1 **Cost of Service**

2  
3 Enersource forecasts that it will incur \$42.076 million of Operating, Maintenance and  
4 Administration expenses in the 2008 Test Year. Enersource's variance analysis of its Operating,  
5 Maintenance and Administration expense is formatted consistent with the presentation of  
6 Enersource's financial statements. This amount is incurred for the following reasons:

- 7
- 8 • Manpower costs of \$25.185 million;
  - 9 • Materials costs of \$2.006 million;
  - 10 • Transportation costs of \$1.121 million;
  - 11 • Other Controllable costs of \$7.897 million; and
  - 12 • Other Expenses of \$3.534 million
  - 13 • Bad Debt Expense of \$1.575 million; and
  - 14 • Management Fees/Recoveries of \$0.758 million.
- 15

16 Each item is discussed in further detail throughout Exhibit D. A variance analysis of 2008 Test  
17 Year to 2007 Bridge Year is provided at ExD/Sched2/Tab5. A variance analysis of 2007 Bridge  
18 Year to 2006 Actual is provided at ExD/Sched2/Tab6.

19  
20 These costs are incurred so that Enersource can provide distribution service at an appropriate  
21 level of quality to the inhabitants of the City of Mississauga.

22



1                                    **Operations and Maintenance Expenses**

2  
3 Enersource forecasts that it will incur \$17.336 million in the 2008 Test Year to operate and  
4 maintain its existing distribution plant. The proposed 2008 Test Year Operations, Maintenance  
5 and Administrative Expenses are incurred to ensure the continued safe and reliable operation of  
6 the Enersource distribution system, while meeting all legislative, regulatory, and environmental  
7 requirements. The nature of these costs is discussed below.

8  
9 ExD/Sched2/Tab2 provides the amounts forecast to be incurred in the 2008 Test Year and in the  
10 2007 Bridge Year as well as the amounts actually incurred in the 2006 Historic Year.

11  
12 **Distribution System Operating and Maintenance Expenses**

13  
14 Enersource strives to continually deliver power with;

- 15       • an average of less than thirty minutes of outage time per customer per year;  
16       • zero lost time injuries for our employees; and  
17       • zero incidents of injuries involving a member of the public interacting with the  
18       Enersource distribution system.

19  
20 The distribution system is subject to deterioration and failure over time. By performing  
21 appropriate maintenance programs, Enersource minimizes the frequency and impact of  
22 distribution system failures. O&M activities include preventative maintenance and corrective  
23 maintenance. Safety and system reliability are the two most significant drivers of Enersource’s  
24 O&M plans.

25  
26 Extensive analysis of the system’s reliability supports the preventative maintenance program.  
27 All customer interruptions are categorized according to Canadian Electrical Association (“CEA”)  
28 guidelines. Some of the CEA interruption categories are further subdivided to allow for further

1 analysis. The end result of this analysis is the identification of those areas of the distribution  
2 system that raise reliability issues. Programs and projects are then designed to address these  
3 areas. Programs and projects are prioritized from a cost-benefit perspective and implemented  
4 accordingly.

5  
6 Unplanned or corrective maintenance activities are undertaken in response to component failure  
7 and power interruptions. The need for unplanned or corrective activities is unpredictable and  
8 depends on external factors (e.g., weather, interference from foreign elements). Enersource is  
9 prepared to perform unplanned or corrective maintenance activities on a twenty-four hour basis  
10 and in a safe manner that supports the restoration of delivery service and minimizes the impact to  
11 our customers. As a result, Enersource forecasts these costs based on historical averages,  
12 adjusted for any foreseeable or anticipated changes.

13  
14 The proposed 2008 Test Year spending, as well as historical levels, is provided at  
15 ExD/Sched2/Tab2.

16  
17 Distribution Expenses

18  
19 Enersource's distribution group is responsible for Trouble Response and maintaining all  
20 Overhead and Underground distribution facilities, excluding for substations and System Control  
21 and Data Acquisition ("SCADA") equipment. These distribution OM&A activities are separated  
22 into three business units:

- 23 • Overhead Maintenance;
- 24 • Underground Maintenance; and
- 25 • Tree Trimming.

26  
27 The proposed 2008 Test Year spending, as well as historical levels, is provided at  
28 ExD/Sched2/Tab2.

1 Overhead Maintenance

2

3 Enersource's Overhead distribution system includes 1,620 km of distribution and sub-  
4 transmission circuits strung on approximately 26,000 poles. The Overhead system includes over  
5 16,000 switches, 5,600 transformers as well as surge arrestors, insulators, guying wires and  
6 anchors. These assets are located primarily on public road allowance; a small percentage of them  
7 are situated within easements on privately owned lands.

8

9 As a result of a trouble call, it may be necessary to follow up to ensure system integrity, e.g., to  
10 make permanent repairs or to conduct further maintenance. When a circuit breaker on a feeder  
11 operates due to an unknown or transient fault, Enersource patrols the feeder to determine the  
12 source of the fault and takes appropriate remedial action upon determining the source of the  
13 problem.

14

15 Enersource's two primary Overhead preventative maintenance programs are:

- 16 • insulator washing; and
- 17 • infrared survey of lines.

18

19 Contamination of insulators (e.g., from road salt) can, if left unattended, result in flashovers of  
20 insulators that damage equipment and cause service interruptions to customers. Approximately  
21 50% of the Overhead system is comprised of traditional porcelain insulators which, under certain  
22 weather conditions, can be compromised by contamination. On a proactive basis throughout the  
23 winter months, the porcelain insulators are power washed to remove contamination and reduce  
24 the potential for outages. To reduce the impact of contamination, all new insulators are made  
25 from a contamination resistant material.

26

27 Enersource conducts an annual infrared survey of the Overhead system to detect equipment  
28 failures. This information provides advance warning of impending failures. Any equipment that

1 exhibits a 'hotspot' is repaired or replaced, as required. Enersource typically detects and repairs  
2 35 hotspots each year.

3

#### 4 Underground Maintenance

5 Enersource's Underground distribution system includes 3,350 km of distribution & sub-  
6 transmission circuits. The Underground system also includes over 19,000 transformers, 800 pad-  
7 mounted switchgears as well as surge arrestors, connectors and terminations.

8 Like the Overhead system, these assets are primarily located on public road allowance with a  
9 small percentage existing on easements on privately owned lands.

10

11 In response to trouble calls follow-up repairs are made to ensure system integrity. These include  
12 repairs to secondary cables and primary cables, terminations and connectors.

13

14 Enersource's two primary Underground preventative maintenance programs are:

- 15 • vault inspections; and
- 16 • dry ice cleaning of load centres.

17

18 Vaults are rooms within a commercial or industrial building that contain transformers and  
19 associated equipment owned by Enersource. Enersource inspects this equipment annually and  
20 in co-ordination with the property owner's fire alarm equipment testing requirements (fire alarm  
21 equipment is typically also located in the room). As a result of these inspections, follow-up  
22 repair, maintenance or equipment replacement is scheduled as appropriate.

23

24 Load centres are metal enclosed pad mounted switching cubicles, typically located on public  
25 road allowances that are frequently exposed to contaminants (e.g., road salt). If contamination is  
26 left unaddressed, flashovers could occur within the load centre and major equipment damage  
27 could result that would interrupt the provision of delivery service to customers. To reduce the  
28 impact of such contamination, load centers are cleaned using dry ice on a four year cycle.

1 Trouble Response

2

3 Because Mississauga is one of the largest cities in Canada, Enersource has many industrial and  
4 commercial customers that depend on a reliable supply of power to run their operations. It is  
5 critical to be able to respond quickly, safely and efficiently to power interruptions or to requests  
6 for assistance from emergency services (e.g., Police, Fire). Enersource's trouble response crew  
7 is available 24 hours a day, 7 days a week. In addition, others crews are available to assist with  
8 emergencies and after hour responses and repairs on a standby basis. Historically, Enersource  
9 responds to 3,400 trouble calls per year. The average response time to power interruptions is  
10 approximately 35 minutes. Enersource responds to emergency request from Fire or Police within  
11 one hour, 99% of the time. Costs for the trouble responses are allocated to Overhead  
12 Maintenance or Underground Maintenance according to the nature of the call.

13

14 Tree Trimming

15

16 Enersource's Tree Trimming program manages the physical clearance between energized  
17 equipment and trees in order to:

- 18 • maintain an acceptable and sustainable level of reliability;
- 19 • to manage safety hazards that trees in close proximity to energized lines present; and
- 20 • to minimize environmental and social impacts.

21

22 Historically, tree contact accounts for approximately 7% of Enersource's overall outage time.  
23 Enersource's priority is to trim trees that are in close proximity to critical distribution lines.  
24 Typically, trees are trimmed on a four year cycle and in coordination with the City of  
25 Mississauga's forestry department (e.g., removal or trimming of city owned trees, to ensure  
26 compliance with city by-laws). Enersource notifies, and at times consults with, property owners  
27 who may be impacted by tree trimming or tree removal.

28

1 Operations

2

3 The proposed 2008 Test Year spending, as well as historical levels, for Operations is provided at  
4 ExD/Sched2/Tab2.

5

6 Substations and Automated Switches:

7

8 Enersource owns and operates 66 Municipal Substations across the City of Mississauga.  
9 Substations are used for delivery of power, voltage transformation and switching purposes. A  
10 substation consists of:

- 11 • one or two power transformers and tap changers;
- 12 • high voltage and low voltage switchgear equipment, including circuit breakers, reclosers,  
13 fuses and switches, bus insulators, batteries, support structures, power cables, cable  
14 terminators and surge arrestors;
- 15 • station service supplies;
- 16 • grounding systems; and
- 17 • fences and buildings.

18

19 The Enersource Underground System has a number of automated load centres and the Overhead  
20 System has a number of automated overhead switches that can be remotely operated via the  
21 SCADA system. They facilitate the restoration of power after an interruption and improve  
22 overall distribution system reliability.

23

24 The work programs required to maintain substations and automated facilities include:

- 25 • corrective maintenance; and
- 26 • planned maintenance.

27

28

1 Substation and Automated Switch Corrective Maintenance

2

3 This program covers the cost of emergency and corrective maintenance work that does not  
4 involve plant retirement. The corrective maintenance program covers emergency work required  
5 to:

- 6
- 7 • respond to failures at the substation;
  - 8 • complete unplanned corrective work discovered during planned maintenance activities  
9 that cannot be deferred until the next planned maintenance; and
  - 10 • correct situations where there is a likelihood of failure that could cause a power  
11 interruption or present a safety hazard.

12 When a substation component fails, typically 1,000 to 1,500 customers experience a service  
13 interruption. Emergency and corrective maintenance work must be carried out in a timely  
14 manner in order to restore service safely and to maintain reliability. In most cases the  
15 component (e.g., recloser, insulator, connector, or switch) can be repaired, temporarily bypassed  
16 or replaced. The failure of a larger component (e.g., a transformer) may require moving the  
17 equipment off site and repairing it at a central location.

18

19 Planned Substation and Automated Switch Maintenance

20

21 Planned substation maintenance includes:

- 22
- 23 • substation inspections;
  - 24 • power equipment maintenance;
  - 25 • asset condition assessments;
  - 26 • substation grounds and site maintenance (e.g., weed control, snow removal, fence repair,  
27 access road maintenance, site drainage, foundation repairs); and
  - 28 • maintenance of automated switches.

1 The entire substation itself is maintained on a 5 year cycle. A planned maintenance program  
2 reduces the risk of equipment failure, which can negatively impact reliability and to a large  
3 number of customers. Planned maintenance also limits the risk of unplanned maintenance in the  
4 future and ensures that equipment serves to the end of its design life.

5

6 Enersource maintains automated switches on a 2 year cycle. They are taken out of service,  
7 cleaned, aligned, lubricated and then re-installed, operated in the field and communications to the  
8 Control Room via the SCADA system is confirmed.

9

10 The planned maintenance of substations:

- 11 • preserves operational integrity;
- 12 • corrects equipment defects before they cause outages; and
- 13 • improves overall reliability of service to customers.

14

15 Appendix C of the Distribution System Code requires that LDCs inspect substations on a regular  
16 basis to identify obvious structural problems, hazards and signs of vandalism. Enersource's  
17 substations are inspected monthly to identify problems and safety hazards prior to initiating the  
18 planned maintenance work.

19

20 Enersource is adopting a preventive maintenance approach to its planned maintenance of  
21 substations to efficiently and effectively execute maintenance requirements. Enersource's  
22 preventive maintenance program relies on analysis of failure modes, causal impacts and asset  
23 criticality to determine the routine maintenance tasks that address the causes of failures through  
24 technically appropriate cost effective actions.

25

26 These costs are increasing due to the need to increase maintenance on power transformers to  
27 reverse an observed trend of increased failures and the need to implement preventive



1 maintenance. This maintenance is critical because providing a new transformer can take up to  
2 one year. Reductions in this program will result in:

- 3 • an increase in power transformer failures that will negatively impact reliability;
- 4 • shortened transformer life;
- 5 • increased risk of oil spill or leak to the surrounding environment;

6  
7 Control Room

8  
9 Enersource's Control Room is an integral part of the Engineering and Operations division. The  
10 Control Room is manned 24 hours a day, every day of the year by MEA Certified Operators and  
11 enables monitoring of the entire distribution system. The Control Room is a key initiative that  
12 supports:

- 13 • identifying maintenance and new construction requirements;
- 14 • improving distribution system reliability by targeting underperforming subtransmission  
15 and distribution feeders; and
- 16 • optimizing maintenance activities against system reliability.

17  
18 The Control Room acts as a central hub and is responsible for:

- 19 • all power related issues that impact customers (e.g., tree limb in contact with an  
20 overhead wire; dispatching crews to repair system damage caused by a storm);
- 21 • construction or maintenance activity on or near the distribution system;
- 22 • administration of switching operations so that the work is done safely;
  - 23 ○ providing written authorization of applications from crews for switching  
24 operations to isolate sections of the grid so that work can be done safely;
  - 25 ○ checking switching operation requests to ensure there are no conflicts with other  
26 crews working nearby and that isolation can be provided for the required time  
27 period;

- 1           ○ documenting switching operation requests (e.g., that they are signed by the
- 2           operator, double checked, signed by another operator who ensures the correct
- 3           switches are being operated and that Enersource's safety policies and Work
- 4           Protection Code are being adhered to);
- 5           ○ forwarding the written instruction to the crews;
- 6           ○ the on-duty Control Room operator confirming each step of the switching
- 7           operation as it is completed;
- 8           ○ logging and 'pinning' each switching action to the system schematic to ensure
- 9           that no other conflicts with other crews in the area arise and so that the Control
- 10          Room can monitor the status of each switch on the system.
- 11          • maintenance of accurate and current records of the distribution system and monitors and
- 12          documents all changes made in the field (e.g., installation of a larger transformer for an
- 13          overloaded transformer that failed);
- 14          • remote operation of switches and breakers via the SCADA system to support prompt
- 15          restoration of power to areas affected by an outage;
- 16          • monitoring of system operations through the SCADA system (e.g., power delivery
- 17          characteristics across numerous component, such as substation breakers) to ensure that
- 18          assets are not overloaded;
- 19          • identifying system reliability and system capacity issues and then working with System
- 20          Planning and Reliability to resolve issues in a timely fashion;
- 21          • identifying poor performing feeders on the 44 kV, 16/27.6 kV and 8/13.8kV systems that
- 22          are suitable for automation to support or enhance system reliability, taking into account
- 23          number of customers served and size of load supplied.

24

25 If Enersource did not appropriately support its Control Room operations and the associated

26 investment in the SCADA system, reliability would likely decline (e.g., because substations

27 would be increasingly prone to power transformer temperature alarms due to a lack of preventive

28 maintenance and planned maintenance).

1 Other OM&A

2

3 Other OM&A costs include:

- 4 • underground locates;
- 5 • fleet management; and
- 6 • other activities (e.g., polychlorinated biphenyls (“PCB”) waste testing and disposal).

7

8 The proposed 2008 Test Year spending, as well as historical levels, for Operations is provided at  
9 ExD/Sched2/Tab2.

10

11 Underground Cable Locates

12

13 Enersource forecasts that its 2008 Test Year costs to provide underground cable locates will  
14 amount to \$0.656 million. This program provides electrical facilities locating and marking  
15 services for Enersource’s customers, or their contractor (e.g. prior to excavating) in accordance  
16 with the Electrical Safety Authority’s (“ESA”) “Guidelines for Excavating in the Vicinity of  
17 Distribution Lines”. Enersource recovers these costs through distribution rates rather than  
18 through an end-user charge to encourage property owners and contractors to make use of this  
19 service, thereby avoiding hazardous situations that can cause serious injury. This practice is  
20 consistent with that of other regulated utilities.

21

22 The costs of this program are related to the demand for the service and vary with the construction  
23 project and economic development activity of the year. Enersource has experienced a 40%  
24 increase in the demand for this service since 2003 (from 12,000 to 17,000), due mainly to an  
25 increased and ongoing high construction volume within the City of Mississauga as well as  
26 increased public awareness through the “Call Before You Dig” message. Enersource’s  
27 performance in delivering this service is demonstrated by the “Underground Cable Locates”  
28 service quality indicator (ExA/Sched17).

1 Fleet - including Repair and Fueling

2

3 Fleet Management maintains Enersource's fleet of over 170 pieces of rolling stock and  
4 administers all aspects of fleet operations. Vehicles are maintained to a level that achieves safe  
5 performance and is in compliance with all laws and Ministry regulations (including but not  
6 limited to CSA225, Highway Traffic Act and Commercial Vehicle Operator's Registration  
7 Regulations). Fleet Management has adapted to the changing needs of its business by:

- 8     ▪ reducing equipment downtime and improving equipment utilization;
- 9     ▪ procuring cost efficient fleet support;
- 10    ▪ Flexibly delivering service matched to the internal customer's needs;
- 11    ▪ Timely and cost efficient equipment procurement and disposal;
- 12    ▪ Data collection and information management systems that match the business unit  
13       requirements

14

15 Fleet - Managed Systems

16

17 In 2003 implementation of a work management system was completed. It enabled the activation  
18 of a fleet management system. The implementation of the fleet management system created a  
19 single cost centre for each vehicle to capture all operating costs including fuel, parts and repairs.  
20 The work management system incorporates programs required to manage contracts such as  
21 tender agreements, purchasing processes. The system/program measures a variety of targets that  
22 reconcile approved purchase orders, estimates versus actuals, spend by vendor, discount by  
23 vendor and vendor complaints.

24

25 The benefits of this program include:

- 26     • Improved scheduling of preventative maintenance, reduced repair times, travel time  
27       and reduced equipment downtime;

- 1           • Improved cost and efficiency, through increased procurement strategies and larger
- 2           economies of scale, including improved volume discounts for fuel, parts and service;
- 3           and
- 4           • Improved reporting and data collection.

5

6   The system, which is used for all vehicles and equipment, manages the data and information for

7   all facets of the business including internal and external repairs.

8

9   This maintenance program minimizes avoidable and expensive repairs, minimizes equipment

10   downtime, and improves equipment utilization. The internal service provides access to the

11   appropriate information (listed below) that supports quality decision-making in all levels of the

12   maintenance program:

- 13           • Real time vehicle history;
- 14           • Pending and overdue work information alert system;
- 15           • Product information, including vendor specific;
- 16           • Invoice and cost management details;
- 17           • Monthly and ad-hoc reports; and
- 18           • Work Order management.

19

20   Fleet Management controls and manages over 170 vehicles and other equipment primarily for

21   distribution work (ExC/Sched1/Tab5). Inventory levels are controlled and set by Enersource

22   Business Units and Fleet Management within the guidelines set for operations staffing, type and

23   volume of work and utilization targets.

24

25   Fleet Management's operating, maintenance and administration yearly budget is developed and

26   managed based on the following criteria and all in costs of operating the fleet:

- 27           • Historical and forecasted costs based on estimated fixed and variable costs including
- 28           fuel, depreciation, maintenance and repair, labour/staffing, and corporate allocations;

- 1           • Capital/Vehicle replacement program;
- 2           • Historical cost and mechanical fitness evaluations;
- 3           • Work program forecast provided by planned maintenance;
- 4           • Work program forecast provided by compliance requirements; and
- 5           • Estimates provided by internal and external suppliers.

6

7 Details of Enersource's Fleet OM&A expenses are provided at ExD/Sched2/Tab2.

8

9 Operations & Repair Costs consists of repair costs (e.g., labour, parts) which are derived based  
10 on a forecast of the annual maintenance schedules for each piece of equipment. The age and the  
11 history of the vehicles are considered in the calculation. Throughout the year, all repair costs are  
12 charged directly to each piece of equipment. Operations cost include wages, allocated share of  
13 facility and telecommunication cost and work methods and safety training activities.

14

15 Fuel cost is calculated based on past history and the current composition of the class.  
16 Throughout the year, fuel costs are charged directly to the particular piece of equipment  
17 consuming the fuel.

18

19 PCB waste

20

21 To date, Enersource's PCB waste management costs have been minimal. The storage and  
22 handling of PCB waste in Canada are regulated by:

- 23           • Environment Canada (Federal); and
- 24           • Ontario Ministry of the Environment.

25

26 Pending legislation will significantly increase this portion of Enersource's OM&A costs. The  
27 legislation is expected to be passed and come into force in 2009 and it will require:

- 1 • The removal by December 31, 2009 of in-service equipment containing oil with PCB >50  
2 ppm and < 500 ppm; and
- 3 • The elimination of existing PCB storage sites by December 31, 2009.

4  
5 PCB management (decommissioning/testing/decontamination) will be an ongoing activity as  
6 Enersource has approximately 27,000 distribution and 125 sub-station power transformers.  
7 Enersource's transformers that were installed after December 31, 1981 are considered free of  
8 PCBs.

9  
10 PCBs are man-made liquids that are highly stable, non-conducting and relatively non-flammable.  
11 They have excellent insulating and thermal properties and were, in the past, commonly added to  
12 transformer oil. As of September 1, 1977, regulations restricted the use of PCBs in electrical  
13 equipment. Manufacturing of PCBs in the United States (the source of most of PCBs used in  
14 Canada) was discontinued in 1979. The importation of PCBs was restricted effective July 1,  
15 1980. However, electrical equipment manufacturers continued to use equipment (e.g., hoses,  
16 pumps) previously contaminated with PCBs in their manufacturing processes. The resulting  
17 cross-contamination is the source of low-level PCB contamination found in some components of  
18 Enersource's distribution system. Current government guidelines stipulate that any substance  
19 that contains more than .005% of PCBs by weight (or 50 parts per million) is contaminated.

20  
21 Enersource exercises considerable care when removing any oil filled equipment from service  
22 (e.g., because of failure, obsolescence) to avoid contaminating the environment. Among other  
23 things, Enersource tests such equipment for PCB levels; contaminated oil is drained from the  
24 equipment and safely stored. Subsequently, Enersource:

- 25 • reports PCB waste inventories to the Ontario Ministry of the Environment, Environment  
26 Canada and local municipal authorities;
- 27 • disposes of or destroys PCB waste inventories; and
- 28 • disposes of non-contaminated oil and equipment.

1

2 In view of the proposed PCB regulations, Enersource estimates that \$0.500 million will be spent  
3 in 2009 to comply with the pending legislation. Enersource is not proposing to recover this  
4 amount in its 2008 rates.

5



1 Customer Services

2  
3 During the 2008 Test Year, Enersource will provide Customer Care and Billing Operations  
4 services to approximately 182,000 customers. Customers are billed under one of the following  
5 billing options:

- 6  
7
  - Standard Supply Service Billing;
  - 8 • Local Distributor Consolidated Billing; or
  - 9 • Retailer Consolidated Billing.

10  
11 Approximately 370 of Enersource's General Service customers have interval meters and are  
12 billed for electricity commodity at hourly market based rates.

13  
14 The Customer Care and Billing Operations Division's responsibilities include:

- 15  
16
  - **Call Centre operations** which involve answering customer requests regarding meter  
17 reading and billing issues such as set-up of new service accounts, change of address, final  
18 bills, initial bills, meter reading clarification, bill calculation clarification, rate changes,  
19 power outages etc.
  - 20 • **Meter-to-Cash processes** which involve the meter reading, billing, collections, and cash  
21 payment processes.
  - 22 • **Retail settlement** which involves the processing of retailer transaction requests,  
23 collecting payment for energy from retailers and paying retailers their contract charges.
  - 24 • **Wholesale settlement** which involves confirmation and payment of the IESO invoices.
- 25  
26  
27  
28

1 Customer Care Projects for 2008

2 To continue to meet its meter reading and billing requirements, Customer Care and Billing  
3 Operations has identified the following objectives for 2008.

4  
5 Replacement of the Customer Information System

6 Since 2007, Customer Service has been serving as Project Sponsor for the Customer Information  
7 System replacement project. Work with Toronto Hydro-Electric System Limited on the joint  
8 development and implementation of SPL software has commenced and the replacement system  
9 is expected to be commissioned in late 2008, approximately mid-way through the 2008 rate year.

10  
11 Compliance with New Requirements

12 During the 2008 Test Year, Enersource's Customer Service staff will work on achieving  
13 compliance with new regulatory requirements (e.g., implementing Time of Use Rates, achieving  
14 integration with the proposed Meter Data Management and Repository).

15  
16 Smart Meters

17 As one of the LDCs authorized to commence smart meter installation, Enersource will have  
18 installed 60,000 residential Smart Meters by the end of the 2007 calendar year. The ongoing  
19 installation of Smart Meters is a high priority and Enersource will have installed Smart Meters at  
20 all customer premises by the end of calendar year 2010.

21  
22 Two new positions related to Smart Meters have been budgeted for in the 2008 Test Year. First,  
23 an additional Meter Reading Exception Processor, with responsibility for:

- 24
- 25 • ensuring that all accounts with Smart Meters are accurately processed;
  - 26 • ensuring that all Retailers with enrolled customers receive their transactions within 4  
27 business days as required by the Retail Settlement Code; and
  - 28 • ensuring that predetermined Customer Information System meter reading edit exceptions  
are resolved in a timely manner (please note that an increase in the number of edit

1 exceptions is expected because each bi-monthly billed account will now have metered  
2 consumption for 1488 intervals, rather than a single meter reading). An edit exception is a  
3 notification that a reading is missing or is outside the acceptable parameters.  
4

5 Second, a new Billing Supervisor position has been authorized to help the Manager, Billing  
6 Operations deal with:

- 7 • the increased administrative complexity expected as a result of Smart Metering, billing at  
8 Time of Use rates, Standard Offer Program; and
- 9 • the administration of additional operational controls to ensure accurate billings.

10  
11 The Billing Operations is responsible for several activities including:

- 12 • Rebates;
- 13 • Retail Settlement;
- 14 • Regulated Price Plan True-up;
- 15 • Back billing; and
- 16 • New Services account set-up.

17  
18 Customer Care Resources

19  
20 Enersource provides all of its Customer Care services including billing, settlements, contract  
21 handling, and collections through in-house staff and employees. Meter reading, bill printing and  
22 call centre services are provided under contract by Olameter Inc., Kubra, and Siemens. The  
23 contract for meter reading services was executed jointly by Enersource and Enbridge Gas  
24 Distribution Inc.; as of July 1, 2007 Enbridge elected not to renew the contract with Olameter.  
25 Consequently Enersource is no longer able to share meter reading costs with Enbridge and, as a  
26 result, these costs have increased.  
27

1 Table 1 below provides the costs of Enersource’s Customer Care activities for the 2008 Test  
 2 Year, 2007 Bridge Year and 2006 Historic Year. ExD/Sched2/Tab2 provides the amounts  
 3 forecast to be incurred in the 2008 Test Year and in the 2007 Bridge Year as well as the amounts  
 4 actually incurred in the 2006 Historic Year. The nature of these costs is discussed below.

5  
 6 Table 1 (presented in millions)

	2008 Test Year	2007 Bridge Year	2006 Historic Year
Customer Services Administration, Billing, Collections, Settlements & Metering Expense	\$ 9.058	\$ 8.597	\$ 7.255

7  
 8 The provision of Base Services - meter reading, billing, settlements, contact handling and  
 9 collection services - is the largest cost component of the costs of the Customer Care Work  
 10 Program.

11  
 12 Customer Service Operations

13 Customer Service Operations costs include:

- 14 • Bill delivery costs;
- 15 • Customer contact costs;
- 16 • Collections and settlements services costs.

17  
 18 The change in costs year-over-year is attributable to:

- 19 • Increased staff levels;
- 20 • Increased average compensation levels; and
- 21 • Increased infrastructure costs (e.g., telecommunications, IT).

22  
 23 Bill delivery

24 Enersource bills its residential customers bi-monthly and its General Service customers monthly.  
 25 Enersource offers a variety of billing and payment options; e.g. the Budget Billing Program (that

1 permits customers to pay equal amounts each month) and an Electronic Funds Transfer option.

2 Enersource's billing related costs include:

- 3 • bill delivery;
- 4 • verification, validation and editing of meter reading data;
- 5 • bill calculation;
- 6 • exception handling; and
- 7 • bill creation, insertion and issuance.

8

9 In the 2008 Test Year Enersource will issue over 1.2 million bills to its customers. By April 30,  
10 2007 Enersource was issuing 1.7 percent more bills than in April, 30, 2006 as shown at  
11 ExD/Sched2/Tab3.1.

12

### 13 Customer Contact

14 Enersource provides its customers a number of contact media, including:

- 15 • telephone – in person or by Interactive Voice Response (IVR) technology;
- 16 • letter;
- 17 • fax;
- 18 • email; and
- 19 • via Internet.

20

21 Telephone access for power outages and emergencies is provided 24 hours a day, 7 days a week.  
22 This line is staffed at all times. Non-emergency contact is dealt with during regular business  
23 hours, i.e., from 8:30 a.m. to 4:30 p.m. Monday to Friday. The contact centre handles more than  
24 149,000 calls a year. During the 2008 Test Year Enersource forecasts that it will handle 158,000  
25 calls, an increase of about 6 percent over the volume of 149,000 calls in 2007

26

27 Enersource's contact centre manages customer calls for three key areas:

- 28 • outages and emergencies;

- 1       • bill and account enquiries; and  
2       • service requests.

3

4 In 2007, these categories made up 1 percent, 96 percent and 3 percent of annual calls,  
5 respectively (ExD/Sched2/Tab3.2). The balance of the calls received is classified as “other” and  
6 deal with topics such as market changes, energy efficiency, electrical safety, and damage claims.

7

8 An outage call can relate to either a planned or unplanned power outage. Enersource receives  
9 emergency calls from emergency service agencies and personnel (e.g., fire, police) and the  
10 general public and these typically concern damage caused to field-based equipment or  
11 notification of unsafe conditions.

12

13 Bill and account enquiry calls deal with:

- 14       • collections activity include negotiating payment arrangements, confirming payments  
15       made and responding to customer calls during disconnection;  
16       • questions on high bills, account balances, bill format, rates and charges appearing on the  
17       bill (including commodity pricing, Goods and Services Tax and debt retirement charge);  
18       • security deposits, rate changes, rate classifications;  
19       • exemptions and refunds;  
20       • usage, meter readings  
21       • damaged or malfunctioning meters;  
22       • payment options, payment confirmation and late payment charges;  
23       • changes to customer account details;  
24       • move-in and move-out calls triggered by a change of property ownership or tenancy  
25       (move-in calls require that an account be opened; move-out calls require a final bill that  
26       must be supported by a final meter reading); and  
27       • requests for information;

28

1 Service request calls include:

- 2 • customer requests for new electricity service or an upgrade to existing service;
- 3 • third parties (such as contractors) requests to provide engineering investigations to
- 4 enable the connection of a new service or service upgrade; and
- 5 • cable locates or tree trimming requests - these calls require that a service order and a
- 6 work order be issued to the appropriate field location.

7

8 Customer volume can change quickly due to a variety of causes, many of which are beyond  
9 Enersource's control. For example, storms, media coverage about electricity rates or electricity-  
10 related discussions in the Legislature, can result in higher than normal high call volumes and at  
11 unexpected times.

12

13 In addition to responding to customer calls, the contact centres also respond to inquiries received  
14 via the other contact methods previously identified. Enersource has implemented a number of  
15 initiatives to improve contact handling services to customers and to reduce customer contact  
16 handling costs. Enersource offers a number of self-serve features on the Interactive Voice  
17 Recognition and the customer web site, providing automated service options such as move-in  
18 move-out, registration for preauthorized payment option, or confirmation of payment  
19 arrangements, which customers can access at their convenience. The contact centre also issue  
20 pamphlets and other information (e.g., duplicate bills, welcome packages, Enersource's  
21 Conditions of Service). A total of 925 welcome packages were issued between May 1, 2006 and  
22 April 30, 2007.

23

24 Enersource's Service Quality Indicator data is provided at ExA/Sched17. An inspection of this  
25 data shows that Enersource has on average in 2006 answered 80% of all telephone calls within  
26 30 seconds. Enersource will seek to better this performance in the 2008 Test Year.

27

28

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Collections

Enersource collects funds associated with electricity revenues for both active and final-billed accounts. This work includes:

- issuing collection letters and notices;
- negotiating payment arrangements;
- issuing payment confirmation letters;
- providing information for power of sales, foreclosures, bankruptcies, debt reviews and consumer proposals and receiverships; and
- issuing disconnection orders and scheduling disconnections.

Settlements

Enersource’s Customer Service division ensures the integrity of financial transactions between Enersource and the Independent Electricity System Operator (IESO) and between Enersource and the subject customer by providing the appropriate level of due diligence to ensure that billing and payment transactions are reconciled appropriately for parties involved and to ensure that affected customers receive timely and accurate bills.

Enersource’s duties include:

- reconciling purchases of energy from the IESO with Enersource’s readings;
- applying retail transmission service tariffs;
- updating data in totalization tables as required for wholesale revenue metering points;
- implementing commodity and other charges, including appropriate distribution rates;
- calculating and administering payments for energy produced by retail embedded generators; and
- settlements for short- and long-term load transfers;



1 The funding level proposed for the 2008 Test Year will allow Enersource to implement process  
2 improvements (e.g. New Customer Information System and other process modifications to  
3 comply with regulatory changes).

4  
5 Meter Reading

6 Enersource manually reads conventional meters and remotely reads interval meters. Manual  
7 meter reads involve a physical visit by contracted field staff to the customer premise to obtain the  
8 reading; interval meters are read remotely by the MV90 system via a telecommunications  
9 connection.

10

11 This program also includes unscheduled meter reads such as ‘check’ reads or final bill meter  
12 readings for move-outs or property transfer purposes.

13

14 Other Field Support Costs

15 Other field support costs include:

- 16 • execution of service orders to disconnect or apply a load limiting device for reasons of  
17 non-payment;
- 18 • reconnection of electricity services when payment issues are resolved;
- 19 • to follow up to ensure the integrity of a reconnect, a disconnect, or a load limiter;
- 20 • to investigate high bill complaints; and
- 21 • load analysis to ensure that the meters of all General Service customers with average  
22 demands exceeding 200 KW are verified and registering consumption correctly

23

24 Other Services Support costs

25 Other Services support cost include:

- 26 • Postage and courier service to deliver bills;
- 27 • Telecommunications expenses, including the costs related to 1-800 telephone numbers;
- 28 • third party contracts held by Enersource for centralized payment processing; and

- 1       • collection agency costs related to final bill collection activity.

2

3    Customer Care Management

4    The costs of the customer care management program include:

- 5       • customer policy development;

- 6       • planning and work program budgeting;

- 7       • service performance management;

- 8       • customer research in the form of an annual customer satisfaction survey

- 9       • project preparation and coordination of implementation; (e.g. Promotion of Enersource's  
10       Electronic Bill Presentment program).

- 11       • management of escalated customer complaints; and

- 12       • Customer Care and Billing Operations is the owner of the Customer Information System  
13       and as such is responsible for identifying changes required in the current system,  
14       directing contract programmers to make the changes, and testing the changes once they  
15       have been completed.

1 Administrative and IT Expenses

2  
3 Enersource seeks to recover \$9.814 million of Administrative and IT expenses in the 2008 Test  
4 Year. This amount includes:

- 5 • Administration Costs of \$4.539 million; and
- 6 • Information Technology Support Costs of \$5.275 million

7  
8 ExD/Sched2/Tab2 provides the amounts forecast to be incurred in the 2008 Test Year and in the  
9 2007 Bridge Year as well as the amounts actually incurred in the 2006 Historic Year. The nature  
10 of these costs is discussed below;

- 11 • Administration Costs relate to the following functional groups:
  - 12 ○ Operations and System Planning - Administration;
  - 13 ○ Distribution and Standards - Administration;
  - 14 ○ Operations – Administration;
- 15 • Information Technology Support Costs relate to the following groups:
  - 16 ○ Information Services Administration;
  - 17 ○ AM/FM (Asset Management / Facility Management);
  - 18 ○ Computer Operations

19  
20

1 **Bad Debt**

2  
3 Enersource forecasts bad debt expense of \$1.575 million in the 2008 Test Year. It reflects bad  
4 debt expenses, net of recoveries. The Bad Debt expenses are provided at ExD/Sched2/Tab1.

5  
6 Enersource's 2006 Historic Year bad debt expense was \$2.58 million. This amount is the net of  
7 bad debt expense for the period and the write-off of amounts related to a billing error related to a  
8 large customer. Enersource has achieved - and expects to continue to achieve - successful  
9 collection results, despite no longer being eligible to place liens against customers through the  
10 municipality's tax roll. Enersource continues to improve its collections process by:

- 11 • seeking appropriate deposits from existing and new customers, consistent with the  
12 Distribution System Code;
- 13 • making appropriate use of load limiters during the winter months;
- 14 • improving its metering processes through extensive and thorough field checks; and
- 15 • working with collection agencies to increase the amounts recovered.

1 Other Expenses

2  
3 Enersource forecasts that it will incur \$3.534 million of Other Expenses in the 2008 Test Year  
4 (ExD/Sched2/Tab1). The \$3.534 million includes all other operating expenses, including the  
5 following significant items:

6  
7 Fees paid to external bodies

8 Enersource pays dues and assessed fees to the following bodies:

- 9 • The Electrical Safety Authority (“ESA”) - \$88,000;  
10 • The Ontario Energy Board (“OEB”) - \$0.840 million;

11  
12 Incentive Plan

13 Enersource will continue its incentive compensation plan in the Test Year. The incentive  
14 compensation plan is based on the following performance measures:

- 15 • Reliability  
16 • Safety  
17 • Performance Based Regulation  
18 • Enersource Net Income

19 and Enersource has forecasted a cost of \$1.280 million.

20  
21 Retail Transaction Hub

22 This has a forecasted cost \$0.329 million and because it is a pass-through cost, there is an  
23 offsetting amount in revenue

24  
25 Regulatory costs

26 Based on experience, Enersource forecasts that it will incur \$270,000 in legal and consulting  
27 regulatory costs.

1

2 Environmental Rehabilitation Costs

3 Enersource is carrying out an environmental risk assessment to identify the scope of  
4 environmental risk associated with such things as underground storage tanks and PCBs and has  
5 budgeted \$300,000 for work to be carried out in the Test Year.

6

7 Fiber Charges

8 Enersource forecasts that it will pay \$180,000 in fiber charges incurred for communication  
9 purposes, primarily for the SCADA system.

1           **Property Taxes, Capital Taxes and Payments in Lieu of Corporate Income Taxes**

2  
3           Enersource forecasts capital tax and Payments in Lieu (“PILs”) of Corporate Income Taxes of  
4           \$13.250 million in the 2008 Test Year as follows:

- 5           •   \$1.482 million of capital tax; and  
6           •   \$11.768 million of Payments in Lieu (“PILs”) of corporate income taxes, being  
7                composed of \$7.304 million related to the revenues recovered at current rates and a  
8                further \$4.464 million related to the claimed revenue deficiency.

9  
10          These amounts are provided at ExD/Sched2/Tab7.

11  
12          Property Tax (included Other Controllable Costs – Exhibit D Schedule 2 Tab 1)

13          Enersource forecasts that it will pay \$0.961 million in property tax in the 2008 Test Year.  
14          Enersource pays property taxes each year based on the assessed value of the properties it owns.  
15          The assessed value is determined by the Municipal Property Assessment Corporation and  
16          Enersource applies a forecasted property tax mill rate to determine the amount of the expense.

17  
18          Capital Tax

19          Enersource forecasts that it will pay \$1.482 million in Provincial Capital Tax in the 2008 Test  
20          Year (ExD/Sched2/Tab7.1). The expense is computed by first reducing the Taxable Capital by  
21          the Capital Tax shelter and applying the authorized Provincial Capital tax rate to the difference.

22  
23          The Provincial Capital tax rate for the 2008 Test Year will be 0.285%, as authorized by the most  
24          recent Ontario Provincial Budget. This is a 0.15% reduction from the 0.3% rate that applied in  
25          2006. The most recent Ontario Provincial Budget also increased the Provincial Capital tax  
26          shelter from \$12.5 million to \$15 million, in 2006 and 2008 respectively. The Capital Tax  
27          shelter is allocated among Enersource and its other non-regulated affiliates based on each

1 entity's amount of consolidated taxable capital. This allocation methodology results in  
2 Enersource utilizing 95.142% of the full capital tax shelter.

3

4 Payments in lieu of corporate income taxes

5 Enersource forecasts that it will pay \$7.518 million in PILs on revenues proposed in this rate  
6 application and requires \$4.250 million for the grossing up to pre-tax revenue basis.

7

8 Under the *Electricity Act, 1998*, Enersource must remit PILs to the Ontario Electricity Financial  
9 Corporation. These payments are calculated in accordance with the rules for computing taxable  
10 income and taxable capital and other relevant sections of the *Income Tax Act* (Canada) and the  
11 *Corporations Tax Act* (Ontario), as modified by the *Electricity Act, 1998*, and related regulations.

12

13 Enersource provides for PILs related to its operations using the taxes payable method, as  
14 authorized by the Board. Under the taxes payable method, no provisions are made for future  
15 income taxes as a result of temporary differences between the tax basis of assets and liabilities  
16 and their carrying amounts for accounting purposes.

17

18 The difference between Enersource's financial statement income and taxable income is provided  
19 at ExD/Sched2/Tab7.2. The major variances between the amount currently collected through  
20 distribution rates for PILs and the proposed expense to be recovered through distribution rates in  
21 the 2008 Test Year generally relates to the timing of when revenues are taxable and when  
22 expenditures are deductible for tax purposes versus accounting income.

23

24 The two main differences are due to timing issues on the following items:

- 25 • Capital Cost Allowance versus the amortization and depreciation expense as  
26 determined using generally accepted accounting principles; and
- 27 • The recovery of regulatory assets and notional interest.



1 **Depreciation Expense**

2  
3 Enersource seeks to recover \$34.357 million of depreciation expense in the 2008 Test Year.

4  
5 Enersource uses the Straight-line Method to determine the depreciation expense for all asset  
6 classes and uses the depreciable lives as set out in the OEB's 2006 Electricity Distribution Rates  
7 Handbook. The depreciable lives and associated depreciation rates are provided for convenience  
8 at ExD/Sched2/Tab8.1.

9  
10 **2008 Test Year**

11 Enersource's 2008 Test Year depreciation expense is computed as follows:

- 12 • The closing balance of the previous period is assumed to be the opening balance of the  
13 current period;
- 14 • It is increased for capital additions and spending in the period;
- 15 • It is decreased for dispositions, and retirements in the period;
- 16 • The result is the closing balance for the period.

17  
18 The opening and the closing balances are added and the sum is divided by 2 to compute the  
19 average balance for the period. This calculation is performed for each asset class. The  
20 applicable depreciation rate is used to determine the depreciation expense for each class. The  
21 class specific depreciation expenses are summed to determine the depreciation expense for the  
22 period. Under this method, capital additions, asset retirement and asset disposition are all subject  
23 to the half year rule.

24  
25 The derivation of Enersource's proposed depreciation expense for the 2008 Test Year is  
26 provided at ExD/Sched2/Tab8.2. The derivation of the projected 2007 Bridge Year depreciation  
27 expense is provided at ExD/Sched2/Tab8.3. The derivation of the 2006 Historic Year  
28 depreciation expense is provided at ExD/Sched2/Tab8.4.

1 Variance Analysis

2

3 2008 Test Year versus 2007 Bridge Year

4 Enersource's 2008 Test Year depreciation expense is \$2.351 million greater than its 2007 Bridge  
5 Year depreciation expense. ExD/Sched2/Tab8.5 provides the variances between 2008 Test Year  
6 depreciation expense and the 2007 Bridge Year depreciation expense by asset class.

7

8 Approximately \$33.5 million of new distribution system assets are forecast to be brought into  
9 service in the 2008 Test Year, with the bulk of it related to new industrial and commercial  
10 customer services, new subdivisions, subdivision rebuilds, sub-transmission and substation  
11 equipment. The increase in depreciation expense for distribution assets is expected to be \$1.334  
12 million.

13

14 Computer asset related depreciation expense is expected to increase by \$0.795 million. The  
15 major drivers for this increase are the new Customer Information System and the Integrated  
16 Operating Model that integrates the SCADA and AM/FM GIS systems.

17

18 2007 Bridge Year versus 2006 Historic Year

19 Enersource's 2007 Bridge Year depreciation expense is \$1.711 million greater than its 2006  
20 Historic Year depreciation expense. ExD/Sched2/Tab8.6 provides the variances between 2007  
21 Bridge Year depreciation expense and the 2006 Historical Year depreciation expense by asset  
22 class.

23

24 Approximately \$35.8 million of distribution system assets are expected to be brought into service  
25 in 2007, with the bulk of it related to new industrial and commercial customer services, new  
26 subdivisions, subdivision rebuilds, sub-transmission and substation equipment. The increase in  
27 depreciation expense for distribution assets is expected to be \$1.004 million.

28

1 Computer asset related depreciation expense is expected to increase by \$0.502 million.  
2 Information Technology expenditures are based on upgrading of existing equipment, including  
3 servers, networking infrastructure within the building, existing computer hardware and the  
4 implementation of new software.

5

6 Approximately \$1.515 million of the \$1.711 million increase in depreciation expense in the 2007  
7 Bridge Year over the 2006 Historical Year is due to 2007 capital additions.

1 **Distribution System Loss Factors**

2  
3 Enersource seeks authorization to apply distribution system loss factors for billing purposes as  
4 follows:

5	Total Loss Factor – Secondary Metered Customer < 5,000 kW:	1.0360%
6	Total Loss Factor – Secondary Metered Customer > 5,000 kW:	1.0145%
7	Total Loss Factor – Primary Metered Customer < 5,000 kW:	1.0256%
8	Total Loss Factor – Primary Metered Customer > 5,000 kW:	1.0045%

9  
10 The proposed overall distribution system loss factor for the 2008 test Year is 3.30% in 2008.

11  
12 A summary of Enersource's distribution system loss factors for 2002 – 2006 is provided at  
13 ExD/Sched2/Tab9.

14  
15 Distribution system losses are computed as the difference between:

- 16
- the energy Enersource takes receipt of from Hydro One's transmission grid; and
  - the recorded energy delivered to customers.
- 17  
18

19 Losses reflect:

- 20
- unmetered loads;
  - technical losses resulting from the operation of the distribution system; and
  - non-technical losses (e.g., theft).
- 21  
22  
23

24 Enersource delivers electricity to numerous unmetered loads throughout its service area  
25 including:

- 26
- photo controlled loads such as street lights, bus shelters, bill boards; and
  - other loads such as cathodic protection devices, telecommunication junction boxes,  
27 rotating bill boards.
- 28

1 Technical losses are principally due to:

- 2 • distribution system requirements (e.g., to power municipal stations);
- 3 • internal resistance of cables and conductors;
- 4 • magnetic field fluctuations in transformers;
- 5 • meters.

6  
7 Non-technical losses include:

- 8 • fraud (i.e., theft of power);
- 9 • meter reading errors; and
- 10 • billing errors.

11  
12 Enersource maintains data on the name plate ratings of many of the unmetered loads it delivers  
13 electricity to. This data is used in conjunction with data on frequency and duration of supply to  
14 support estimates of the energy and power required by these loads. This data serves as a proxy  
15 of the true load and is used for billing purposes. For example, photo-electric controlled loads  
16 (street lights, bus shelters, phone booths) have a known number of devices each of specific  
17 wattage that can be relied on to calculate the demand of the unit. This demand is multiplied by  
18 the number of hours of operation according to the estimated number of day light hours, and  
19 varies by month. Daily consumption is calculated and is used to determine a proxy of the  
20 monthly consumption. This method is generally applied to non-photo-electric controlled loads,  
21 except that the hours of operation are estimated using device specific data.

22  
23 The power and energy required by Enersource's distribution system is estimated in a similar  
24 manner. The system is notionally broken into its constituent devices (e.g., cables and  
25 conductors, transformers, meters) and, if necessary further broken down (e.g., by operating  
26 voltage, whether a substation or distribution asset). The manufacturers' performance data is  
27 applied to the number of devices or length of lines, an assumed load factor and normal weather

1 conditions are inputted to a load-flow model and losses are estimated. The model's output for  
2 the years 2004 – 2006 and projected for 2007 are provided at ExD/Sched2/Tab9.

3

4 Based on the model's output Enersource estimates the expected technical loss factor for the 2008  
5 Test Year of:

- 6 • Municipal Stations: 0.2%
- 7 • Primary lines: 1.3%
- 8 • Distribution transformers: 0.7%
- 9 • Secondary lines: 0.7%
- 10 • Total: 3.0%

11

12 Non-technical losses for the 2008 Test Year are estimated to be 0.6%. This is the 4 year average  
13 of the non-technical losses for the period 2004 - 2007. The derivation of this ratio is set out at  
14 ExD/Sched2/Tab9.

15

16 Enersource has applied this data to the loss factor methodology used in the 2006 EDR. The  
17 resulting proposed loss factors for the 2008 Test Year are provided at ExD/Sched2/Tab9.

18

19 System Planning is implementing a computerized load flow program that will provide analysis of  
20 the system in a quicker, more sophisticated and methodical fashion. This requires the creation of  
21 a computer model of Enersource's entire distribution system. The load flow program will allow  
22 Enersource to more efficiently analyze weaknesses in the system. Enersource presently does  
23 much of this analysis manually using data from prior periods and applying its knowledge of the  
24 distribution system. As a result, this analysis is time consuming, onerous and prone to human  
25 error. Enersource's System Planning department anticipates that computerizing this analysis will  
26 identify robust solutions that can be tested against a variety of operating scenarios in an accurate  
27 and timely manner.

28

1 Computerized load flow analysis will, over the long run, improve the reliability of the  
2 distribution system. It will support and promote:

- 3 • Accelerated and stream lined review of system operations;
- 4 • Distribution system optimization including:
  - 5 ○ switching operations to balance loading on feeders;
  - 6 ○ switching operations that will reduce line losses, and in turn reduce overall
  - 7 demand;
  - 8 ○ substation and transformer station performance on a bus level;
  - 9 ○ utilization of existing delivery capacity based on specific stations or circuits
  - 10 loading and additional intra-system ties;
- 11 • identification of:
  - 12 ○ circuits that lack proper redundancy;
  - 13 ○ circuits that are currently overloaded or are at risk of becoming overloaded in
  - 14 future;
  - 15 ○ the need for, location of and quantum of additional capacity;
  - 16 ○ opportunities to invest in switches that increase operational flexibility;
  - 17 ○ priority sites for automation or increased automation;
- 18 • reliance on shorter feeders that will reduce the use of system for autoreclosures and/or
- 19 feeder lockouts;
- 20 • identification of the need for further information (e.g., obtainable through voltage studies,
- 21 power supply studies).

22

**Lost Revenue Adjustment Mechanism**  
**and**  
**Shared Savings Mechanism Claims**

Enersource seeks to recover:

- \$0.370 million as Lost Revenue Adjustment Mechanism (“LRAM”); and
- An after-tax Shared Savings Mechanism (“SSM”) of \$0.817 million or \$1.280 million on a before tax basis, related to its achieved Conservation and Demand Management (“CDM”) results as of April 30, 2007.

In 2005, Enersource launched its CDM program and, by April 30th, 2007, had invested approximately \$7.465 million and committed an additional \$2.0 million. As of April 30<sup>th</sup>, 2007 about 33.9 million kWh had been saved. ExD/Sched2/Tab10 provides information regarding kWh (or kW) savings, and CDM spending, for each program.

On December 10, 2004 the Board issued its decision in the RP-2004-0203 proceeding, with respect to six applications filed by the Coalition of Large Distributors. Enersource was one of the six applicants. Its CDM initiatives were organized under the following program headings:

- **Conservation and Demand Management**
  - *Residential and Small Commercial (<50kW)*
    - Co-Branded Mass Market Program
    - SMART Meter Pilot Program
    - Residential Load Control Program
    - SMART Avenues
    - Social Housing Program
  - *Commercial, Industrial and Institutional (>50kW)*
    - SMART Meter Program
    - Leveraging Energy Conservation or Load Management Program



- 1           ▪                   Load Control Initiative
- 2           ▪                   On-the-Bill Financing
  
- 3           •           **Distribution Loss Reduction**
- 4           ▪                   Voltage Profile Management
  
- 5           •           **Distributed Energy**
- 6           ▪                   Load Displacement
- 7           ▪                   Stand-by Generators
  
- 8           •           **Overall Program Support**
- 9           ▪                   powerWISE Website and Brand Development
- 10          ▪                   Special Events Van
- 11          ▪                   General Program Support
- 12          ▪                   CDM Program Compliance

13 **Authorization for LRAM/SSM Recovery**

14

15 The Board's RP-2004-0188 Electricity Distribution Rate Handbook Report provides the  
16 authorization to seek recovery of LRAM and SSM. This Report refers to the Board's December  
17 2004 Decision RP-2004-0203, concluding that a retrospective LRAM was appropriate for CDM  
18 expenditures and that a distributor shareholder incentive was an appropriate way to encourage  
19 distributors to pursue CDM programs.

20

21 On April 28, 2005, the Board issued, under RP-2004-0203, a document entitled "Guidelines for  
22 Electricity Distributors Wishing to Apply for SSM Incentives for 2005 Implementation of CDM  
23 Plans" (the SSM Guidelines). The Total Resource Cost (TRC) Guide issued on September 8,  
24 2005, and revised October 2, 2006, further assists distributors in meeting filing requirements for

1 2005 and 2006 CDM plans. Enersource has relied on and followed the SSM Guidelines and the  
2 TRC Guide.

3

#### 4 **LRAM and SSM Amounts**

5

6 The LRAM and SSM amounts are related to Board-approved CDM activities undertaken by  
7 Enersource in rate years 2005 and 2006. All of the CDM programs for which LRAM and SSM  
8 amounts are sought were undertaken in connection with:

- 9
- 10 • Enersource's third installment of incremental Market Adjusted Revenue Requirement  
11 ("MARR") related to CDM initiatives; and
  - 12 • Enersource's "second generation" CDM spending obligations.

13

14 The total LRAM amount related to the CDM results achieved in both 2005 and 2006 is  
15 \$370,246. It has been calculated by summing the products of:

- 16
- 17 • the CDM-related load reductions for each customer class by year; and
  - 18 • the authorized variable distribution rate for that customer class.

19 Enersource has tracked its CDM results by customer class. This data has been relied on to  
20 calculate the SSM and LRAM amounts attributable to each customer class. Enersource proposes  
21 that these amounts be recovered from the respective customer class through a volumetric rate  
22 rider calculated based on the energy charge parameter for the 2008 Test Year.

23

24 The total after-tax SSM amount, calculated in accordance with the SSM Guidelines and the TRC  
25 Guide, is \$0.817 million. The total pre-tax amount proposed for recovery through rates is \$1.280  
26 million, which is obtained by grossing up the after-tax figure using a marginal tax rate of  
36.12%. ExD/Sched2/Tab10 sets out the LRAM and SSM amounts by class.

27

1 **Determination of LRAM Amount**

2 Enersource's LRAM claim in this Application is \$0.370 million (ExD/Sched2/Tab10.2).

3 Enersource has determined the LRAM amounts by class in a manner consistent with the Board's  
4 Report (RP-2004-0188). By construction, an LRAM accounts for any variance between  
5 achieved CDM results and the assumed level of charge parameters used to set rates. For both  
6 2005 and 2006 rates, no forecast of or adjustment for the effect of CDM activities was made to  
7 the level of the charge parameters used to calculate rates. Therefore, the entire actual load  
8 reduction achieved by the eligible CDM programs is subject to LRAM treatment. For residential  
9 and small general service CDM programs, load impacts were calculated based on the approved  
10 savings per program as provided in the TRC Guide and the number of installations. For programs  
11 targeted to larger customers, reductions in kW were calculated based on engineering information  
12 specific to the type of equipment installed and other relevant operating parameters.

13

14 The claimed LRAM was calculated on a customer class level. The achieved savings, in kWh or  
15 kW, of the period were multiplied by the variable distribution rates authorized for the period.  
16 Where applicable, the Transformer Allowance was deducted from the volumetric distribution  
17 rates. The achieved savings were not adjusted for free riders. This is consistent with the express  
18 purpose of an LRAM: to hold distributors whole from a revenue perspective for load losses  
19 stemming from CDM programs independent of whether the distributor's actions gave the  
20 customer an incentive to participate in the programs.

21 **Determination of SSM Amount**

22 In accordance with the Board's RP-2004-0203 Report, Enersource seeks a net SSM award of 5%  
23 of the net TRC benefits (or in the case of program support, costs) for each program. The sum of  
24 these, \$0.817 million, represents Enersource's after tax SSM claim in this Application. The  
25 corresponding pre-tax amount to be recovered in rates is \$1.280 million (ExD/Sched2/Tab10.3).

1 Enersource's calculations of the claimed SSM amount, both on a program specific basis and in  
2 total, follow the methodology set out in the TRC Guide. The SSM claim is based on free-rider-  
3 adjusted achieved results, and is a function of the net present value ("NPV") of program benefits.  
4 Program net benefits, in turn, are determined by the present value of the benefits, comprised  
5 mainly of avoided electricity related costs, offset by the present value of program costs (both  
6 evaluated over the program's life). Both benefits and costs are assessed from a societal  
7 perspective, so that incentive payments, which are transfers between parties rather than resource  
8 costs, cancel out and can be excluded. The TRC Guide prescribes the calculation methodology as  
9 well as many of the relevant parameters. For each eligible program, gross load reductions, in  
10 kWh or kW, are calculated in accordance with TRC guidelines. The gross load reductions are  
11 further reduced to account for the 'free rider' factor applicable to each program. Essentially, free  
12 riders are program participants who would have undertaken the load reduction measure in the  
13 absence of the program. For purposes of determining SSM amounts, the estimate of the free rider  
14 benefits (expressed as a percentage) is therefore removed from the calculation of the NPV of  
15 program benefits.

16

17 Load reductions are valued financially using avoided cost figures provided by the Board in the  
18 TRC Guide. The avoided cost figures are distinguished between winter, summer, and shoulder  
19 periods during the year, and further into on-peak, mid-peak, and off-peak categories. The  
20 avoided unit costs are applied to the corresponding load reduction figures to arrive at nominal  
21 annual avoided costs per measure per year, over the number of years of the program's life. The  
22 stream of annual benefits is then discounted to arrive at the NPV of the program's benefits.  
23 Enersource used a Weighted Average Cost of Capital of 6.07% as the after tax discount rate,  
24 based on Enersource's deemed capital structure and the cost of capital assumed for rate making  
25 purposes. Enersource, and in some cases external program partners (customers), incurred direct  
26 costs to implement each CDM program. Enersource maintains records of internal direct costs  
27 charged to each program, and has entered these into the TRC model calculations for each  
28 program. Internal direct costs include both invoiced costs from external parties and costs of staff

1 who are dedicated to the CDM function. In accordance with TRC guidelines, direct incremental  
2 costs incurred by program partners were added to those incurred by Enersource, to arrive at a  
3 TRC Cost for the specific initiative or initiatives under a CDM program. The TRC Cost was  
4 then entered in the TRC model to derive the net present value benefits of each CDM initiative.

5

6 Three programs, SMART (Electric) Avenue, SMART meter pilot and On-the-Bill (Financing)  
7 Payment Plan, resulted in net costs rather than benefits. Enersource has included these negative  
8 values in calculating the total SSM amount applied for, since these net costs represent the  
9 outcome of the program. Further, Enersource has included one program which has not resulted  
10 in any savings to date, Load Displacement. This program also results in net costs at this time,  
11 but we have the expectation of future savings.

12

13 Overall program support costs are allocated to specific customer classes according to the  
14 proportion of total SSM benefits accounted for by that class.

1 Management Fees/Recoveries

2

3 Enersource seeks to recover \$0.758 million in Management Fees net of Recoveries in the 2008  
4 Test Year. This amount includes:

- 5 • Management Fees of \$8.243 million; and  
6 • Recoveries of (\$7.485) million;

7

8 ExD/Sched2/Tab1 provides the amounts forecast to be incurred in the 2008 Test Year and in the  
9 2007 Bridge Year as well as the amounts actually incurred in the 2006 Historic Year. The nature  
10 of these costs is discussed below.

11

12 Management Fee

13 Enersource forecasts a management fee of \$8.243 million in the 2008 Test Year and seeks to  
14 recover this amount through rates. This is approximately 6.5% of Enersource's 2008 Test Year  
15 revenue requirement.

16

17 The service agreement that governs the provision of these corporate functions by Enersource  
18 Corporation to Enersource is provided at ExA/Sched14.

19

20 Enersource Corporation charges Enersource a monthly fee for the provision of the following  
21 corporate services:

- 22 • Finance;  
23 • Legal;  
24 • Human Resource;  
25 • Purchasing; and  
26 • Executive Management;

27

1 The costs of these corporate services and the applicable cost drivers are budgeted. Where cost  
2 drivers cannot be determined easily, an estimate of the benefits received by each affiliate was  
3 made by estimating the time spent by each functional area based on prior experience. The actual  
4 costs charged are allocated based on the budgeted allocation percentage (e.g. Human Resource  
5 costs are allocated by headcount).

6  
7 The costs of the corporate services provided pursuant to the Service Agreement are principally  
8 labour costs. These costs are competitively determined. Enersource Corporation's Human  
9 Resources department conducts the majority of recruiting initiatives and so is well aware of the  
10 prevailing cost of labour, both in the Mississauga and the Greater Toronto Area labour market.  
11 The Human Resources department also routinely surveys the labour market to ensure that  
12 compensation levels throughout the Enersource family of companies are competitive.

13

14 Recoveries

15 Enersource distribution activities can be divided into:

- 16
- 17 • specific infrastructure capital projects;
  - 18 • non-infrastructure capital programs; and
  - 19 • operating and maintenance activities.

20 Enersource tracks its actual incurred costs on a business unit basis and uses work orders to  
21 ensure that costs are correctly assigned to the business unit that causes the cost.

22

23 The costs associated with distribution activities are primarily related to:

- 24
- 25 • Labour;
  - 26 • Materials; and
  - 27 • Equipment usage.

1 Enersource uses daily timesheets to support tracking labour costs and equipment usage costs to  
2 specific projects or essential programs. The applicable labour costs and equipment usage costs  
3 include benefits and applicable burdens.

4  
5 Enersource applies a standard materials handling overhead charge, or surcharge, to the materials  
6 costs of all items that are initially purchased as inventory items. This overhead charge is  
7 designed to cover the indirect costs incurred as a result of procuring inventory, materials  
8 handling and storage of inventories.

9  
10 The materials handling overhead charge is applied when the item is withdrawn from inventory  
11 and is issued to a work order.

12  
13 Labour rates  
14 The standard labour rates for unionized staff for the 2007 Bridge Year and 2008 Test Year are  
15 provided at ExD/Sched2/Tab4. The labour rates for non-union staff are based on the information  
16 gathered through the annual budget process; non-union staff rates charged to projects or  
17 programs are based on a blended rate in order to protect confidential information. The actual  
18 rate charged out for non-union staff depends on the relevant staff's position grade level.  
19 Enersource estimates the amount of time that each resource will spend on operating, capital or  
20 recoverable activities based on the budgeted level of capital expenditures and other projects.

21  
22 Benefits  
23 The benefit rate is used to recover the costs incurred for statutory deductions, including Canada  
24 Pension Plan ("CPP"), Employment Insurance ("EI"), Workers Safety Insurance Board and  
25 Employer Health Tax, as well as public holiday, vacation, health care benefits and pension costs.  
26 Enersource forecasts the benefits rate based on past experience as an average that is applied to  
27 the employee's regular wages. The average benefit rate varies depending on the classification of  
28 the subject position as:



- 1       • outside unionized;
- 2       • inside unionized; or
- 3       • non-union.

4

5 It also varies because of differences in the type of benefits received. The computed benefit rates  
6 are applied consistently to operating, capital and recoverable wage costs.

7

8 For the 2007 Bridge Year and for the 2008 Test Year, Enersource relies on the benefits rate  
9 computed for the 2006 Historic Year:

- 10       • Outside hourly employee benefit rates will be applied to wages at a rate of 53%;
- 11       • Inside salaried employees benefit rates will be applied to wages at a rate of 31%; and
- 12       • Non-union salaried employees benefit rates will be applied to wages at a rate of 27%.

13

14 These rates represent a blended average rate for the entire year due to varying levels of benefit  
15 costs incurred in the year (e.g., CPP and EI).

16

17 Labour Burden Rate

18 The labour burden rate for the 2007 Bridge Year and 2008 Test Year is 22%. It applies to direct  
19 labour costs, including overtime costs. It applies to direct labour costs recorded through the  
20 work order system so that indirect labour costs (e.g., of management level employees who do not  
21 complete out timesheets and are involved in the subject project) are appropriately tracked and  
22 assigned. The labour burden rate for the 2006 Historic Year was 20%; it increased due to labour  
23 cost increases associated with management and non-unionized staff. The application of the  
24 labour burden rate results in a reduction of Enersource's operating expenses that are recovered  
25 through distribution rates.

26

27

28

1 Administration Burden Rate

2 The administration burden rate for the 2007 Bridge Year and 2008 Test Year is 18% and applies  
3 to recoverable (or externally charged) activities only. This burden allocates indirect labour costs  
4 associated with collections, accounting (costing and billing of work orders) and Operations  
5 Division overhead. The application of the administration burden rate results in a reduction of  
6 Enersource's operating expenses that are recovered through distribution rates.

7  
8 Material Burden Rate

9 The materials burden rate for the 2007 Bridge Year and 2008 Test Year is budgeted at 15% of  
10 work order material costs, to a maximum of \$150 per item. The materials burden rate allocates  
11 the indirect costs incurred for materials handling and procurement of inventory items. The  
12 recovery of indirect material costs reduces the amount of Enersource's operating costs recovered  
13 through distribution rates.

14  
15 Fleet Recovery Rate

16 Enersource applies the fleet recovery rate at either:

- 17     • an hourly rate; or  
18     • a monthly rate

19 depending on the type of vehicle. It is based on Enersource's fleet operations expense and  
20 vehicle specific depreciation expense. The fleet recovery rate is tracked through the work order  
21 system to allocate expenses appropriately. The application of the fleet recovery rate acts to  
22 reduce Enersource's operating expenses recovered through distribution rates.

23  
24 Facilities Recovery Rate

25 Enersource forecasts that it will recover \$0.335 million in the 2008 Test Year through the  
26 facilities recovery charge. The corresponding amount for the 2007 Bridge Year is \$0.292  
27 million. Enersource owns, operates and maintains the offices at 3240 Mavis Road. These  
28 offices are used by non-regulated Enersource affiliates. The associated expenses are incurred by

1 Enersource and are charged to all other active companies, within the Enersource family of  
2 companies, based on headcounts. This treatment is consistent with the Board's Affiliate  
3 Relationships Code for Electricity Distributors and Transmitters ("ARC") and is reflected in the  
4 service agreement (ExA/Sched14) between Enersource and its affiliates. The application of the  
5 facilities recovery rate acts to reduce Enersource's operating expenses recovered through  
6 distribution rates.

7  
8 Information Technology Recovery Rate

9 Enersource forecasts that it will recover \$0.527 million in the 2008 Test Year through the  
10 information technology ("IT") recovery rate. The corresponding amount for the 2007 Bridge  
11 Year is \$0.388 million. Enersource owns, operates and maintains the information and computer  
12 systems used by Enersource and its affiliates (please note Enersource's Customer Information  
13 System ("CIS") is used exclusively by Enersource, Enersource's affiliates do not have access to  
14 the CIS or the information it houses). The associated IT expenses are incurred by Enersource  
15 and are charged to all other active companies, within the Enersource family of companies. This  
16 treatment is consistent with the Board's ARC and is reflected in the service agreement between  
17 Enersource and its affiliates. Information technology costs are allocated based on monthly  
18 headcount figures. The application of the IT recovery rate acts to reduce Enersource's operating  
19 expenses recovered through distribution rates.

20

21

**Operations, Maintenance and Administrative Expenses (000's)**

	<b>Test 2008</b>	<b>Bridge 2007</b>	<b>Actual 2006</b>
<b>Controllable Costs:</b>			
Manpower	25,185	23,505	20,684
Materials	2,006	1,932	1,862
Transportation	1,121	1,108	968
Other	7,897	7,284	5,660
<b>Subtotal Controllable Costs</b>	<b>36,209</b>	<b>33,829</b>	<b>29,174</b>
CDM operating expenses	-	2,600	1,906
Other Expenses	3,534	3,375	2,577
Bad Debt Expense	1,575	1,875	2,580
Management Fees/Recoveries	758	210	(338)
Total Financial Statement - Operations, maintenance and administration	42,076	41,889	35,899
Less: Non-Distribution Expenses/Revenue Reclass			(438)
Total	42,076	41,889	35,461
Add: Capital Taxes	1,482	1,450	1,557
Subtotal	43,558	43,339	37,018
Amortization of capital assets	34,357	32,007	30,275
Amortization of regulatory assets	(2,817)	6,129	7,144
<b>Total Distribution Expenses</b>	<b>75,098</b>	<b>81,475</b>	<b>74,437</b>

Note: all amounts in \$ 000's

**Operations, Maintenance and Administrative Expenses**

Note: all amounts in '000s of \$

	<b>2008 Budget</b>	<b>2007 Forecast</b>	<b>2006 Actual</b>
CONTROL SYSTEM	1,837	1,672	1,707
CORPORATE RECORDS	908	792	585
GROUNDS & BUILDINGS	1,946	1,785	1,539
SUBSTATION OPERATIONS	2,044	1,965	1,388
SYSTEM PLANNING	372	292	205
TROUBLE TRUCK	106	107	102
CABLE LOCATES	656	639	570
UNDERGROUND MAINTENANCE, REPAIRS & BURNOFFS	2,275	2,215	2,073
OVERHEAD MAINTENANCE & REPAIRS	1,997	1,976	1,645
TREE TRIMMING	770	765	694
GARAGE (FLEET)	1,694	1,612	1,523
OVERHEAD CONSTRUCTION	805	764	685
IND/COM'L CUST PROJ/INSPECTIONS	799	775	884
STORES	1,128	975	843
<b>OPERATIONS</b>	<b>17,336</b>	<b>16,333</b>	<b>14,443</b>
CUSTOMER SERVICES ADMIN	1,864	1,705	1,613
SETTLEMENTS	928	903	624
CUSTOMER ACCOUNTS	4,769	4,611	3,789
CUSTOMER BILLINGS	517	493	523
METERING	980	885	707
<b>CUSTOMER SERVICE</b>	<b>9,058</b>	<b>8,597</b>	<b>7,255</b>
<b>ADMINISTRATION</b>	<b>4,539</b>	<b>4,216</b>	<b>3,580</b>
<b>INFORMATION TECHNOLOGY SUPPORT</b>	<b>5,275</b>	<b>4,682</b>	<b>3,896</b>
<b>TOTAL OPERATIONS, MAINTENANCE AND ADMINISTRATION EXPENSES</b>	<b>36,209</b>	<b>33,829</b>	<b>29,174</b>

Mississauga Inc.  
EB-2007-0706  
ates Applicator  
August 22, 2007  
Exhibit D  
Schedule 2  
Tab 2



**Billing and Collections**  
**Number of Bills Data**

2007 Bridge Year

Customer Class	# of customers	bills/year	# of Bills
Residential	161,623	6	969,738
Commercial/Industrial	20,654	12	247,848
<b>Total</b>	<b><u>182,277</u></b>		<b><u>1,217,586</u></b>

2006 Historic Year

Customer Class	# of customers	bills/year	# of Bills
Residential	158,837	6	953,022
Commercial/Industrial	20,350	12	244,200
<b>Total</b>	<b><u>179,187</u></b>		<b><u>1,197,222</u></b>

Variance

Customer Class	# of customers	bills/year	# of Bills
Residential	2,786	6	16,716
Commercial/Industrial	304	12	3,648
<b>Total</b>	<b><u>3,090</u></b>		<b><u>20,364</u></b>



Customer Contact Statistics  
 May 2006 - April 2007

	Outages and Emergencies	Service Requests	Bill and Account Enquiries	TOTAL
Govt Dispute Tests		19		19
New Residentials		2,745		2,745
New Commercial Services(200 amp)		441		441
New Industrial Services (400+)		74		74
Change of Service (upgrade/downgrade)		335		335
Pulse Meter Installed		398		398
Removed Services (Temporary)		293		293
Removed Services (/Demo/Grow/Fire)		117		117
Trouble Calls (Stopped/Damaged)	1,620			1,620
Bill and Account Enquiries			143,477	143,477
<b>Total</b>	<b>1,620</b>	<b>4,422</b>	<b>143,477</b>	<b>149,519</b>
As a Percentage of Total Calls Answered	1%	3%	96%	

**ENERSOURCE CORPORATION  
COLLECTIVE AGREEMENT**

**between**

**ENERSOURCE CORPORATION &  
ENERSOURCE HYDRO MISSISSAUGA INC.  
(hereinafter called "The Employer")**

**and**

**LOCAL UNION 636 OF  
THE INTERNATIONAL BROTHERHOOD OF  
ELECTRICAL WORKERS  
(hereinafter called "The Union")**

**April 1, 2006 - March 31, 2010**

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## **PREAMBLE**

It is the intent of the Parties in entering into this Agreement to find a positive way of achieving harmonious and mutually supportive relationships among the Employer, the Employees and the Union, which will keep the Employer in a strong, competitive market position.

In consideration of the community of interest between the Union and the Employer the intent of the parties to this Agreement is understood to be to establish satisfactory formal relations between Employees and Management and, consistent with the rights of both parties under this Agreement, to provide for the orderly collective bargaining of terms and the prompt and equitable disposition of grievances.

Furthermore, the Parties have concluded that a positive approach to labour relations is vital, therefore, the Parties are entering into this Agreement as partners.

## **ARTICLE 1 - RECOGNITION**

- 1.1 The Employer recognizes the Union as the sole Collective Bargaining Agent for all Employees and Students of the Employer, save and except Supervisors, those above the rank of Supervisor, Confidential Secretaries, Programmers, Analysts, Auditors, not more than four (4) persons not regularly employed more than twenty-four (24) hours per week, and individuals employed on a Government-sponsored program.
- 1.2 If Enersource Hydro Mississauga Services Inc. becomes an operating Company, employing employees performing work currently recognized under Schedules A and B, this Employer (Enersource Hydro Mississauga Services Inc.) recognizes Local 636, IBEW as the bargaining agent of such employees.

## **ARTICLE 2 - EMPLOYEE CLASSIFICATION**

- 2.1
  - a) Probationary Employees are those who are hired with the understanding that they will become Regular Employees provided that during the Probationary Period of one hundred and ten (110) days worked, they exhibit the required ability and qualifications. Such period of time may be extended for an additional (110) days worked by mutual consent of the parties.
  - b) The service of a Probationary Employee may be terminated by the Employer at any time during the Probationary Period for any reason not contrary to law.
  - c) Probationary Employees shall be entitled to the benefits of this Agreement only where the entitlements of Probationary Employees are specifically stated in a particular clause.

- 2.2** a) Temporary Employees are those hired to work during a period when additional work of any nature requires temporarily augmented forces, or in the event of any emergency, or to relieve Regular Employees because of illness, or to work during vacation periods. If a Temporary Employee is hired for a period of longer than one hundred and ten (110) consecutive working days, that Employee shall be considered as a Regular Employee unless such Temporary Employee has been hired to fill a vacancy which was either directly or indirectly caused by a Regular Employee being absent because of pregnancy, parental or adoption leave. Such vacancies, if longer than 2 months, will initially be posted.
- b) The services of a Temporary Employee may be terminated by the Employer at any time during the one hundred and ten (110) consecutive working days temporary period for any reason not contrary to law.
- c) Temporary Employees and Students shall be entitled to the benefits of this Agreement where the entitlements of Temporary Employees and Students are specifically stated in a particular clause.
- d) Temporary Employees shall work either a 35 or 40 hour week.
- 2.3** Regular Employees are those who have been employed by the Employer for more than one hundred and ten (110) days worked and who have successfully completed the Probationary Period.
- 2.4** In the event that a Temporary Employee is to become Probationary the time worked as temporary shall be credited as probationary as follows:

TEMP TIME \ JOB	SAME JOB	NEW JOB
LESS THAN 55 DAYS	110 DAYS PROBATION	110 DAYS PROBATION
55 - 110 DAYS	TOTAL SERVICE UP TO 110 DAYS	55 DAYS PROBATION
110 +	REGULAR STATUS	REGULAR STATUS

- 2.5** The Employer agrees to pay 100% of the premium cost of Health and Dental Care benefits after 55 days worked for Probationary Employees.
- 2.6** In the event that an Employee or Temporary Employee subject to Article 2.4 is hired into a regular position within six (6) months of terminating, then the Probationary Period shall not exceed fifty-five (55) days worked.

- 2.7** Students may be employed either for the summer vacation period, extending from April 15th to September 15th each year, or on work terms of a co-operative training program with a University or College.
- 2.8** (a) Part-time employees are those who are hired on a permanent part-time basis and work a maximum of twenty-four (24) hours per week.
- (b) Seniority will be based on hours worked per calendar year. Part-time seniority shall be recorded on the seniority list as a proportion to equivalent full-time employees.

### **ARTICLE 3 - UNION MEMBERSHIP AND PAYMENT OF DUES**

- 3.1** Present Employees who are members of the Union shall be required to maintain such membership.
- 3.2** All new Employees hired by the Employer, excluding, casual labour and students hired for the school vacation period, shall become and remain members of the Union and application for membership shall be made prior to commencing employment.
- 3.3** All Employees, including casual labour and students hired for the school vacation period shall be required to authorize the deduction of regular monthly Union dues and initiation fees for new Employees from their pay. The amounts so deducted shall be forwarded to the Union so that the dues are received by the Union no later than the tenth (10<sup>th</sup>) day of the month following the month in respect of which the dues are deducted. This submission shall be accompanied by an alphabetical listing of the names of each Employee on behalf of whom the deductions were made and the amount deducted on behalf of each Employee and the information upon which such deductions were calculated.

The Employer will notify Unit Chairperson when new Employees are hired and also when Probationary Employees have successfully completed their probationary period.

- 3.4** Employees covered by this Agreement shall receive copies of this Agreement, and a list of Representatives and Stewards, provided by the Employer as soon as possible but no later than one month after the date of employment.

### **ARTICLE 3 - UNION MEMBERSHIP AND PAYMENT OF DUES**

- 3.5** For clarification purposes, the Union does not collect dues from Employees while they are covered on long term disability benefits as per Article 18.2 or unpaid leave of absence of this Agreement and furthermore, the Employer agrees to indicate on the check off list Employees on LTD or unpaid leave of absence.

### **ARTICLE 4 - GOODWILL**

- 4.1** a) Except where abridged by the specific terms of this Agreement, the Employer shall retain the exclusive right to manage its business and direct the working force. Without limiting the generality of the foregoing, the direction of the working forces shall include, among others the right to hire, discharge, suspend, promote, demote, classify, transfer, discipline, and schedule work assignments and make, amend and enforce such rules and regulations as shall from time to time be required.
- b) The Employer shall not exercise its rights to direct the working force in a discriminatory manner, nor shall any Employee be discharged or disciplined except for just cause.
- 4.2** The Employer shall exercise its rights in a manner consistent with the terms of the Collective Agreement.
- 4.3** a) The Employer agrees that no work shall be sublet or contracted out to any person or firm that will necessitate the laying off of any Regular Employee.
- b) No Regular Employee will be laid-off while a Student, Temporary Employee, Part-time Employee, or individual employed on a Government-sponsored program is retained whose work the Regular Employee is capable of performing.
- 4.4** The Employer is responsible for the safety, comfort and general welfare of the Customer in respect of the service of electrical energy and each Employee who is subject to the terms of this Agreement is prepared, when called, to assist at all hours of the day or night in the provision of such service.
- 4.5** a) The Employer assures the Union that all reasonable efforts shall be made to offer work to any Regular Employee displaced by technological change, although such offer is conditional upon any affected Employee's willingness and ability to perform the work offered to the satisfaction of Management upon completion of any training prescribed. Where the rate of the new position is less, the difference in rates will be used to calculate retrogression steps to adjust the rate to that of the new position in four (4) equal amounts within 24 months.

The Employee shall be allowed a training and familiarization period of twenty-five (25) working days. 683

## **ARTICLE 4 - GOODWILL**

### **4.5 b) Advanced Notice**

When the Employer has determined that technological change, which will eliminate or significantly change a job, will be introduced, the Union will be provided not less than two (2) months advance notice and will be given the opportunity for discussion.

### **c) Priority Rights**

During the advance notice period as described in Article 4.5 (b), Employees who are so affected will have priority rights to fill any posted vacancy of an equivalent or lower classification level, provided they are qualified, with the Employee with the greatest employment seniority having first priority rights.

**4.6** The Employer agrees that Regular Employees may apply for and receive tuition reimbursement consistent with the terms and conditions of the Tuition Reimbursement Programme set out as Pro-24 in the Corporate Procedure. Where a Regular Employee voluntarily resigns within one (1) year of reimbursement of tuition, the Employee shall reimburse 50% of the Employer-paid portion of Tuition Assistance.

**4.7** The Employer and the Union agree there shall be no discrimination, interference, restriction or coercion exercised or practiced with respect to employment or conditions of employment against a person as provided under the Ontario Human Rights Code and there shall be no discrimination for Union activity.

**4.8** Substance abuse is a serious medical and social problem which can affect Employees, their families and the safety of the individual and fellow workers. The Employer and the Union actively promote and encourage early diagnosis and treatment which assists Employees towards full rehabilitation.

Medical treatment necessary will be covered under Article 18.

**4.9** In the event there is a merger with another Employer, Company or Companies, in which the covered Employees therein are represented by another Union, the representation rights and the Collective Agreement and the status quo of Local 636 IBEW members shall be maintained in respect of those members until a final determination is made under the Labour Relations Act of Ontario or any successor organization as to the proper representation of the combined group.

**4.10** Should the Employer merge, amalgamate, or combine any of its operations or functions with another Employer, Company or Companies, the Employer agrees to give the Union as much notice as practically possible prior to any intent by the Employer to implement the above.

**4.11** In the event of organizational re-structuring, Enersource will observe all of the terms and conditions of the Collective Agreement, seniority will be retained and Employees will remain able to apply for any posted position



**4.12** This Agreement shall be binding upon the Parties hereto, their Successors, Administrators, Executors and Assigns.

## **ARTICLE 5 - GRIEVANCE PROCEDURE**

If the Employee has a grievance or complaint, the Employee may discuss the grievance with the Supervisor with a Steward in attendance if the Employee so elects.

Any difference concerning the interpretation, application, administration or alleged violation of the provisions of this Agreement, except with respect to the discharge of a Probationary Employee, shall be dealt with in the following manner:

- 5.1 STEP 1** A Regular Employee wishing to present a grievance shall submit the grievance in writing to the Supervisor/Manager indicating the nature of the grievance and the remedy sought. The Supervisor/Manager shall reply within three (3) working days after having received the grievance.
- 5.2 STEP 2** If the reply of the Supervisor/Manager is not satisfactory to the Employee concerned, the written grievance shall be referred to the Vice President and President's designate within three (3) working days after the reply of the Supervisor/Manager. The Vice President and President's designate shall meet with the Employee and members or designates of the Grievance Committee of the Union within five (5) working days to discuss the grievance. A reply to the grievance shall be given in writing within five (5) working days after the meeting has been held at this stage of the grievance procedure.
- 5.3** Any of the time allowances provided in (1) and (2) of this Article may be extended by mutual agreement between the parties concerned.
- 5.4** If a grievance is to be referred to arbitration, it shall be so referred within twenty (20) working days after the date of the reply referred to in (2) above.
- 5.5** Management may refuse to consider any grievance the circumstances of which occurred more than ten (10) working days before it was brought to the attention of the Supervisor/Manager.
- 5.6** In the event of a group grievance, a policy grievance or a grievance respecting the discharge or suspension of a Regular Employee, the grievance shall be in writing indicating the nature of the grievance and the remedy sought. The grievance will be processed commencing at Step Two (President or designate) of the grievance procedure. This clause shall not be used for the purpose of abridging the right of the Employee or process grievances, nor shall it be used for the purpose of submitting matters which to be handled through the grievance procedure by Employees.

## **ARTICLE 5 - GRIEVANCE PROCEDURE**

- 5.7** The Grievance Committee shall consist of no more than three (3) Employees.
- 5.8** If either party of this Agreement claims there has been a violation or misinterpretation of the terms of this Agreement by the other party, it may state such claim in writing which will be processed as a grievance commencing at Stage Two of the grievance procedure.

## **ARTICLE 6 - ARBITRATION**

### **6.1 Step 1**

Arbitrators shall be selected from a rotating panel of Arbitrators, the members of which are mutually selected by both parties (see list below). Each Arbitrator will be called upon to act on a rotational basis and the Arbitrator will be contacted to determine availability. If the Arbitrator is not available within ninety (90) days but is available at a later date, the parties may agree to accept that date or will proceed to the next Arbitrator in order of rotation in the same manner until a mutually acceptable date is agreed. In the event there is no agreement the first available Arbitrator will be selected. Panel of Arbitrators:

Gerald Charney  
Louisa Davie  
Rick MacDowell

### **Step 2**

The Arbitrator shall meet as soon as possible with both parties to hear evidence and receive representations.

- 6.2** No person may be appointed as an Arbitrator who has been party to an attempt to negotiate or settle the grievance unless both parties agree.
- 6.3** The award of the Arbitrator shall be confined to determining the issues set out in the grievance.
- 6.4** The findings of the Arbitrator as to the facts and as to the interpretations of violation or non-violation of the provisions of this Agreement shall be conclusive and binding upon all parties concerned, but in no case shall the Arbitrator be authorized to alter, modify or amend any part of this Agreement. The decision of the Arbitrator shall be binding upon the parties.
- 6.5** The Employer and the Union shall respectively pay the expenses of the Arbitrator and shall be borne equally by the Employer and the Union.
- 6.6** In cases of suspension, discharge or discipline grievances, they may be settled by confirming the Employer's decision in discharging or suspending the Employee or by reinstating him without loss of seniority and reimbursing him in full or in part or by any other arrangement which is just and equitable in the opinion of the sole Arbitrator.

## **ARTICLE 6 - ARBITRATION**

- 6.7** Notwithstanding the above provisions of Article 6, it is recognized that either party to this Agreement may request the Minister of Labour for Ontario to refer to a single Arbitrator, to be appointed by the Minister, as provided in Section 49 of the Labour Relations Act of Ontario or as amended.
- 6.8** Except by mutual agreement between the parties to this Agreement, no matter may be submitted to arbitration which has not been properly carried through the grievance procedure.

## **ARTICLE 7 - LOCKOUTS AND STRIKES**

- 7.1** There shall be no strikes or lockouts as defined in the Labour Relations Act during the term of this Agreement.
- 7.2** Notwithstanding any other provision of this contract, the failure or refusal of any Employee to pass through or work behind any picket line lawfully established shall not be deemed a breach of this contract, and the Employer shall not discharge, discipline or otherwise discriminate against any such Employee.

## **ARTICLE 8 - JOB POSTING**

- 8.1** In respect of classifications covered by this Agreement, any job becoming vacant or any new job created by the Employer shall, within ten (10) working days after becoming vacant or being created, be posted along with its rate of pay, for five (5) working days. All Regular Employees of the Employer shall have the opportunity to make application for the job. All laid-off Employees shall have the first opportunity for job vacancies prior to posting. All Regular Employees will have the first opportunity for any job posting prior to Temporary and Part-time Employees. Applicants shall be interviewed and assessed prior to non-bargaining unit persons being interviewed.
- 8.2** a) In the event of promotion from a lower rated classification, such promotion shall be made from those Employees who qualify.
- b) Any Regular Employee promoted to the next higher group of position classification shall, as a minimum, advance from their current step to one step less in the next higher group for Schedule "B" Employees.
- 8.3** In case of promotion from lower to higher rated classification, the skill, ability, experience, and general work record of Employees will be the governing factors, and where these factors are substantially the same, seniority will govern.

## **ARTICLE 8 - JOB POSTING**

- 8.4** When a job has been posted, the name of the successful applicant shall be posted on the bulletin board, and the job awarded in the manner set forth herein. The successful applicant shall either begin the job as soon as possible and at the appropriate rate of pay, or shall be paid the rate of pay within thirty (30) working days after the job has been posted, regardless of whether the actual transfer to the job has been made.
- 8.5** The list of Employees who apply for jobs shall be forwarded to the Unit Chairperson within five (5) working days and those who are not successful in their application shall be given the reasons verbally and, if requested, in writing within five (5) working days. The Union will be notified of the name of the successful candidate at the time the offer has been accepted.
- 8.6** The rate of any new job classification in Schedules "A" and "B" shall be established by the Employer in consultation with the Union. In the event of failure to agree on the rate, the matter may be submitted to the grievance procedure.
- 8.7** The Employer shall not be required to post any job becoming vacant and not to be filled, provided the Union is notified, in writing, of the reasons for not filling the vacancy.
- 8.8** Employees going on vacation may pre-apply under the Job Posting provisions with the Human Resources Department should a job vacancy become available during their absence.

## **ARTICLE 9 - SENIORITY**

- 9.1** a) The Seniority of any Employee shall be defined as the length of continuous service in the employ of the Employer in the bargaining unit and shall include all continuous service with the Employer from the most recent date of hire.
- b) If separate Bargaining Units are created, any Employee who transfers between units shall suffer no loss of any contractual benefits or entitlements to which they would otherwise have been entitled as of the date of the transfer. Accordingly, whenever an Employee is awarded a job opportunity in another Bargaining Unit, the parties shall meet and enter into an agreement with respect to what contractual benefits shall transfer with the Employee. Any dispute with respect to what contractual benefits and/or entitlements are transferred, shall be resolved through the Grievance and Arbitration procedures defined by this Agreement.
- 9.2** The foregoing section notwithstanding, in the event any Employee in the bargaining unit is promoted to a classification excluded from the bargaining unit, the Employee shall continue to accumulate and shall retain seniority for a period of twelve (12) months beyond the effective date of promotion.

**9.3** The Employer shall provide to the Unit Chairperson quarterly, a current seniority list with the names, positions and dates of commencement of service of Employees and shall forward such lists to the Union. A list of all Temporary Employees will also be provided.

**9.4** An Employee shall lose seniority and employment status if:

- a) The Employee resigns.
- b) The Employee is discharged for just cause and not reinstated by the grievance procedure.
- c) The Employee is laid off for a period exceeding fifteen (15) consecutive months.
- d) The Employee fails to return after lay-off within ten (10) consecutive days, excluding Saturdays, Sundays and Recognized Holidays after being notified by registered mail to do so, although if such failure is caused by illness certified by a duly qualified medical practitioner, the time for return may be extended while the Employee is prevented by illness from returning to work for a further period not to exceed a maximum of six (6) calendar months.
- e) The Employee is absent five (5) or more consecutive working days without notifying the Employer or providing a reasonable explanation.
- f) The Employee retires.

**9.5** Lay-Off and Recall

- a) Where a lay-off is necessary, the Employee with the lowest seniority in the affected classification, shall displace an Employee who has lesser seniority in the same job classification or lower classification.
- b) Failing (a) Employees shall have the opportunity to fill any job vacancy at their own grade level.
- c) Failing (b) Employees shall displace an Employee who has lesser seniority at their own grade level.
- d) Failing (c) Employees shall have the option to displace an Employee who has lesser seniority on the same grade level.
- e) The process set out above shall be repeated at each lower grade level by the affected Employees, or by those Employees whom they have displaced, as the case may be, until all such Employees have been placed into jobs or laid off.

- f) This will not restrict the right of any Employee who has previously satisfactorily performed a job in a higher grade level from exercising their seniority rights to acquire such a job.
- g) A training and familiarization period of up to thirty (30) working days shall be provided to Employees affected by lay-off.
- h) The benefits of a laid off Employee will be paid in accordance with the Employment Standards Act.
- i) Employees shall be recalled in the reverse order of seniority in which they were laid off. An Employee being recalled shall have sufficient skills and ability to perform the work.
- j) A laid off Regular Employee will be recalled in the event of a job vacancy prior to posting provided the Employee has sufficient skills and ability to perform the work.
- k) A Regular Employee laid off due to lack of work shall retain right of recall for a period of fifteen (15) consecutive months from the date of layoff, shall be required to keep Management advised of a current address, and, if recalled shall be required to report for work within ten (10) working days. The laid off Employee will be contacted by registered mail.
- l) The Union shall be notified in writing of layoffs and recalls.
- m) The Unit Chairperson, Unit Vice-Chairperson and Chief Steward of Local 636, IBEW Unit #3 while holding such office shall be retained by the Employer in the event of lay off as long as there is work that they are qualified and willing to perform.

## **ARTICLE 10 - WORKING HOURS**

- 10.1 a) Except as otherwise provided in this Agreement a normal work week shall be forty (40) hours consisting of five (5) eight hour days Monday to Friday from 0730 to 1600 hours inclusive of a half hour unpaid meal period. Effective November 1, 2006, from 0630 to 1500 hours inclusive of a one half (1/2) hour unpaid meal period year round for Schedule "A" Employees. .
- b) Unless otherwise mutually agreed to, all bargaining unit Employees shall report for work at the main service centre which is 3240 Mavis Road, Mississauga.

## **ARTICLE 10 - WORKING HOURS**

- 10.2** Except as otherwise provided in this Agreement the meal period will start at 1200 hours and may be adjusted one-half (1/2) hour either way subject to the requirements of the day. Employees who are required to work during the meal period, in addition to the normal hours of the day, shall be paid double time for the work performed.
- 10.3** Except as otherwise provided in this Agreement each Employee shall be entitled to rest periods of fifteen (15) minutes duration, one in the first and one in the second half of each scheduled work day, at a time and place designated by the Supervisor.
- 10.4** The Employer shall be responsible for shift coverage arising from approved vacations, illness or any other absences.
- 10.5** a) The normal work week for Schedule 'B' Employees with the exception of Technicians shall be thirty-five (35) hours consisting of five (5) days of seven (7) hours per day (not before 0800 hours and not later than 1800 hours, but continuous except for the meal period) from Monday to Friday inclusive.
- b) The normal work week for Technicians, Outage Co-ordinator shall be forty (40) hours consisting of five (5) days of eight (8) hours per day (not before 0730 hours and not later than 1800 hours, but continuous except for the meal period) from Monday to Friday inclusive.
- 10.6** The following conditions apply to Employees working at sites outside of City of Mississauga where, Employees must remain overnight at the Worksite:
- a) Enersource Corporation will undertake contractual work from time to time in locations outside of the City of Mississauga utilizing resources from the trades pool.
- b) This letter amends Article 10 1(b) permitting the change necessary to workplace reporting from 3240 Mavis road as referenced in this article and applies to those projects where Employees must remain overnight at the work site.
- c) The following terms and conditions will apply to those Employees who voluntarily agree to work at contractual work sites outside of the City of Mississauga.
- d) Crews will depart from 3240 Mavis Road, Mississauga at the start of the assignment and drive to the designated location using company vehicles. Thereafter Employees will report to the work site at the designated start time which will be no earlier than 6:30 a.m.
- e) The working day will be flexible in duration as agreeable to the Employee work unit before the job starts. At no time hours will exceed 16 hours in any one day.
- f) Overtime will be payable once 10 hours per day and/or 40 hours per week have been worked.



- g) At the end of the working day, crew will utilize pickups provided and leave bucket trucks and other designated equipment in secure compounds as directed by Management.
- h) Return travel to 3240 Mavis Road, Mississauga shall either occur within the established working hours or will be treated as overtime if 40 hours have been worked on the weekly cycle.
- i) When it is necessary that Employees remain at the work site and it has been agreed that the Employee will be staying elsewhere within commuting range of the site, a cash allowance of \$125 per day per person (\$135 effective April 1, 2007, \$145 effective April 1, 2008, \$150 effective April 1, 2009) will be paid to cover food and accommodation costs. Enersource VISA usage is not permitted. The winter meal allowance will not apply when the lunch meal is otherwise covered under the cash allowance. In the event that accommodation selected by the Employer costs more than \$125 per day, the Company agrees to pay the difference at their expense. See attached map dated January 29, 2003 for work locations when this \$125 will be paid.

For further clarification, the boundaries are: Milton, Halton Hills, Oakville, Brampton, Vaughan, part of Toronto (including Toronto Island), part of Richmond Hill up to Highway 404/Don Valley Parkway.

- j) The Employer shall arrange suitable accommodation in advance of arrival. Accommodation costs shall be paid for by the Employee based on double occupancy. In the event that a single room is required, the company shall pay the additional cost.
- k) The Employee will also be provided with \$75.00 to cover one round trip to and from 3240 Mavis Road, Mississauga every seven consecutive working days.
- l) No mileage allowance will apply as Enersource Corporation pickups will be used to and from site.
- m) Out of town work assignments will be distributed as equitably as possible among the qualified Employees who have voluntarily agreed to sign up for this work, however, Management reserves the right to select Employees having regard to specified skills, customer familiarity, and other legitimate business considerations.
- n) If there are any issues for coverage due to an Employee's absence such as stand by duty, shift coverage, vacation, sick leave, bereavement leave, jury duty, it shall be Management's responsibility to find replacements.
- o) Unit Chairperson to be notified five (5) days prior to start of work outside of Mississauga.



## **ARTICLE 11 - WORKING SCHEDULES**

### **SYSTEM CONTROL OPERATORS**

- 11.1 a) The intent of this Article is to administer the Control Room shift scheduling in a fair and consistent manner for all staff in the Control Room. This will ensure that Management has the ability to utilize staff complements efficiently and effectively while minimizing disruptions to shift workers personal lives.

If a change in the schedule is required, due to a significant change(s) in business conditions and/or a change in the available resource complement, the Union shall, within twenty (20) calendar days, formulate a schedule to be implemented within fifteen (15) days contingent on Management's approval.

The schedule for the following year will be posted two (2) months before the current schedule ends. This schedule will cover the entire year. If more than one schedule is formulated that meets the parameters of the Corporation, then the System Operators will have the opportunity to vote on their preference. In the event that a tie vote occurs, Management shall cast the tie-breaking vote.

Management will arrange schedules for Operators in Training.

- b) The Operator on regular shift rotation working a statutory holiday shall be paid for the statutory holiday worked and , in addition, shall be paid double time for the actual hours worked. The Operator's statutory holiday will always be the calendar date, and not the day designated by the Employer for other Employers.
- c) Operators are required to attend safety sessions and shall be paid at the appropriate rate of overtime for days off.
- d) Operators shall provide notice in writing of tentative arrangements to be taken in the next vacation year and shall confirm arrangements in writing six weeks before the vacation is taken, all such arrangements to be consistent with Article 16 of this Agreement.
- e) The regular minimum complement shall be three (3) qualified Operators on day shifts Monday to Friday (excluding lunch breaks). Qualified shall be deemed to mean an Operator who is in at least their third year of training. There shall be a minimum of one (1) qualified Operator on night shift, Monday to Sunday. There shall be a minimum of two (2) qualified Operators on Saturday/Sunday and Statutory Holidays. Requests for an additional Operator will be considered and the Employer may add an Operator. Replacement coverage (if required to meet minimum complement) for planned absence will be scheduled in advance.

f) The Employer per Article 12.1 may assign all Qualified Operators standby duty as required to manage its business, and Operators on standby duty shall be available for work within the standby hours assigned. The standby duty schedule shall be established annually and posted by October 15<sup>th</sup> of each year. The Employer may revise the schedule from time to time as required to manage its business.

g) The hours of work shall be:

12 Hour Shift Monday to Sunday

D 0700 - 1900

N 1900 - 0700

h) Schedules will normally run from January 1 to December 31.

i) Any changes in the schedule, as per 11.1(a), will be posted at least fifteen (15) days before the new schedule goes into effect. In this situation, approved vacation will be upheld providing that such arrangements do not interfere with the continued operation of the Control Room

j) Twelve (12) Hour Shifts shall be as follows:

i) Nine week, Nine operator rotation

WEEK	S	S	M	T	W	T	F
1	-	-	D	D	D	-	-
2	N	N	-	-	-	D	D
3	-	-	N	N	N	-	-
4	D	D	D	-	-	N	N
5	-	-	D	D	-	-	-
6	-	-	-	-	D	D	D
7	-	-	-	N	N	-	-
8	-	-	D	D	-	-	D
9	D	D	-	-	D	D	-

ii) Eight week, Eight operator rotation

DAYS	S	S	M	T	W	T	F
Week 1	-	-	-	D	D	-	-
Week 2	N	N	-	-	-	D	D
Week 3	-	-	N	N	N	-	-
Week 4	D	D	D	-	-	N	N
Week 5	-	-	D	D	-	-	-
Week 6	-	-	-	-	D	D	D
Week 7	-	-	D	D	-	-	D
Week 8	D	D	-	-	D	D	-

iii) Nine week, Nine Operator, Additional Daytime Coverage:

<b>DAYS</b>	<b>S</b>	<b>S</b>	<b>M</b>	<b>T</b>	<b>W</b>	<b>T</b>	<b>F</b>
<b>Week 1</b>	-	-	-	<b>D</b>	<b>D</b>	-	-
<b>Week 2</b>	<b>N</b>	<b>N</b>	-	-	-	<b>D</b>	<b>D</b>
<b>Week 3</b>	-	-	<b>N</b>	<b>N</b>	<b>N</b>	-	-
<b>Week 4</b>	<b>D</b>	<b>D</b>	<b>D</b>	-	-	<b>N</b>	<b>N</b>
<b>Week 5</b>	-	-	<b>D</b>	<b>D</b>	-	-	-
<b>Week 6</b>	-	-	-	-	<b>D</b>	<b>D</b>	<b>D</b>
<b>Week 7</b>	-	-	<b>D</b>	<b>D</b>	<b>D</b>	-	-
<b>Week 8</b>	-	-	<b>D</b>	<b>D</b>	-	-	<b>D</b>
<b>Week 9</b>	<b>D</b>	<b>D</b>	-	-	<b>D</b>	<b>D</b>	-

**Schedule to be effective on July 1, 2006.**

k) Changes to the schedule, as detailed above, can be made as per Article 11.1(a).

l) Shifts Worked

Total hours per year	2,080	
Less Statutory Holidays	96	
• Break Credit	12	
• Shift Change	<u>40</u>	Credit for missed breaks Credit for 15 minute shift change
Actual Hours Worked	1,932	
# of 12 hour shifts:	$1932/12 = 161$ shifts	

m) Lunch and coffee breaks will be taken as time permits during the shift.

n) Operator meetings will be held as required not to exceed every three (3) months to discuss safety and operating concerns pertaining to the Control Room. All Operators will be required to attend and personnel on days off will be paid at the appropriate rate of overtime.

- o) The Employer shall pay to System Control Operators working the rotating shift an additional shift bonus on basic hourly rates as follows:

**For Weekends:**

**Effective April 1, 2006 at 25%**

**For Weeknights (beginning at 1900 hours):**

**Effective April 1, 2006 at 10%**

- p) The 'bundled premiums' as applicable at the time will be averaged and paid weekly. This premium is also applicable to vacations and short-term disability periods.
- q) 50% / 50% Time Balance. Time Balance is recognized as the shifts worked or to be worked above and beyond the requirement calculated in Art. 11. 1 (l). This time will be paid @ 1 X time off in lieu and 1 X with pay.

example:

<b>Total shifts per year</b>	<b>165</b>	
Less requirement	- <u>161</u>	
Time Balance (Shifts)	= 4	shifts X 12 hours = 48 hrs.
	48 hrs.	X 2 (premium) = 96 hrs.

Therefore: 48 hours will be taken as time off in lieu of payment and 48 hours pay. The pay portion of time balance will be divided by 52 weeks and applied to bundled premium. Time Balance is not intended to incur overtime and will be paid in the year that it occurs. Scheduling of Time Balance will be approved by the Supervisor and will not be transferred to the following year.

**Time Balance can be taken (up to twelve (12) hours) on Monday, Tuesday or Wednesday.**

- r) **The Operators agree not to participate with Article 13.2 at the present forty (40) hour maximum. However, Parties have agreed to twenty-four (24) hours banked time for Operators.**

## **11.2 SERVICEMEN**

- a) Servicemen may be called on to work the following schedule of shifts:
- (i) 0800 hours to 1630 hours inclusive with 1/2 hour meal break year round with meal allowance in winter months per Article 10 -1(a).
  - (ii) 1230 - 2100 hours Monday - Friday inclusive with 1/2 hour meal allowance in winter months per Article 10 -1(a).

- b) Standby for Serviceman Hours of standby Monday to Thursday 2100 hours to 0800 hours and Friday 2100 hours to 0800 hours Monday.
- c) In the event of an emergency after 2130 hours the Serviceman on call shall handle the work and receive a minimum of two (2) hours at overtime rate.

## **ARTICLE 12 - STANDBY DUTY AND TROUBLE SHIFTS**

### **12.1 STANDBY DUTY**

- a) The Employer may assign standby duty as required to manage its business, and Employees on standby duty shall be available for work within the standby hours assigned.
- b) The Standby Duty Schedule shall be established annually and posted by October 15<sup>th</sup> of each year. The Employer may revise the schedule from time to time as required to manage its' business. The Employer agrees that two Employees are on call for each Standby team designated as A, B and C. One Employee will be on call from each category of Serviceman, Control Room, RBD Operator, Stores, Locates and Substations.
- c) EHMS Crews will not participate in distribution on-call.
- d) Reference Letter of Understanding – 3, Standby Guidelines as established by Joint Committee.
- e) When Recognized Holidays occur during weekdays Standby Duty is worked throughout the holidays until the following work day according to the Standby Duty Schedule.
- f) Except as otherwise provided in this Agreement the rate of pay for Standby Duty shall be:

\$1.85 per hour effective April 1, 2006,  
 \$1.90 per hour effective April 1, 2007,  
 \$1.95 per hour effective April 1, 2008,  
 \$2.00 per hour effective April 1, 2009

From 1630 hours Friday to 0730 hours Monday and Recognized Holidays, rate of pay for Standby Duty shall be:

\$2.30 per hour effective April 1, 2006,  
 \$2.35 per hour effective April 1, 2007,  
 \$2.40 per hour effective April 1, 2008,  
 \$2.45 per hour effective April 1, 2009

Standby rate to be applicable to Maintenance Caretaker during winter hours only.

- g) Emergency call out list to be posted weekly indicating number of call-outs, hours worked, offers refused, could not contact.
- h) All Cablemen wishing to remain on stand-by duty shall complete overhead training in the essential, minimum, typical overhead repair situations that occur on our system and undergo refresher training as may be deemed necessary from time to time. Any new Employee shall be qualified before being placed on stand-by duty.

## 12.2 TROUBLE SHIFTS

- a) The intent of this Article is to administer the Trouble Truck shift scheduling in a fair and consistent manner for all staff on the Trouble Truck. This will ensure that Management has the ability to utilize staff complements efficiently and effectively while minimizing disruptions to shift workers personal lives.

If a change in the schedule is required, due to a significant change(s) in business conditions and/or a change in the available resource complement, the Union shall, within twenty (20) calendar days, formulate a schedule to be implemented within fifteen (15) days contingent on Management's approval.

The schedule for the following year will be posted two (2) months before the current schedule ends. This schedule will cover the entire year. If more than one schedule is formulated that meets the parameters of the Corporation, then the Trouble Truck Employees will have the opportunity to vote on their preference. In the event that a tie vote occurs, Management shall cast the tie-breaking vote.

Shift positions shall be posted and Employees appointed shall remain in the shift position for at least three (3) months, unless transferred. Employees requesting a transfer will be released within sixty (60) days. In the event that a replacement is not found, refer to 12.2(o)

- b) The hours of work shall be:

D <sub>1</sub>	0600 - 1800
D <sub>2</sub>	0700 - 1900
N	1830 – 0630

The shift arrangement shall consist of both a twelve (12) hour rotating shift schedule and a permanent night shift on Saturday, Sunday and Monday.

## c) Shifts Worked:

Total Hours Per year	2,080
Less Statutory Holidays	96
Break Credit	<u>6</u>

Actual Hours Worked 1978

Number of 12 Hours Shifts 1978/12 = 164.8 Shifts

The Trouble Shifts shall not be worked by Employer-Contractor mixed crews.

## d) The shift arrangement will be either of the following:

Five Week, Five Crew Rotating Shift

WEEK	S	S	M	T	W	T	F
1	D <sub>1</sub>	D <sub>1</sub>	--	--	--	D <sub>1</sub>	D <sub>1</sub>
2	--	--	N	N	--	--	--
3	--	--	D <sub>1</sub>	D <sub>1</sub>	--	D <sub>2</sub>	D <sub>2</sub>
4	--	--	--	--	N	N	N
5	--	--	D <sub>2</sub>	D <sub>2</sub>	D <sub>2</sub>	--	--

Five Week, Plus Permanent Night Shift Combination

WEEK	S	S	M	T	W	T	F
1	D <sub>1</sub>	D <sub>1</sub>	--	--	D <sub>1</sub>	D <sub>1</sub>	D <sub>1</sub>
2	--	--	--	N	--	--	--
3	--	--	D <sub>1</sub>	D <sub>1</sub>	--	D <sub>2</sub>	D <sub>2</sub>
4	--	--	--	--	N	N	N
5	--	--	D <sub>2</sub>	D <sub>2</sub>	D <sub>2</sub>	--	--
NIGHTS	N	N	N				

Shift coverage will be 24 hours on weekdays and weekends.

The night shift shall start at 1830 hour the evening previous to the scheduled shift date.

Schedule will normally run from January 1 to December 31.

- e) Any changes in the schedule, per 12. 2(a), will be posted at least fifteen (15) days before the new schedule goes into effect. In this situation, approved vacation will be upheld providing that such arrangements do not interfere with the continued operation of the Service Department.
- f) All vacant positions will be posted

- g) Rates of pay shall be as established as for the Journeyman Lineman Classification, Schedule A.
- h) The Employer shall pay to Trouble Truck Employees working the rotating shift an additional shift bonus on basic hourly rates as follows:

For Weekends:  
Effective April 1, 2006 at 25%

For Weeknights (beginning at 1830 hours):  
Effective April 1, 2006 at 10%

- i) A weekly meal allowance will apply weekly except on occasions of illness or on vacation days. The allowance shall be:
 

\$57.50 effective April 1, 2006,
\$58.75 effective April 1, 2007,
\$60.00 effective April 1, 2008,
\$61.25 effective April 1, 2009
- j) Lunch and coffee breaks will be taken as time permits during the shifts.
- k) Trouble Crews shall not participate in distribution on-call arrangements.
- l) Statutory Holidays coverage may be covered by one crew per shift.
- m) The “bundled premiums” as applicable at the time will be averaged and paid weekly. This premium is also applicable to vacations and short term disability periods.
- n) Coverage for Illness and Vacation for Rotating Shifts

Coverage for illness, including Employees on modified duties or reduced hours, up to three days for crews on rotating shifts to be provided for trouble crews from an on-call list comprised of trouble crew personnel.

Coverage for illness more than three days for crews on rotating shifts, daytime only Monday to Friday, to be made from re-assignment of crew personnel within the organization, with overtime rate to apply for the four (4) hour extended shift.

Coverage for vacation for crews on rotating shifts Monday to Friday daytime only to be made from re-assignment of crew personnel within the organization, with overtime rate to apply for the four (4) hour extended shift.

- o) Coverage for Illness and Vacation for Permanent Night Shift
  - (i) Trouble Shift Employees shall be given the first opportunity to cover absent Employees.
  - (ii) Next opportunity to be provided to A & B teams
  - (iii) Next opportunity to be provided to Emergency Call Out List.



- (iv) Reverse order of seniority to apply as last option for coverage and Management will appoint the junior Journeyman to cover the vacancy.

p) Time Reconciliation Night Shift

In addition to the three (3) night shifts worked, crew are required to attend safety meetings, training and all other mandatory meetings up to one hundred (100) hours in a calendar year.

### **ARTICLE 13 - OVERTIME**

**13.1** All hours worked outside of or in excess of the work day or work week shall be paid at double the Employee's rate of pay.

**13.2** A Regular Employee may elect in lieu of payment for overtime worked, future time off calculated at the rate of double time banked to a maximum of 40 hours to be taken in the contract year. Effective April 1, 2009 the maximum hours to be increased to 50 hours.

To apply to Inside Employees outside of Flextime hours and with Supervisory/Managerial approval of overtime requirement.

**13.3** Any Employee who is called upon to work overtime shall be paid a minimum of two (2) hours pay at double time, although no minimum applies in the event of prearranged overtime or overtime occurring at the end of an eight-hour shift or within two hours preceding an eight (8) hour shift. The minimum call out commences when the Employee receives the call or leaves the residence, whichever is the earlier.

**13.4** In the case of prearranged overtime, if the arrangement is cancelled when an Employee affected has reported for work, such Employee shall be paid for two (2) hours at the rate of double time. This will not apply to overtime continuing at the end of a shift.

**13.5** Paid rest periods

- a) If an Employee works more than eight (8) cumulative hours immediately prior to his scheduled work day, he will be permitted eight (8) hours off with pay, at straight time rates, during his scheduled shift.
- b) If an Employee works sixteen (16) hours he will be permitted a rest period of up to eight (8) hours and the portion of the rest period occurring during his scheduled work will be paid at straight time rates.

**13.6** In the event a Supervisor calls for overtime work, Regular Employees shall be called before Temporary Employees and Contractors except where a tendered, fixed priced project contract arrangement is in place covering the work.

**13.7** If an Employee accumulates sixty (60) hours within a seven (7) day period, the Employee's rest period will extend to the next scheduled shift.

## **ARTICLE 14 - MEALS**

**14.1** In recognition of the fact that Employees are required to provide their own meals and eat on their own time, the conditions that follow will apply:

- a) The Employer shall not require an Employee to carry or provide more than one meal on any day that work is performed and, whenever possible, Supervisors shall notify Employees who do not normally carry a lunch, of the necessity of carrying a lunch the following day.
- b) In the event an Employee is required to continue working beyond a normal day the Employer shall provide the Employee's meal after 1 1/2 hours, every four hours thereafter while the Employee continues working.
- c) In the event an Employee is called upon to work extensive periods of overtime on Saturday, Sunday or Recognized Holidays without notification, the Employer shall provide the Employee's meal on approximately a four hour interval basis. If notified, no fewer than twelve (12) hours in advance of starting time, the Employee shall carry or provide the first meal and the Employer shall provide any further meals on approximately a four hour interval basis.

**14.2 a)** In general the winter months for the purpose of this clause shall cover the period of November 1st to March 31st and during the winter months the Employer will provide a meal at a suitable location, and transportation from and to the job, to Employees required to work outside.

- b) The duration of the meal period and the traveling time from and to the job shall comprise no more than one half (1/2) hour for Schedule "A" Employees except with the permission of the Supervisor.

**14.3** In general the summer months for the purpose of this clause shall cover the period of April 1st to October 31st and during the summer months Employees will remain at the job site for meal period.

**14.4** The Employer may provide an allowance instead of providing a meal.  
The allowance for supper meals shall be \$11.50 effective April 1, 2006,  
\$11.75 effective April 1, 2007,  
\$12.00 effective April 1, 2008,  
\$12.25 effective April 1, 2009

The allowance for all other meals shall be \$10.50 effective April 1, 2006,  
\$10.75 effective April 1, 2007,  
\$11.00 effective April 1, 2008,  
\$11.25 effective April 1, 2009.

## **ARTICLE 15 - RECOGNIZED HOLIDAYS**

**15.1** The Holidays recognized by the Employer are the following:

*NEW YEAR'S DAY	CIVIC HOLIDAY
*GOOD FRIDAY	*LABOUR DAY
EASTER MONDAY	*THANKSGIVING DAY
*VICTORIA DAY	*CHRISTMAS DAY
*CANADA DAY	*BOXING DAY

ONE DAY FLOATER - to be taken at a time mutually agreed upon

Temporary Employees shall be paid for \*holidays consistent with the Employment Standards Act.

**15.2** The last working day before Christmas and the last working day before New Year's will consist of the first half of the day and the remainder of each such day shall be a holiday recognized by the Employer.

**15.3** Regular Employees and Probationary Employees shall be paid for Recognized Holidays providing such Employees have worked the last regular scheduled shift preceding, and the first regular shift succeeding such holidays. The requirement that an Employee must work the shift preceding and succeeding a holiday will not apply if the Employee is absent on either or both of these days because of:

- a) Personal illness
- b) Family death
- c) Supervisor's permission
- d) Circumstances beyond the Employee's immediate control.

**15.4** The Recognized Holiday that falls on Saturday shall be observed on the immediately preceding Friday or Thursday if the Friday is a Recognized Holiday. The Recognized Holiday that falls on Sunday shall be observed on the immediately following Monday, or Tuesday if the Monday is a Recognized Holiday, so that the days observed shall be consecutive.

**15.5** Regular Employees and Probationary Employees working on rotating shifts shall, subject to qualifications set out in item 4 above of this Article, receive the same number of paid Recognized Holidays in any calendar year as are received by Employees working on normal day shifts, i.e. Monday to Friday inclusive.

**15.6** If a Recognized Holiday occurs during an Employee's vacation period, another day off with pay in lieu thereof shall be granted.

**15.7** The Union and Management shall meet in January of each year to attempt to agree on what days the Recognized Holidays will be observed.

## **ARTICLE 16 - ANNUAL VACATIONS**

**16.1** Vacation with pay shall be granted by the Employer in accordance with the following:

a) One day for each completed calendar month worked during the first year of employment to a maximum of ten (10) days.

b) On completion of required years of service and subsequent years of service the number of days set out in the following earning schedule:

after one (1) year	ten (10) days
after three (3) years	fifteen (15) days
after eight (8) years	twenty (20) days
after fifteen (15) years	twenty-five (25) days
after twenty-four (24) years	thirty (30) days

**16.2** For vacation purposes service shall be calculated as of date of hire.

**16.3** Vacation dates shall be arranged at the convenience of the Department Supervisor. However, every effort shall be made to arrange vacations to the mutual satisfaction of the Employee and the Department Supervisor. Conflicts in Employees' vacation preferences shall be resolved on the basis of seniority. To facilitate this, a sheet shall be posted by January 1st to allow Employees to state their preferences of dates. This sheet shall be removed by May 1st at which time final dates shall have been agreed upon. Requests by Employees for two (2) weeks vacation during July and August will not be unreasonably denied.

**16.4** Where an Employee, through illness or injury while on vacation, is hospitalized for a period of three (3) or more days, he/she will upon return to work and presentation of proof of hospitalization by a medical doctor, be granted an extension of his/her vacation equal to the time allowed for such hospitalization, excluding the Employee's normal weekend, at a time mutually agreed upon between the Employee and his/her Supervisor.

**16.5** Any Regular Employee earning fifteen (15) days or more vacation may carry over into the following vacation period, subject to the provisions of item 3, a maximum of five (5) days earned vacation.

**16.6** Payment on account of deceased Employee is to his/her dependents, if any; if there are no dependents, then to his/her estate.

## **ARTICLE 17- LEAVE OF ABSENCE**

- 17.1** A Regular Employee who would otherwise have been at work shall, for the purpose of arranging and/or attending a funeral:
- a) be allowed five (5) working days leave of absence with pay in the event of death of the Employee's spouse, common-law spouse / same sex partner or child.
  - b) be allowed four (4) working days leave of absence with pay in the event of death of the Employee's parent.
  - c) be allowed three (3) working days leave of absence with pay in the event of death of the Employee's sister, brother, grandparent, grandchild or spouse's parent.
  - d) be allowed one (1) working day leave of absence with pay in the event of death of the Employee's aunt or uncle, sister-in-law or brother-in-law, spouse's sister, spouse's brother, spouse's grandparent, or in the event of serving as a pallbearer at the funeral of a fellow Employee.
  - e) For Employees working other than an eight (8) hour day, the number of hours scheduled for the day on which the absence occurs shall be considered one (1) day for the purpose of this clause.
  - f) Consideration may be given for an extension of time without pay under abnormal circumstances or if extensive travel is necessary. It is understood that weekends or scheduled 'off' days are not included in the entitlement of consecutive working days.
- 17.2** Each Employee shall be granted leave of absence without loss of pay, for the purpose of discussing with Management during working hours matters arising out of the administration of the Agreement, if such discussion is arranged by the Employee with the immediate Supervisor.
- 17.3** The proper discharge of grievance responsibility may from time to time throughout the work day require the brief absence from work duties of a Steward/Unit Chairperson who must request the immediate Supervisor's permission to be absent without loss of pay. While every reasonable effort shall be made to arrange the brief absence requested, permission may be withheld if, in the opinion of the Supervisor, such absence would affect the operation. The names and the number of Stewards not exceeding ten (10) and/or the Unit Chairperson and Unit Vice-Chairperson shall be confirmed to Management by the Union, and each Steward so named shall acknowledge that the Steward's prime responsibility is that of a Regular Employee.
- 17.4** Leave of absence with pay including paid mileage for travel to and from the destination will be granted to Employees who are authorized by Management to attend functions connected with their work.

- 17.5** Leave of absence with pay shall be granted to Regular Employees called for Jury Duty, or as a Crown Witness while on Employer business or within their Region of Residence, provided that payment for said service is assigned to the Employer. Employees working on a rotating shift arrangement will receive payments for time lost from the Employee's regularly scheduled shift up to 12 hours per day for each day of jury duty.
- 17.6** Employees attending sessions approved by the Employer, as trainees or volunteer instructions, shall be reimbursed at normal rates of pay for standard daily or weekly hours.
- 17.7** Pregnancy, Parental and Adoption Leave shall be granted in accordance with the appropriate parts of the Employment Standards Act of Ontario or successor organization. There shall be no loss of seniority during this leave, all benefits shall be maintained by the Employer and the Employee's vacation shall not be pro-rated or reduced in any manner and the Employee shall be returned to their same or comparable job and rate of pay they enjoyed prior to the leave.
- 17.8** The Employer may grant leave of absence without pay to any Employee for a legitimate personal reason. Such requests must be submitted in writing. Seniority shall continue to accumulate during this absence. Vacation will not accrue when absence is for more than one (1) month. Health benefits as detailed under Article 19 shall continue to be paid by the Employer for leaves of absence up to one (1) month.
- 17.9** The Employer agrees to grant leave of absence with pay and without loss of seniority for Union business to Employees selected by the Union. Such leave will be granted upon reasonable notice of five (5) working days in advance to the Employer and insofar as the regular operation of the department will permit. The Union will reimburse the Employer the Employee's normal rate of pay, plus employment insurance (EI), Canada Pension Plan (CPP) and OMERS deductions.
- 17.10** In the event an Employee loses their driver's license, their hourly rate inclusive of Lead Hand premium or salaried rate, will be reduced by 12% for the duration of the suspension period. This applies only to Employees who require a valid driver's license to perform their duties as deemed by the Employer. The Employee will be transferred to a suitable position and employment will be maintained. The Employee will revert to their rate of pay previous to the suspension when the driver's license has been reinstated.

## **ARTICLE 18 - SICKNESS AND INJURY PLAN**

### **18.1 PURPOSE**

The purpose of the plan is to provide Regular Employees with pay continuity and job security during periods of sickness or injury.

### **18.2 THE PLAN**

The plan provides coverage during periods of sickness or injury as follows:  
Short Term Coverage - periods up to seventy-five (75) consecutive working days.

Long Term Coverage - periods in excess of seventy-five (75) consecutive working days.

#### **Short Term Coverage**

Benefits in the short term for each occurrence of sickness or injury are:

- a) Employees with less than one year's service - 15 working days at regular pay and the balance at 75% of regular pay.
- b) Employees with one to two years of service - 30 working days at regular pay, balance at 75% of regular pay.
- c) Employees with two to three years of service - 45 working days at regular pay, balance at 75% of regular pay.
- d) Employees with three to four years of service - 60 working days at regular pay, balance at 75% of regular pay.
- e) Employees with more than four years of service - 75 working days at regular pay.

## **ARTICLE 18 - SICKNESS AND INJURY PLAN**

### **18.2 THE PLAN**

#### **Long Term Coverage**

Benefits in the long term are those provided under the disability plan by the Carrier and begin after the seventy-fifth (75<sup>th</sup>) day. In the event of a delay in the process of applying for long term disability benefits beyond the seventy-fifth (75<sup>th</sup>) day, the Employer will continue pay based on the LTD maximum up to a maximum of eight (8) weeks or until approval/rejection of the claim, whichever occurs first. Employees must sign a repayment agreement in consideration of this continuation of pay.



The Employer agrees to provide the Union with a copy of application form relating to Employees who are seeking long term disability benefits upon providing written consent of Employee.

### **18.3 WORKPLACE SAFETY AND INSURANCE BOARD**

- a) In the event an injury is covered by payments from the Workplace Safety and Insurance Board, an Employee shall continue to receive regular pay during the first seventy-five (75) working days. Thereafter, the Employer shall maintain payments in the amount of the compensation coverage for a period not to exceed twenty-four (24) months and, in consideration of this continuation of pay, the Employee shall sign over all Workplace Safety and Insurance Board payments to the Employer.
- b) In the event that the Employee is offered modified work consistent with medical limitations which are established after consultation with the Employee's Physician and which are approved by Workplace Safety & Insurance Board (WS&IB) and the Employee declines such work, direct payment from the Employer will be discontinued.
- c) The Employer shall provide the Union with a copy of the Employer's report of injury or disease (Form 7) when submitting same to the Workplace Safety and Insurance Board (WS&IB) in order to give the Union an opportunity to discuss with the Employer any errors or omissions which may exist upon written consent of Employee.

### **18.4 GENERAL CONDITIONS OF LONG TERM COVERAGE**

- a) After the seventy-fifth (75th) day any vacation or Recognized Holiday shall be paid and prorated only on the basis of time worked.
- b) The Employer shall continue to pay for a period of time not to exceed twenty-four (24) months from the first day of sickness or injury the premiums for benefits in Articles 19 and 20 of this Agreement.
- c) For a period of time not to exceed thirty-six (36) months from the first day of sickness or injury the Employee shall be eligible to return to the same position classification if capable of performing the required work. If unable to perform the required work, the Employee shall be given all reasonable consideration for any available job for which the Employee is able and qualified to perform.
- d) In the event the Employee is unable to return to work at the end of thirty-six (36) months, the Employee shall lose seniority and be removed from the payroll. Benefits as per Article 18.4 (b).
- e) In consideration of the foregoing, the Union or its members shall make no claim against any rebate of the Employer's share of any savings in Employment Insurance.



**18.5** The Employer and the Union are committed to the safe integration of injured or ill Employees into the workplace at the earliest opportunity. Every effort will be made to modify the Employee's regular position where possible or to provide modified work suitable to medical limitations and capabilities. The parties will jointly endeavor to work with all concerned to promote rehabilitation goals. Both parties will ensure that representatives from the Employer and the Union are available to meet with and assist in the injured worker's return to work. This includes modified duties and graduated return to work schedules.

## **ARTICLE 19 - HEALTH BENEFITS**

The Employer agrees to pay 100% of the premium costs for Regular Employees and their eligible dependents in keeping with the terms and conditions of the current policies. The Union will be provided copies of the plans and Employees will receive booklets. The Insurance carrier will not be changed by the Employer during term of the new Collective Agreement, until the Union is provided with thirty (30) days notice.

### **HEALTH CARE**

1. Employer Health Tax
2. Manulife Extended Health Care 25/50 Plan or equivalent coverage with a cap of \$10.00 paid on any pharmacist's dispensing fee. Any fee in excess of this \$10.00 maximum will be paid by the Employee.  
  
 \$11.00 Effective April 1, 2007  
 \$12.00 Effective April 1, 2009
3. Semi-Private/Private Hospitalization Coverage
4. Manulife or equivalent Paramed benefits
5. Vision Care  
  
 \$350.00 per family member every twenty-four (24) months including eye exam effective April 1, 2006 with rider can be applied to laser eye surgery.  
  
 \$400.00 per family member every twenty-four (24) months including eye exam effective April 1, 2008 with rider can be applied to laser eye surgery.
6. Hearing aids - \$525.00 every sixty (60) months and effective April 1, 2009  
 \$525/24 months.
7. Coverage to be provided to include eligible dependents up to age 25 providing dependent is enrolled in post secondary education such as college or university programs.
8. Physiotherapy – A maximum of \$500 per eligible person per calendar year.

9. Formulary coverage to be restricted to prescription drugs only. Over the counter drugs will no longer be eligible for coverage.
10. Chiropractor and Massage Therapy 80% co-insurance with yearly maximums:
  - \$300 effective April 1, 2006
  - \$400 effective April 1, 2007,
  - \$450 effective April 1, 2008,
  - \$500.00 effective April 1, 2009

## **DENTAL CARE**

1. Manulife Dental Plan Number 9:

2006 O.D.A. Fee Schedule effective January 1, 2006;  
 2007 O.D.A. Fee Schedule effective January 1, 2007;  
 2008 O.D.A. Fee Schedule effective January 1, 2008;  
 2009 O.D.A. Fee Schedule effective January 1, 2009;  
 2010 O.D.A. Fee Schedule effective January 1, 2010

Basic dental maximum per year per dependent:

- \$1,600 effective April 1, 2006,  
 \$1,700 effective April 1, 2007,  
 \$1,800 effective April 1, 2009
2. Orthodontics to a lifetime maximum of \$2,500 for dependents up to age 25 on a 50/50 co-insurance basis effective April 1, 2006  
 \$2,700 effective April 1, 2007,  
 \$2,900 effective April 1, 2009
  3. Dentures, Caps and crowns are combined with a maximum of \$1,500 effective April 1, 2006 per person per calendar year on a 50-50 co-insurance basis.  
 \$1,600 effective April 1, 2007,  
 \$1,700 effective April 1, 2009
  4. Manulife Space Maintainers.
  5. Coverage to be provided to include eligible dependents up to age 25 providing dependent is enrolled in post secondary education such as college or university programs.

## **INSURANCE**

1. Long Term Disability Plan 70% of regular wages
2. Life Insurance coverage (1.5 times basic earnings)

3. Accidental Death and Dismemberment Insurance Coverage providing a death benefit reflecting the existing basic life coverage insurance benefit.
4. Optional Insurance is available at the Employees expense subject to the conditions provided by the Carrier. See Plan booklet for details.

#### **OTHER**

1. Medical letters, notes required by the Employer shall be paid for by the Employer.
2. In the event of death of an active Employee, the surviving spouse and dependants shall continue to receive full medical and hospital services coverage at the Employer's expense for a period of two (2) years.
3. Custom molded orthotics when prescribed by a Physician, podiatrist or chiropractor, up to a maximum of two pairs per covered person in a calendar year, up to the reasonable and customary maximum per pair, as determined by the Carrier.

## **ARTICLE 20 - RETIREMENT**

1. The effective normal retirement date is the date the Employee voluntarily elects to retire.
2. The Employer and the Employees shall comply with the premium costs of the OMERS Basic Plan on an equal sharing basis.
3. Employees hired on or after April 1, 2000 will receive:
  - \$10,000 paid up life insurance policy with 10 years or more of service
  - \$5,000 paid up life insurance policy with less than 10 years of service

## **ARTICLE 21 - SHIFT BONUS**

1. The Employer shall pay a shift bonus of 5% of base hourly rate of or all of a shift that begins after 1200 hours, and 10% of hourly rate to apply for any part of or all of a shift that begins at or about 1900 hours and ends in the morning for schedule A Employees.
2. No shift bonus shall be paid for any hours to which an overtime premium applies.
3. Management will consult with the Union in the event of instituting any new shift and notice shall be given fifteen (15) calendar days in advance.

## **ARTICLE 22 - BULLETIN BOARDS**

Bulletin Boards shall be provided for the use of the Union.

## **ARTICLE 23 - WEATHER CONDITIONS**

During inclement weather inside work shall be carried on as designated by Supervisors at regular rates of pay. The decision as to what constitutes inclement weather shall be made by the Department Supervisor or his designate.

In an emergency, when it is necessary for Employees for whom the weather has been declared inclement to work, the Employer shall supply suitable rainwear.



Effective December 1, 2009 two (2) overalls

3 in 1 Jacket once during contract term.

Foresters will be provided with clothing as listed above with Kevlar pants/chaps as required.

Vehicle Mechanics will be provided appropriate clothing which will be cleaned by the company.

As per article 25.1, non fire retardant clothing will be provided as follows to the following categories one time during the contract term: System Control Operator; Cable Locator; Storekeeper; Equipment Maintainer; Maintenance Caretaker and Maintenance Helper; Substation Maintenance; Street Light Patrol; Co-op and Summer Students as required.

Effective December 1, 2006 - 2 smocks, one lined and one unlined  
- 2 overalls

Employees to have option of substituting two (2) unlined overalls/coveralls or two smocks (one lined and one unlined) for one (1) lined overall/coverall or one (1) 3 in 1 jacket.

Above clothing will be replaced on an as needed basis, upon return of worn out items and at the Manager's discretion.

**25.2** The Employer shall provide seven (7) shirts, five (5) pants, one (1) heavy and one (1) light jacket on a bi-annual basis for Meter Technicians and Serviceman classifications.,

**25.3 (a)** Each Regular Employee in Schedule "A" who is required by the Employer to wear safety footwear shall be paid a lump sum in each calendar year towards the cost of such footwear in the amount of:

\$170 effective April 1, 2006;

\$175 effective April 1, 2007;

\$180 effective April 1, 2009

As designated by the Joint Health and Safety Committee.

(b) System Control Operators and Employees in Schedule "B" required by the Employer to wear safety footwear shall be paid a lump sum in the amount of

\$ 90 effective April 1, 2006;

\$ 95 effective April 1, 2007;

\$100 effective April 1, 2009

As designated by the Joint Health and Safety Committee.

(c) The lump sum will be paid in January.

## **ARTICLE 26 - SAFETY**

- 26.1** The Employer and Union acknowledge their joint and separate roles and responsibilities under the Occupational Health & Safety Act. These include the identification of safety hazards, workplace inspections and the investigations of accidents, incidents and dangerous circumstances by worker and management Certified Health and Safety Representatives. One member from each Committee must be certified as per regulation.
- 26.2** The Employer shall issue to each Employee covered by this Agreement, a copy of the Rule Book prepared especially for Hydro Employees by the Electrical Utility Safety Association. The Employer and the Union will cooperate to ensure that in all operations the rules and procedures therein set forth are adhered to. Management will ensure that all Employees receive copies of all safety policies and amendments thereto at the time of release.
- 26.3** First Aid Kits shall be supplied by the Employer and made easily available to all Employees.
- 26.4** Safety sessions shall be held once a month.
- 26.5** Employees shall report immediately all injuries, however minor, which are incurred while at work.
- 26.6** Any revisions or recommendations on the quality of safety clothing will be forwarded to the Joint Health and Safety Committee. When necessary, prescribed safety clothing will be worn.

## **ARTICLE 27 - CLASSIFICATIONS AND WAGES**

- 27.1** The attached Schedule "A" and Schedule "B" covering job classifications and wage rates shall be part of this Agreement.
- 27.2** All wages will be paid by 12:00 noon on each Thursday, except where a Recognized Holiday occurs during the week, in which case special arrangements will be made.
- 27.3** Position descriptions per Schedule "A" and Schedule "B" shall comply with Pay Equity definitions and be made available upon request. Employees may be required to perform other related duties as assigned.
- 27.4** The pay rates and classifications of Employees covered by this Agreement shall be those in Schedule "A" and Schedule "B" attached hereto and forming part of this Agreement for payroll purposes only, and is not to be interpreted as a guarantee that any particular job in any classification is a continuing requirement.

Employees shall normally advance from minimum to maximum salary in accordance with the time periods set out in Schedule "A" and "B".

Engineer Technicians with five (5) or more years of experience and who have attained their Certified Engineering Technician designation (C.E.T.) will be eligible with satisfactory performance to progress from 7-4 to 8-3.

- 27.5** In the event an Employee does not make satisfactory progress during a normal time period however, that time period shall be extended for a period up to three additional months during which period the Employee's progress shall be reviewed. If the Employee makes satisfactory progress during review, the advance withheld shall be granted at the end of the extended period and, in the event of continued satisfactory progress, the normal advance from minimum to maximum salary shall resume. The Employee whose normal advance is withheld shall be given a written explanation.
- 27.6** In the event the Employer ceases operations and lays off Employees, such laid off Employee shall receive one and one half (1.5) weeks of severance pay for each year of service to a maximum of thirty (30) years. During this severance period Health Care and Dental Care benefits shall continue.

## **ARTICLE 28 - COMMITTEES**

- 28.1** The Employer agrees to the setting up of a Safety Committee composed of Employer and Union Representatives, whose responsibility will be the drafting of working rules and regulations which will be revised from time to time if changes are necessary. These rules and regulations are to be strictly adhered to by both parties. The Employer shall supply to its Employees a copy of these regulations. Outside Safety Committee comprised of six (6) Union representatives, Inside Safety Committee comprised of four (4) Union representatives of which one (1) Certified Representative for each Committee.
- 28.2** The parties agree to the establishment of a Labour Management Committee comprised of four (4) members of the Union and four (4) representatives of the Employer. The Committee shall meet not more than every two (2) months to discuss items of mutual interest, except grievances. Such time in attendance shall be considered as time worked, exclusive of premiums.
- 28.3** The Employer agrees to recognize a Union Negotiating Committee consisting of a maximum of five (5) Regular Employees and/or the Union Business Manager or designates, and/or an International Representative. The members of the Union Negotiating Committee shall not suffer any loss of pay up to but not including Conciliation.



## **ARTICLE 29 - TEMPORARY TRANSFERS**

- 29.1** An Employee temporarily transferred from one job classification to another for a period of eight (8) hours or more in the case of an hourly classification or seven (7) hours or more in the case of a weekly classification shall be paid the rate for the classification to which transfer has been made, but in no case shall the rate be less than his existing rate at the time of the temporary transfer.
- 29.2** Management agrees to post for a temporary vacancy if the job is to be vacant for two (2) months or longer. Senior qualified applicant will be awarded the job as per Article 8.3.
- 29.3** The parties agree to compensate Schedule "A" Employees serving in the capacity of Acting Supervisor at the rate of 13% (per hour) or \$150 per week, whichever is the greater over and above the incumbent's hourly base rate.
- 29.4** The parties agree to compensate Schedule "B", Weekly-Salaried Employees serving in the capacity of Acting Supervisor at the rate of 10% calculated on an hourly rate basis.

## **ARTICLE 30 - DISCIPLINE**

- 30.1** Regular Employees must have a Union Steward present in the event of disciplinary action including verbal reprimands where these will become part of Employee's disciplinary record.
- 30.2** Discipline shall be issued to an Employee within twenty (20) working days of the incident coming to the attention of Management, or the time it ought reasonably to have come to Management's attention.
- 30.3** All letters of discipline shall be provided to the Unit Chairperson and copied to the area Business Representative.
- 30.4** The Union with the consent of the Employee shall have access to the Employee's personnel file providing twenty-four (24) hours notice is given.
- 30.5** All letters of suspension shall be automatically removed from the Employee's personnel file whether paper or electronic thirty (30) months following the date of the incident provided no further incident of a similar nature involving suspension occurs within that time period. A copy of the removal letter shall be forwarded to the Unit Chairperson.

Written letters of reprimand including verbal warnings that are documented will be removed from the file after twenty-four (24) months from the date of the incident. A copy of the removal letter shall be forwarded to the Unit Chairperson.

**30.6** All members of Local 636, IBEW shall have access to their own personnel file. Permission to be arranged through their immediate Supervisor providing twenty-four (24) hours notice is given.

**30.7** An Employee may request copies of any material contained in her/his personnel record.

### **ARTICLE 31 - DURATION OF AGREEMENT**

**31.1** This Agreement shall take effect April 1, 2006, and remain in effect and full force until March 31, 2010.

**31.2** During the discussions or negotiations upon any proposed renewal or revision of the Agreement, the Agreement in the form in which it may be at the commencement of such negotiations shall remain in full force and effect until completion of negotiations as provided for in the Ontario Labour Relations Act.

**31.3** Ten (10) signed, sealed Collective Agreements will be provided to the Union within thirty (30) days of ratification by both parties. A printed version will be distributed within forty-five (45) days to those covered by the Collective Agreement. Printed version of Collective Agreement in booklet form (50/50 split between Union and Employer)

IN WITNESS WHEREOF the parties hereto have hereunto set their hands and seals  
this day of May XX, 2006.

**ENERSOURCE CORPORATION &  
ENERSOURCE HYDRO MISSISSAUGA**

Jo Ann Morello

\_\_\_\_\_  
Vice President, Human Resources

Roland Herman

\_\_\_\_\_  
Executive Vice President & COO

Craig Fleming

\_\_\_\_\_  
Executive Vice President & CFO

Raymond Rauber

\_\_\_\_\_  
Vice President Engineering & Operations

Linda Alcock

\_\_\_\_\_  
Human Resources Manager

**LOCAL UNION 636 OF  
THE INTERNATIONAL BROTHERHOOD OF  
ELECTRICAL WORKERS, AFL, CIO, C.L.C.**

Harold Vance

\_\_\_\_\_  
Business Representative

Rob Mogus

\_\_\_\_\_  
Unit Chairperson

Judy Pollard

\_\_\_\_\_  
Unit Vice Chairperson

Clarence Wells

\_\_\_\_\_  
Negotiating Committee Member

Barry Van Norman

\_\_\_\_\_  
Negotiating Committee Member

Drew McMacken

\_\_\_\_\_  
Negotiating Committee Member

(Original documents signed by all of the above)

**SCHEDULE "A"**  
**JOB CLASSIFICATIONS AND RATES OF PAY**

	2.5% Effective April 1/2006	3% Effective April 1/2007	3% Effective April 1/2008	3.25% Effective April 1/2009
<b>System Control Operator / Substation Technician</b>	33.52	34.53	35.57	36.73
Apprentice 4th Year	31.65	32.60	33.58	34.67
Apprentice 3rd Year	28.38	29.23	30.11	31.09
Apprentice 2nd Year	25.03	25.78	26.55	27.41
Apprentice 1st Year	21.73	22.38	23.05	23.80
<b>Journeyman Lineman/Cableman / Meter Technician</b>	32.46	33.43	34.43	35.55
Apprentice 4th Year	30.66	31.58	32.53	33.59
Apprentice 3rd Year	27.49	28.31	29.16	30.11
Apprentice 2nd Year	24.24	24.97	25.72	26.56
Apprentice 1st Year	21.04	21.67	22.32	23.05
<b>Vehicle Mechanic AF</b>	32.46	33.43	34.43	35.55
<b>Vehicle Mechanic A Licensed</b>	30.66	31.58	32.53	33.59
<b>Vehicle Mechanic B Licensed</b>	26.41	27.20	28.02	28.93
<b>Vehicle Maintenance Person</b>	22.89	23.58	24.29	25.08
<b>Forester</b>	30.66	31.58	32.53	33.59
Apprentice 3rd Year	27.49	28.31	29.16	30.11
Apprentice 2nd Year	24.24	24.97	25.72	26.56
Apprentice 1st Year	21.04	21.67	22.32	23.05
<b>Cable Locator</b>				
after 36 months from start	30.02	30.92	31.85	32.89
after 18 months from start	26.93	27.74	28.57	29.50
after 6 months from start	23.76	24.47	25.20	26.02
starting rate	20.61	21.23	21.87	22.58
<b>Serviceman A</b>	29.53	30.42	31.33	32.35
<b>Serviceman B</b>	28.64	29.50	30.39	31.38
<b>Driver Operator</b>	26.87	27.68	28.51	29.44
<b>Backhoe Operator</b>	26.59	27.39	28.21	29.13
<b>Equipment Maintainer/Storekeeper</b>	26.27	27.06	27.87	28.78
<b>Storekeeper A</b>	26.27	27.06	27.87	28.78
<b>Storekeeper B</b>	25.46	26.22	27.01	27.89
<b>Storekeeper C</b>	20.16	20.76	21.38	22.07
<b>Maintenance Caretaker</b>	24.45	25.18	25.94	26.78
<b>Maintenance Helper</b>	20.59	21.21	21.85	22.56

<b>Equipment Operator</b>	24.45	25.18	25.94	26.78
<b>Streetlighting Maintenance</b>	23.76	24.47	25.20	26.02
<b>Substation Maintenance Person</b>	22.89	23.58	24.29	25.08
<b>Construction Labourer</b>	22.89	23.58	24.29	25.08
<b>Labourer</b>	20.59	21.21	21.85	22.56
<b>Casual Labourer</b>	18.77	19.33	19.91	20.56
<b>Street Light Patrol</b>	18.77	19.33	19.91	20.56
<b>Caretaker</b>	13.13	13.52	13.93	14.38
<b>Student</b>	19.50	20.09	20.69	21.36
	16.30	16.79	17.29	17.85
	13.13	13.52	13.93	14.38

## **LEADMAN RATES**

A Leadman appointed by the Employer shall be paid seven and one-half (7.5%) percent more than his regular rate of pay. When a Leadman is in charge of a crew of three or more Employees he shall receive eight and one-half (8.5%) percent more than his regular rate of pay. A Leadman rate shall apply only to Basic Hourly Rates, not to overtime rates, and for a Regular Leadman the rate shall apply to Annual Vacation, Recognized Holidays, and Sick Leave.

**SCHEDULE "B"**  
**WEEKLY RATES OF PAY EFFECTIVE APRIL 1, 2006**

WAGE GROUP	CUSTOMER SERVICES	IT	OPERATIONS	FINANCE	STEP ONE	STEP TWO*	STEP THREE*	STEP FOUR*
8			**ENGR. TECHNICIAN 1 #74, #96 #5, 7, 10, 27, 52, 55 **CAD TECHNICIAN 1	(40 hour work week) GROUP LEADER - FINANCE #49 (35 hour work week)	\$1,194.56 \$1,045.23 (\$29.86)	\$1,254.28 \$1,097.50 (\$31.36)	\$1,314.05 \$1,149.79 (\$32.85)	\$1,373.80 \$1,202.07 (\$34.35)
7	**MV90 TECHNICIAN		**ENGR. TECHNICIAN 2 #96 **CAD TECHNICIAN 2 #99	(40 hour work week) SR. ACCOUNTING CO-ORDINATOR	\$1,099.79 \$962.31 (\$27.49)	\$1,154.71 \$1,010.37 (\$28.87)	\$1,209.72 \$1,058.50 (\$30.24)	\$1,264.71 \$1,106.62 (\$31.62)
6	BACK BILLING CO-ORDINATOR #67 KEY ACCOUNT REP. #26 BILL PRODUCTION CO-ORD. #65	BUYER # 14 SR. COMPUTER OPERATOR # 13 MAPPING ANALYST		ACCOUNTING ANALYST #29	\$877.21 (\$25.06)	\$921.02 (\$26.32)	\$964.91 (\$27.57)	\$1,008.81 (\$28.82)
5	COMMERCIAL ACCOUNTS REP. #26 CUSTOMER SERVICE REP. #3, #4, 98 NEW SERVICE REP. #62		**OUTAGE CO-ORDINATOR #72 PROJECT CO-ORDINATOR #58	(40 hour work week) TREASURY CLERK #8 TREASURY SUPPORT #39 COSTING SUPPORT #31	\$928.24 \$812.23 (\$23.21)	\$972.11 850.72 (\$24.31)	\$1,018.03 890.61 (\$25.45)	\$1,062.72 930.05 (\$26.57)
4	SETTLEMENT CO-ORDINATOR EBT PROCESSOR	TELECOMM CO-ORDINATOR #75	TIME SHEET CO-ORDINATOR		\$728.53 (\$20.82)	\$763.01 (\$21.80)	\$797.57 (\$22.79)	\$833.45 (\$23.81)
3	CUSTOMER ACCOUNTS REP #70 METER READER TRANS. PROCESSOR CDM CO-ORDINATOR		CONSTRUCTION CLERK #93 STAKEOUTS CO-ORDINATOR #94 STREETLIGHT CO-ORDINATOR #1 DISTRIBUTION CO-ORDINATOR #78 FLEET CO-ORDINATOR #89 TIME SHEET CLERK # 43 METERING CLERK #87	OFFICE SERVICES CO-ORD #11	\$665.82 (\$19.02)	\$697.15 (\$19.92)	\$728.53 (\$20.82)	\$759.92 (\$21.71)
2	CUSTOMER ACCOUNT REP #66,#85 OFFICE SERVICE CLERK # 101 CASHIER #41		722	ACCOUNTING CLERK	\$635.47 (\$18.16)	\$663.79 (\$18.97)	\$692.07 (\$19.77)	\$720.85 (\$20.60)

\* STEP TWO - AFTER 6 MONTHS

\* STEP THREE - AFTER 18

\* STEP FOUR - AFTER 30 MONTHS

\*\* 40 HOUR WORK WEEK

MONTHS

**SCHEDULE "B"**  
**WEEKLY RATES OF PAY EFFECTIVE APRIL 1, 2007**

WAGE GROUP	CUSTOMER SERVICES	IT	OPERATIONS	FINANCE	STEP ONE	STEP TWO*	STEP THREE*	STEP FOUR*
8			**ENGR. TECHNICIAN 1 #74, #96 #5, 7, 10, 27, 52, 55 **CAD TECHNICIAN 1	(40 hour work week) GROUP LEADER - FINANCE #49 (35 hour work week)	\$1,230.40 \$1,076.59 (\$30.76)	1,291.91 1,130.43 (\$32.30)	1,353.47 1,184.28 (\$33.84)	1,415.01 1,238.13 (\$35.38)
7	**MV90 TECHNICIAN		**ENGR. TECHNICIAN 2 #96 **CAD TECHNICIAN 2 #99	(40 hour work week) SR. ACCOUNTING CO-ORDINATOR	\$1,132.78 \$991.18 (\$28.31)	1,189.35 1,040.68 (\$29.74)	1,246.01 1,090.26 (\$31.15)	1,302.65 1,139.82 (\$32.57)
6	BACK BILLING CO-ORDINATOR #67 KEY ACCOUNT REP. #26 BILL PRODUCTION CO-ORD. #65	BUYER # 14 SR. COMPUTER OPERATOR # 13 MAPPING ANALYST		ACCOUNTING ANALYST #29	\$903.53 (\$25.81)	948.65 (\$27.11)	993.86 (\$28.40)	1,039.07 (\$29.68)
5	COMMERCIAL ACCOUNTS REP. #26 CUSTOMER SERVICE REP. #3, #4, #98  NEW SERVICE REP. #62		**OUTAGE CO-ORDINATOR #72  PROJECT CO-ORDINATOR #58	(40 hour work week) TREASURY CLERK #8 TREASURY SUPPORT #39 COSTING SUPPORT #31	\$956.09 \$836.60 (\$23.91)	1,001.27 876.24 (\$25.04)	1,048.57 917.33 (\$26.21)	1,094.60 957.95 (\$27.37)
4	SETTLEMENT CO-ORDINATOR  EBT PROCESSOR	TELECOMM CO-ORDINATOR #75	TIME SHEET CO-ORDINATOR		\$750.39 (\$21.44)	785.90 (\$22.45)	821.50 (\$23.47)	858.45 (\$24.52)
3	CUSTOMER ACCOUNTS REP #70  METER READER TRANS. PROCESSOR  CDM CO-ORDINATOR		CONSTRUCTION CLERK #93 STAKEOUTS CO-ORDINATOR #94  STREETLIGHT CO-ORDINATOR #1 DISTRIBUTION CO-ORDINATOR #78 FLEET CO-ORDINATOR #89 TIME SHEET CLERK # 43 METERING CLERK #87	OFFICE SERVICES CO-ORD #11	\$685.79 (\$19.59)	718.06 (\$20.52)	750.39 (\$21.44)	782.72 (\$22.36)
2	CUSTOMER ACCOUNT REP #66, #85 OFFICE SERVICE CLERK # 101 CASHIER #41		724	ACCOUNTING CLERK	\$654.53 (\$18.70)	683.70 (\$19.54)	712.83 (\$20.36)	742.48 (\$21.22)



\* STEP TWO - AFTER 6 MONTHS

\* STEP THREE - AFTER 18 MONTHS

\* STEP FOUR - AFTER 30 MONTHS

\*\* 40 HOUR WORK WEEK

**SCHEDULE "B"**  
**WEEKLY RATES OF PAY EFFECTIVE APRIL 1, 2008**

WAGE GROUP	CUSTOMER SERVICES	IT	OPERATIONS	FINANCE	STEP ONE	STEP TWO*	STEP THREE*	STEP FOUR*
8			**ENGR. TECHNICIAN 1 #74, #96 #5, 7, 10, 27, 52, 55 **CAD TECHNICIAN 1	(40 hour work week) GROUP LEADER - FINANCE #49 (35 hour work week)	\$1,267.31 \$1,108.89 (\$31.68)	\$1,330.67 \$1,164.34 (\$33.27)	\$1,394.07 \$1,219.81 (\$34.86)	\$1,457.46 \$1,275.27 (\$36.44)
7	**MV90 TECHNICIAN		**ENGR. TECHNICIAN 2 #96 **CAD TECHNICIAN 2 #99	(40 hour work week) SR. ACCOUNTING CO-ORDINATOR	\$1,166.76 \$1,020.92 (\$29.16)	\$1,225.03 \$1,071.90 (\$30.63)	\$1,283.39 \$1,122.97 (\$32.08)	\$1,341.73 \$1,174.01 (\$33.55)
6	BACK BILLING CO-ORDINATOR #67 KEY ACCOUNT REP. #26 BILL PRODUCTION CO-ORD. #65	BUYER # 14 SR. COMPUTER OPERATOR # 13 MAPPING ANALYST		ACCOUNTING ANALYST #29	\$930.64 (\$26.58)	\$977.11 (\$27.92)	\$1,023.68 (\$29.25)	\$1,070.24 (\$30.57)
5	COMMERCIAL ACCOUNTS REP. #26 CUSTOMER SERVICE REP. #3, #4, #98 NEW SERVICE REP. #62		**OUTAGE CO-ORDINATOR #72 PROJECT CO-ORDINATOR #58	(40 hour work week) TREASURY CLERK #8 TREASURY SUPPORT #39 COSTING SUPPORT #31	\$984.77 \$861.70 (\$24.63)	\$1,031.31 \$902.53 (\$25.79)	\$1,080.03 \$944.85 (\$27.00)	\$1,127.44 \$986.69 (\$28.19)
4	SETTLEMENT CO-ORDINATOR EBT PROCESSOR	TELECOMM CO-ORDINATOR #75	TIME SHEET CO-ORDINATOR		\$772.90 (\$22.08)	\$809.48 (\$23.12)	\$846.15 (\$24.17)	\$884.20 (\$25.26)
3	CUSTOMER ACCOUNTS REP #70 METER READER TRANS. PROCESSOR CDM CO-ORDINATOR		CONSTRUCTION CLERK #93 STAKEOUTS CO-ORDINATOR #94 STREETLIGHT CO-ORDINATOR #1 DISTRIBUTION CO-ORDINATOR #78 FLEET CO-ORDINATOR #89 TIME SHEET CLERK # 43 METERING CLERK #87	OFFICE SERVICES CO-ORD #11	\$706.36 (\$20.18)	\$739.60 (\$21.14)	\$772.90 (\$22.08)	\$806.20 (\$23.03)
2	CUSTOMER ACCOUNT REP #66, #85 OFFICE SERVICE CLERK # 101 CASHIER #41		725	ACCOUNTING CLERK	\$674.17 (\$19.26)	\$704.21 (\$20.13)	\$734.21 (\$20.97)	\$764.75 (\$21.86)



**SCHEDULE "B"**  
**WEEKLY RATES OF PAY EFFECTIVE APRIL 1, 2009**

WAGE GROUP	CUSTOMER SERVICES	IT	OPERATIONS	FINANCE	STEP ONE	STEP TWO*	STEP THREE*	STEP FOUR*
8			**ENGR. TECHNICIAN 1 #74, #96 #5, 7, 10, 27, 52, 55  **CAD TECHNICIAN 1	(40 hour work week)  GROUP LEADER - FINANCE #49 (35 hour work week)	\$1,308.50  \$1,144.93  (\$32.71)	\$1,373.92  \$1,202.18  (\$34.35)	\$1,439.38  \$1,259.45  (\$35.99)	\$1,504.83  \$1,316.72  (\$37.62)
7	**MV90 TECHNICIAN		**ENGR. TECHNICIAN 2 #96  **CAD TECHNICIAN 2 #99	(40 hour work week)  SR. ACCOUNTING CO-ORDINATOR	\$1,204.68  \$1,054.10  (\$30.11)	\$1,264.84  \$1,106.74  (\$31.63)	\$1,325.10  \$1,159.47  (\$33.12)	\$1,385.34  \$1,212.17  (\$34.64)
6	BACK BILLING CO-ORDINATOR #67 KEY ACCOUNT REP. #26 BILL PRODUCTION CO-ORD. #65	BUYER # 14 SR. COMPUTER OPERATOR # 13 MAPPING ANALYST		ACCOUNTING ANALYST #29	\$960.89  (\$27.44)	\$1,008.87  (\$28.83)	\$1,056.95  (\$30.20)	\$1,105.02  (\$31.56)
5	COMMERCIAL ACCOUNTS REP. #26 CUSTOMER SERVICE REP. #3,#4, #98 NEW SERVICE REP. #62		**OUTAGE CO-ORDINATOR #72  PROJECT CO-ORDINATOR #58	(40 hour work week)  TREASURY CLERK #8 TREASURY SUPPORT #39 COSTING SUPPORT #31	\$1,016.78  \$889.71  (\$25.43)	\$1,064.83  \$931.86  (\$26.63)	\$1,115.13  \$975.56  (\$27.88)	\$1,164.08  \$1,018.76  (\$29.11)
4	SETTLEMENT CO-ORDINATOR  EBT PROCESSOR	TELECOMM CO-ORDINATOR #75	TIME SHEET CO-ORDINATOR		\$798.02  (\$22.80)	\$835.79  (\$23.87)	\$873.65  (\$24.96)	\$912.94  (\$26.08)
3	CUSTOMER ACCOUNTS REP #70  METER READER TRANS. PROCESSOR  CDM CO-ORDINATOR		CONSTRUCTION CLERK #93 STAKEOUTS CO-ORDINATOR #94 STREETLIGHT CO-ORDINATOR #1 DISTRIBUTION CO-ORDINATOR #78 FLEET CO-ORDINATOR #89 TIME SHEET CLERK # 43 METERING CLERK #87	OFFICE SERVICES CO-ORD #11	\$729.32  (\$20.84)	\$763.64  (\$21.83)	\$798.02  (\$22.80)	\$832.40  (\$23.78)
2	CUSTOMER ACCOUNT REP #66, #85 OFFICE SERVICE CLERK # 101 CASHIER #41		727	ACCOUNTING CLERK	\$696.08  (\$19.89)	\$727.10  (\$20.78)	\$758.07  (\$21.65)	\$789.60  (\$22.57)

\* STEP TWO - AFTER 6 MONTHS

\* STEP THREE - AFTER 18 MONTHS

\* STEP FOUR - AFTER 30 MONTHS

\*\* 40 HOUR WORK WEEK

**COLA**

The COLA provision shall be revised effective April 1, 2009 based on Metro CPI for April 2009 on the basis of 1% for 1%. The COLA will trigger at or above 4% paid in the month following the month it triggers operating on a quarterly basis.

**LETTER OF UNDERSTANDING - 1**  
**JOINT JOB EVALUATION COMMITTEE**

The parties agree to the establishment of a Joint Job Evaluation Committee comprised of two (2) members of the Union and two (2) Employer representatives. The Committee shall meet on an annual basis, normally in June of each year.

Where the Committee agrees that a significant change in job duties has occurred, the parties will attempt to agree upon a new rate. Failing agreement, the matter may be referred to Arbitration.

The Committee shall meet in 2007 and in 2009.

**LETTER OF UNDERSTANDING - 2****FLEX TIME**

It is the Employer's current intention to continue the FLEX POLICY. In the event it is to be modified, a six (6) week notice will be given to any individual Employee, or three (3) month notice in writing to the Union in the event of cancellation.

## LETTER OF UNDERSTANDING – 3

### STANDBY DUTY

#### **The following are the general guidelines to be followed by Standby Personnel (A, B and C teams)**

1. The on-call supervisor is ultimately responsible for the safety of the crews and the public and must exercise his discretion at all times.
2. It is the Employee's responsibility to stay informed of the dates scheduled to be on call.
3. The Employee must carry a pager when on call and ensure that both the Control Room and the On Call Supervisor has your pager and cell number.
4. There will be a short meeting each Friday morning between the on call teams and the On Call Supervisor to exchange information. At this time, the Employee will ensure all information on the on-call board in the Control Room is correct (i.e. pager #, truck #, phone #, preferred method of contact etc.) Should the employee be unable to attend the morning meeting, he must contact the On Call Supervisor prior to the commencement of his on call.
5. The Employee will report any abnormal circumstances / conditions, such as mechanical, undue delays etc. to the On Call Supervisor and / the Control Room.
6. Trading of on call is permissible providing the on call Supervisor is notified three (3) days in advance, notwithstanding any unforeseen circumstances. In all cases, the On Call Supervisor must be notified of any changes to coverage. Leadhands should be replaced with Leadhands wherever possible although it is acknowledged that there may be occasions when Employees who regularly relieve Leadhands may be required to fulfill standby requirements.
7. Each individual is responsible for providing their own personal tools and personal protective wear such as rubber gloves, hardhat, glasses, rainwear etc. Tools are removed from the trouble trucks on a nightly basis. The Employee will carry PPE in the event the employee is directed to report to the job site.
8. The Employee shall clear calls as they are completed.
9. In the event that an Employee is approaching 16 hours worked, the Employee will notify On Call Supervisor.
10. The driver of any hydro vehicle will complete and submit the report in compliance with the Policy.
11. Upon arrival at the service center, the Employee(s) prepare the truck. The Employee will radio the control room from the truck to obtain instructions.
12. If "A" and "B" teams are called, the first two (2) people to arrive will go to the problem area.



### **ON CALL GUIDELINES FOR A, B AND C TEAMS**

- “A” team will be called first during non-business hours
- In the event a feeder stays locked out after one minute, “A” team will be called in to assist the trouble truck. In the event there is no trouble truck, or the truck is busy, then “B” team may be called in to assist “A” team with outage.
- Operator is required to notify On Call supervisor of all significant outages.
- Condition guarantees are assigned to the “B” team on weekends. The condition guarantees are assigned to the “A” team according to the standby schedule Monday nights to Friday mornings.
- Condition guarantees requiring “A”, “B” or “C” teams may be distributed differently when overlap.
- A third man required for a C.G. may be called upon from the “C” team with a L/H first being called, if one is scheduled for the weekend. If no “C” team is scheduled, then the next available person from the emergency callout list shall be utilized.

This Agreement shall be for the term of the Collective Agreement. Any amendment to it shall be by mutual agreement between Union and Management.

Dated this 30<sup>th</sup> day of January, 2000. Revised and resigned on March 24, 2006.

#### **FOR THE UNION**

Harold Vance

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Rob Mogus

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Judy Pollard

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#### **FOR THE EMPLOYER**

Roland Herman

---

Ray Rauber

---

Jo Ann Morello

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(Original document signed by all of the above)





**Enersource Hydro Mississauga  
 Operations, Maintenance & Administrative Expenses (OM&A) - Variance Analysis**

Note: all amounts in \$000's.

	Test Year 2008	Bridge Year 2007	Variance \$	Variance %
<b><u>OM&amp;A Variance Analysis 2008 vs 2007</u></b>	\$ 36,209	\$ 33,829	\$ 2,381	7.0%

**Variance Breakdown**

Total Manpower			\$2,005	5.9%
Total Material			\$74	0.2%
Total Transportation			\$13	0.0%
Total Other			\$288	0.9%
<b>Total</b>			\$2,381	7.0%

**The increase in total manpower costs is attributed to the following:**

Usual Vacant Rate			(\$218)	-0.6%
13 New Positions @ average \$65k			\$845	2.5%
5 New Positions @ average \$65k			\$325	1.0%
3 % Increase in average compensation			\$705	2.1%
Job Level Adjustments & other			\$348	1.0%
<b>Total Manpower</b>			\$2,005	5.9%

**The increase in total material costs is attributed to the following:**

Project Material and Consumables			\$74	0.2%
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**The increase in total transportation costs is attributed to the following:**

Fuel			\$13	0.0%
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**The increase in total other costs is attributed to the following:**

Maintenance-Software			\$170	0.5%
Heat and Hydro			\$83	0.2%
Building Maintenance			\$33	0.1%
Waste & Chemical Disposal			\$41	0.1%
Other			(\$38)	-0.1%
<b>Total Other</b>			\$288	0.9%
			\$2,381	7.0%

**Enersource Hydro Mississauga  
Operations, Maintenance & Administrative Expenses (OM&A) - Variance Analysis**

Note: all amounts in \$000's.

	<b>Bridge Year 2007</b>	<b>Historical Year 2006</b>	<b>Variance \$</b>	<b>Variance %</b>
<b><u>OM&amp;A Variance Analysis 2007 vs 2006</u></b>	\$ 33,829	\$ 29,174	\$ 4,655	16.0%

**Variance Breakdown**

Total Manpower			\$2,822	9.7%
Total Material			\$69	0.2%
Total Transportation			\$140	0.5%
Total Other			\$1,624	5.6%
<b>Total</b>			<b>\$4,655</b>	<b>16.0%</b>

**The increase in total manpower costs is attributed to the following:**

Contract Grounds and Maintenance manpower			\$160	0.5%
Training			\$175	0.6%
One-time Pension and Benefit repayment			\$718	2.5%
12 New Positions @ \$65k Average Salary			\$780	2.7%
3 % Increase in average compensation			\$620	2.1%
Job Level Adjustments			\$289	1.0%
Standby for ABC RBD & SOC for 2007			\$80	0.3%
<b>Total Manpower</b>			<b>\$2,822</b>	<b>9.7%</b>

**The increase in total material costs is attributed to the following:**

Project Material and Consumables			\$69	0.2%
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**The increase in total transportation costs is attributed to the following:**

Fuel			\$140	0.5%
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**The increase in total other costs is attributed to the following:**

Vehicle Repairs & Maintenance			\$137	0.5%
Communication			\$185	0.6%
Equipment Repairs and Maintenance			\$187	0.6%
Heat and Hydro			\$69	0.2%
Building Maintenance			\$87	0.3%
Postage and Bill Delivery			\$261	0.9%
Software Maintenance/Software Licence			\$447	1.5%
Other			\$252	0.9%
<b>Total Other</b>			<b>\$1,624</b>	<b>5.6%</b>
			<b>\$4,655</b>	<b>16.0%</b>

**Property Taxes, Capital Taxes and Payments in Lieu of Corporate Taxes**

	2008 Test Year	2007 Bridge Year	2006 Historic Year
Capital Tax	1,482	1,450	1,557
Payments in Lieu	<u>11,768</u>	<u>8,130</u>	<u>10,119</u>
Total	<u><u>13,250</u></u>	<u><u>9,580</u></u>	<u><u>11,676</u></u>
Property Tax (1)	<u><u>961</u></u>	<u><u>870</u></u>	<u><u>779</u></u>

Note (1) - Property Tax is included under other controllable costs - Exhibit D-Schedule 2-Tab 1

<b>Capital Tax</b>	<b>2008</b>	<b>2007</b>
	<b>Test Year</b>	<b>Bridge Year</b>
PROVINCIAL CAPITAL TAX		
Taxable Capital	\$534,122	\$520,758
Less: Capital Tax shelter (2007) - \$12,500k		\$11,893
Less: Capital Tax shelter (2008-2009) - \$15,000k	\$14,271	
Taxable Capital after shelter	\$519,851	\$508,865
Provincial Capital Tax Rate	0.285%	0.285%
Provincial Capital Tax	\$1,482	\$1,450

### Payments in Lieu of Taxes

	<b>Test 2008 Excl PILs</b>
<b>PILs:</b>	
Net Income before Interest Excluding PILs Revenue	\$35,674
Less: Interest Expense for accounting purposes	17,479
<b>Net Income / (Loss)</b>	<b><u>18,195</u></b>
<b><u>Reconciliation of accounting income to taxable income</u></b>	
<u>Additions to Net Income</u>	
Provision for income taxes - current	\$0
Amortization of tangible assets	\$34,357
Recovery of deferred costs & amortization of regulatory assets	\$2,850
Reserves from financial statements (end of year)	\$3,534
Capital tax expensed per accounts	\$1,482
Other additions	\$468
Total Additions	<b><u>\$42,690</u></b>
<u>Deductions to Net Income</u>	
Capital cost allowance	\$33,541
Cumulative eligible capital deduction	\$1,356
Capital tax per CT23	\$1,482
Reserves from financial statements (beginning of year)	\$3,054
Deferred RCVA costs & interest income on regulated assets	\$87
AFUDC - Interest Capitalized to Book	\$302
Other deductions	\$250
Total Deductions	<b><u>\$40,072</u></b>
Total Additions less Deductions	<b><u>\$2,618</u></b>
<b>Taxable Income / (Loss)</b>	<b><u>\$20,813</u></b>
<b>Total Income Tax (Before Gross-up)</b>	<b><u>\$7,518</u></b>
<b>Total Income Tax (Grossed up For Rate Making)</b>	<b><u>\$11,768</u></b>
<b>Total Capital Taxes (includes grossed-up LCT to 2006)</b>	<b><u>\$1,482</u></b>
<b>TOTAL INCOME &amp; CAPITAL TAXES</b>	<b><u>\$13,250</u></b>



<u>Asset Type</u>	<u>Life (in years)</u>	<u>Depreciation Rate</u>
Building & Fixtures – Brick, Stone, Concrete & Steel	50	2.00%
Building & Fixtures – Other Construction	25	4.00%
Municipal Distribution Station Equipment	30	3.33%
Sub-transmission Feeders – Overhead & Underground	25	4.00%
Distribution Lines & Feeders – Overhead & Underground	25	4.00%
Meters	25	4.00%
Smart Meters	15	6.67%
Office Equipment	10	10.00%
Computer Equipment - Hardware	5	20.00%
Stores Warehousing Equipment	10	10.00%
Rolling Stock:		
Automobiles	4	25.00%
Trucks under 3 tons	5	20.00%
Trucks 3 tons & over	8	12.50%
Service Equipment	8	12.50%
Major Tools	10	10.00%
System Supervisory Equipment	15	6.67%
Software	2	50.00%

### 2008 Test Year Depreciation Expense

<u>Asset Class</u>	<u>Depreciation Expense</u>
BUILDINGS	\$297,459
MUNICIPAL SUBSTATION EQUIPMENT	\$2,288,874
SUPERVISORY CONTROL EQUIPMENT	\$892,776
UNDERGROUND SUBTRANSMISSION	\$24,192
OVERHEAD PRIMARY	\$6,644,781
UNDERGROUND PRIMARY	\$16,884,060
TRANSFORMERS	\$2,647,579
METERS	\$1,522,832
GENERAL OFFICE EQUIPMENT	\$748,698
ROLLING STOCK - 4 yrs	\$183,843
ROLLING STOCK - 5 yrs	\$382,798
ROLLING STOCK - 8 yrs	\$953,865
MAJOR TOOLS & INSTRUMENT/GARAGE EQUIPMENT	\$205,622
COMPUTER EQUIPMENT	\$2,160,446
COMPUTER SOFTWARE	\$1,203,006
<b>FIXED ASSETS</b>	<b><u>\$37,040,831</u></b>
CIAC-OVERHEAD PRIMARY	-\$238,148
CIAC-UNDERGROUND PRIMARY	-\$2,116,435
CIAC-TRANSFORMERS UNDERGROUND	-\$328,951
CIAC	<u>-\$2,683,534</u>
Total	<b><u><u>\$34,357,297</u></u></b>

### 2007 Bridge Year Depreciation Expense

<u>Asset Class</u>	<u>Depreciation Expense</u>
BUILDINGS	\$297,998
MUNICIPAL SUBSTATION EQUIPMENT	\$2,183,874
SUPERVISORY CONTROL EQUIPMENT	\$832,084
UNDERGROUND SUBTRANSMISSION	\$24,192
OVERHEAD PRIMARY	\$6,212,647
UNDERGROUND PRIMARY	\$16,111,060
TRANSFORMERS	\$2,684,519
METERS	\$1,421,851
GENERAL OFFICE EQUIPMENT	\$536,031
ROLLING STOCK - 4 yrs	\$156,571
ROLLING STOCK - 5 yrs	\$338,387
ROLLING STOCK - 8 yrs	\$992,236
MAJOR TOOLS & INSTRUMENT/GARAGE EQUIPMENT	\$175,095
COMPUTER EQUIPMENT	\$1,101,699
COMPUTER SOFTWARE	\$1,466,898
<b>FIXED ASSETS</b>	<b><u>\$34,535,142</u></b>
CIAC-OVERHEAD PRIMARY	-\$216,148
CIAC-UNDERGROUND PRIMARY	-\$1,996,435
CIAC-TRANSFORMERS UNDERGROUND	-\$315,951
<b>CIAC</b>	<b><u>-\$2,528,534</u></b>
	<b><u><u>\$32,006,608</u></u></b>



### 2006 Historical Year Depreciation Expense

<u>Asset Class</u>	<u>Depreciation Expense</u>
BUILDINGS	\$292,927
MUNICIPAL SUBSTATION EQUIPMENT	\$2,150,843
SUPERVISORY CONTROL EQUIPMENT	\$945,282
UNDERGROUND SUBTRANSMISSION	\$24,192
OVERHEAD PRIMARY	\$5,774,020
UNDERGROUND PRIMARY	\$15,438,028
TRANSFORMERS	\$2,711,924
METERS	\$1,318,906
GENERAL OFFICE EQUIPMENT	\$377,132
ROLLING STOCK - 4 yrs	\$109,374
ROLLING STOCK - 5 yrs	\$292,161
ROLLING STOCK - 8 yrs	\$1,051,842
MAJOR TOOLS & INSTRUMENT/GARAGE EQUIPMENT	\$135,087
COMPUTER EQUIPMENT	\$794,903
COMPUTER SOFTWARE	\$1,272,148
<b>FIXED ASSETS</b>	<b>\$32,688,769</b>
CIAC-OVERHEAD PRIMARY	-\$192,302
CIAC-UNDERGROUND PRIMARY	-\$1,896,366
CIAC-TRANSFORMERS UNDERGROUND	-\$304,864
<b>CIAC</b>	<b>-\$2,393,532</b>
	<b>\$30,295,237</b>

**2008 Test Year Depreciation Expense change from 2007 Bridge Year**

<u>Asset Class</u>	<u>Capital Additions</u>	<u>Change in Depreciation Expense from 2007 Bridge Year</u>
LAND	\$2,500,000	-
BUILDINGS	-	-\$539
MUNICIPAL SUBSTATION EQUIPMENT	\$3,425,000	\$105,000
SUPERVISORY CONTROL EQUIPMENT	\$1,400,000	\$60,692
OVERHEAD PRIMARY	\$9,200,000	\$432,134
UNDERGROUND PRIMARY	\$19,475,000	\$773,000
TRANSFORMERS	-	-\$36,940
METERS	\$2,008,418	\$100,981
GENERAL OFFICE EQUIPMENT	\$2,150,000	\$212,667
ROLLING STOCK - 4 yrs	\$191,600	\$27,272
ROLLING STOCK - 5 yrs	\$370,000	\$44,411
ROLLING STOCK - 8 yrs	\$1,296,000	-\$38,371
MAJOR TOOLS & INSTRUMENT/GARAGE EQUIPMENT	\$150,000	\$30,527
COMPUTER EQUIPMENT	\$9,458,874	\$1,058,747
COMPUTER SOFTWARE	\$720,000	-\$263,892
<b>FIXED ASSETS</b>	<b>\$52,344,892</b>	<b>\$2,505,689</b>
CIAC-OVERHEAD PRIMARY	-\$500,000	-\$22,000
CIAC-UNDERGROUND PRIMARY	-\$3,000,000	-\$120,000
CIAC-TRANSFORMERS UNDERGROUND	-\$250,000	-\$13,000
<b>CIAC</b>	<b>-\$3,750,000</b>	<b>-\$155,000</b>
	<b>\$48,594,892</b>	<b>\$2,350,689</b>

**2007 Bridge Year Depreciation Expense change from 2006 Historical Year**

<u>Asset Class</u>	<u>Capital Additions</u>	<u>Change in Depreciation Expense from 2006 Historical Year</u>
LAND	-	-
BUILDINGS	-	\$5,071
MUNICIPAL SUBSTATION EQUIPMENT	\$2,875,000	\$33,031
SUPERVISORY CONTROL EQUIPMENT	\$1,370,000	-\$113,198
OVERHEAD PRIMARY	\$12,406,717	\$438,627
UNDERGROUND PRIMARY	\$19,175,000	\$673,032
TRANSFORMERS	-	-\$27,405
METERS	\$2,726,241	\$102,944
GENERAL OFFICE EQUIPMENT	\$2,110,000	\$158,899
ROLLING STOCK - 4 yrs	\$306,800	\$47,197
ROLLING STOCK - 5 yrs	\$260,000	\$46,226
ROLLING STOCK - 8 yrs	\$1,295,000	-\$59,606
MAJOR TOOLS & INSTRUMENT/GARAGE EQUIPMENT	\$763,000	\$40,007
COMPUTER EQUIPMENT	\$2,395,000	\$306,796
COMPUTER SOFTWARE	\$1,087,000	\$194,750
<b>FIXED ASSETS</b>	<b>\$46,769,758</b>	<b>\$1,846,371</b>
CIAC-OVERHEAD PRIMARY	-\$600,000	-\$23,846
CIAC-UNDERGROUND PRIMARY	-\$3,000,000	-\$100,069
CIAC-TRANSFORMERS UNDERGROUND	-\$400,000	-\$11,086
<b>CIAC</b>	<b>-\$4,000,000</b>	<b>-\$135,001</b>
	<b>\$42,769,758</b>	<b>\$1,711,371</b>

**Enersource's Loss Factors per Loss Model**

Scenario 1: 60% Load Factor

	Municipal Station	Source of Loss			Total
		Primary Line	Distribution Transformer	Secondary Line	
2005	0.194	1.489	0.692	0.688	3.063
2006	0.169	1.314	0.623	0.805	2.911

Scenario 2: 70% Load Factor

	Municipal Station	Source of Loss			Total
		Primary Line	Distribution Transformer	Secondary Line	
2005	0.205	1.58	0.733	0.73	3.248
2006	0.197	1.539	0.726	0.943	3.405



**Determination of Total Loss Factor - per OEB 2006 EDR Handbook**

		<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
Data	Wholesale kWh	7,893,199,846	7,835,477,880	7,935,629,620	8,274,861,000	8,038,675,830
	Retail kWh	7,582,464,082	7,593,570,208	7,689,582,883	8,031,718,000	7,741,962,941
	Retail kWh for Large Users	952,073,899	1,010,913,650	1,004,757,724	980,658,593	980,065,806
Calculation	Loss Factor	4.54%	3.52%	3.53%	3.31%	4.24%
	3 year average Loss Factor			3.86%	3.45%	3.69%
	Average of 3 year averages					
	Average of 3 year averages	3.7%				

**LRAM and SSM Total Amounts**

<u>Rate Class</u>	LRAM Amount	SSM Amount
Residential	\$363	\$725
GS<50 kW	\$7	\$2
GS 50-499 kW	\$1	\$24
GS 500-4999 kW	\$0	\$342
GS >5000 kW	\$0	\$187
Total	\$370	\$1,280

Note: all amounts in \$000's.

LRAM by Customer Class

**3rd Tranche**

Rate Class

	May 1/05 to Apr 30/06			May 1/06-Oct 31/06			Nov 1/06-Apr 30/07			Total		
	kWh or kW	Rate \$/kWh or kW	Revenue \$000	kWh or kW	Rate \$/kWh or kW	Revenue \$000	kWh or kW	Rate \$/kWh or kW	Revenue \$000	Total kWh/kW	Total Revenue	Total Class Revenue
<u>Residential</u>		0.0103			0.012			0.0121				
Co-branded	1584407		\$16,319.39	8900392		\$106,804.70	10036198		\$121,438.00	20520997	\$244,562	
Load control	0		\$0.00	0		\$0.00	1696365		\$20,526.02	1696365	\$20,526	
SMART ave	0		\$0.00	0		\$0.00	4736		\$57.31	4736	\$57	\$265,145.41
<u>GS&lt; 50 kW</u>		0.0136			0.0146			0.0148				
Social housing	50961		\$693.07	105893		\$1,546.04	246714		\$3,651.37	403568	\$5,890	
Leveraging EC	0		\$0.00	0		\$0.00	14097		\$208.64	14097	\$209	
On the bill	31798		\$432.45	0		\$0.00	0		\$0.00	31798	\$432	\$6,531.56
<u>GS 50-499 kW</u>		4.0008 *			4.2961 *			4.3427 *				
SMART meter	0		\$0.00	25		\$107.40	0		\$0.00	25	\$107	
Leveraging EC	0		\$0.00	27		\$115.99	50		\$217.14	77	\$333	
On the bill	66		\$264.05	0		\$0.00	0		\$0.00	66	\$264	\$704.59
<u>GS 500-4999 kW</u>		1.3071 *			1.4461 *			1.4639 *				
Leveraging EC	16		\$20.91	16		\$23.14	191		\$279.60	223	\$324	

Third Tranche Total \$272,705

**2nd Generation**

Rate Class

	May 1/05 to Apr 30/06			May 1/06-Oct 31/06			Nov 1/06-Apr 30/07			Total	
	kWh or kW	Rate \$/kWh or kW	Revenue \$000	kWh or kW	Rate \$/kWh or kW	Revenue \$000	kWh or kW	Rate \$/kWh or kW	Revenue \$000	Total kWh/kW	Total Revenue
<u>Residential</u>		0.0103			0.012			0.0121			
Water heater	0		\$0.00	525673		\$6,308.08	4122382		\$49,880.82	4648055	\$56,189
Seasonal LED	0		\$0.00	0		\$0.00	109158		\$1,320.81	109158	\$1,321
CFL bulb drop	0		\$0.00	436305		\$5,235.66	2875637		\$34,795.21	3311942	\$40,031

Second Generation Total \$97,541

**Grand Total \$370,246**

Note: \*rates reduced for \$0.40/kW transformer ownership allowance (affects 7.2% of GS 50-499 kW and 54.9% of GS 500-4999 kW rate classes)

### SSM Amounts by Program

	Total Benefits \$ NPV	Total Costs \$ NPV	Net Benefits \$ NPV	Benefit Cost Ratio	SSM Amount \$ After Tax (5% of net benefit)	SSM Amount \$ Pre Tax (grossed up 36.12%)
<b>3rd Tranche</b>						
<b>Rate Class</b>						
<b>Residential</b>						
Co-branded	6,993,621	1,138,920	5,854,701	6.14	292,735	458,258
Smart meter pilot	0	251,215	-251,215	0.00	-12,561	-19,663
Load control	3,405,505	1,684,749	1,720,756	2.02	86,038	134,687
SMART Avenue	23,456	338,621	-315,165	0.07	-15,758	-24,669
Total						<u>548,613</u>
<b>GS&lt; 50 kW</b>						
Social housing	259,238	207,870	51,368	1.25	2,568	4,021
Leveraging EC	9,469	4,843	4,626	1.96	231	362
Load displacement	0	34,654	-34,654	0.00	-1,733	-2,712
On the bill	14,814	15,237	-423	0.97	-21	-33
Total						<u>1,637</u>
<b>GS 50-499 kW</b>						
SMART meter	370,463	246,995	123,468	1.50	6,173	9,664
Leveraging EC	106,166	54,297	51,869	1.96	2,593	4,060
Load control	214,806	75,128	139,678	2.86	6,984	10,933
On the bill	216,741	222,937	-6,196	0.97	-310	-485
Load displacement	0	34,654	-34,654	0.00	-1,733	-2,712
Stand by generators	95,977	38,369	57,608	2.50	2,880	4,509
Total						<u>25,968</u>
<b>GS 500-4999</b>						
Leveraging EC	2,233,340	1,142,198	1,091,142	1.96	54,557	85,406
Load control	2,148,059	751,278	1,396,781	2.86	69,839	109,329
Stand by generators	3,747,677	1,498,237	2,249,440	2.50	112,472	176,068
Total						<u>370,802</u>
<b>GS 5000 kW</b>						
Load control	2,285,169	799,232	1,485,937	2.86	74,297	116,307
Stand by generators	1,828,135	730,847	1,097,288	2.50	54,864	85,887
Total						<u>202,194</u>
<b>Total 3rd tranche</b>	<b>23,952,636</b>	<b>9,270,281</b>	<b>14,682,355</b>	<b>2.58</b>	<b>734,118</b>	<b>1,149,214</b>
<b>2nd Generation</b>						
<b>Rate Class</b>						
<b>Residential</b>						
Water heater	3,009,201	480,334	2,528,867	6.26	126,443	197,939
Seasonal LED	143,220	113,837	29,383	1.26	1,469	2,300
CFL bulb drop	721,058	252,202	468,856	2.86	23,443	36,698
<b>Total 2nd generation</b>	<b>3,873,479</b>	<b>846,373</b>	<b>3,027,106</b>		<b>151,355</b>	<b>236,937</b>
<b>Total 3rd tranche and 2nd generation</b>						<b>1,386,151</b>
<b>Program support</b>	0	1,360,201	-1,360,201	0.00	-68,010	-106,465
<b>GRAND TOTAL</b>	<b>27,826,115</b>	<b>11,476,855</b>	<b>16,349,260</b>		<b>817,463</b>	<b>1,279,685</b>

**Cost of Capital and Capital Structure**

**Overview**

Enersource proposes that a deemed capital structure of 60% long term debt and 40% equity be relied on for rate making purposes. Enersource also proposes that its 2008 distribution rates recover its historic cost of debt, being 6.44%, and provide an opportunity to earn a return on equity of 9.00%. The associated weighted average cost of capital is 7.464%. This position is summarized in the table below and at ExE/Sched2/Tab1.

<b>Description</b>	<b>Amount</b>			
	<b>(\$ Millions)</b>	<b>Proportion</b>	<b>Cost Rate</b>	<b>Weighted Av</b>
Long-term debt	303.242	60%	6.44%	3.864%
Common equity	202.162	40%	9.00%	3.600%
<b>Total</b>	<b>505.404</b>	<b>100%</b>		<b>7.464%</b>

**Capital Structure**

Enersource proposes to rely on a deemed capital structure of 60% long term debt and 40% equity and in the following amounts be used for rate making purposes for the 2008 Test Year:

<b>Description</b>	<b>Amount</b>
	<b>(\$ Millions)</b>
Proposed Long Term Debt	\$303.242
Proposed Equity	\$202.162
<b>Total</b>	<b>\$505.404</b>

1 This data is supported by ExE/Sched2/Tab1.

2

3 This proposed capital structure is consistent with Enersource's capital structure strategy of  
4 maintaining, as closely as possible, a 60% long-term debt and 40% equity capital structure, as  
5 reflected in ExE/Sched2/Tab1.

6

7 Enersource's proposed deemed capital structure does not include a short term debt component.

8 This is because Enersource's actual capital structure does not rely on short term debt and because

9 Enersource's actual capital structure is appropriate for rate making purposes.

10

11 In the past Enersource has relied on short term debt. For example, at the time that the Borealis-  
12 Enersource bonds were issued, Enersource required short term debt to support its ongoing  
13 working capital needs. Specifically, following the deregulation of the electricity market in May  
14 2002, Enersource utilized short term debt to fund the purchase of electricity from the IESO (then  
15 known as the IMO). Since the passage of Bill 210 in December 2002 and the implementation of  
16 its associated regulated price plan - in particular the elimination of the 10 day waiting period for  
17 billing purposes - short term debt has no longer been utilized.

18

#### 19 Cost of Capital

20

21 Enersource proposes a 7.46% weighted cost of capital for the 2008 Test Year, based on a cost of  
22 debt of 6.44% and a return on equity of 9.00%, as set out in more detail below.

23

#### 24 Cost of Debt

25

26 Enersource Corporation placed \$290 million of 10 year debt in the form of the Borealis-  
27 Enersource Bonds that were issued May 1, 2001 at a coupon rate of 6.29 per cent. The costs to

1 issue these bonds amounted to \$4.340 million. These bond issue costs are being amortized over  
2 the 10 year life of the bonds. The annual amortization expense amounts to \$0.434 million.

3

4 The cost of debt is calculated below (note: all amounts in millions \$):

5

6	Long term debt	\$290.000
7	Coupon rate	6.29%
8	Annual interest cost	\$ 18.241
9	Amortization of bond issue costs	<u>0.434</u>
10	Total debt cost	\$ 18.675
11	Total debt cost	6.44%

12

13 Return on Equity

14

15 The proposed return on equity was determined by applying Dr. Cannon's Allowed Rate of  
16 Return Updating Methodology to four different Long Bond Rate forecasts and then estimating  
17 the mid-point of the computed returns. Conference Board and Royal Bank of Canada forecasts  
18 of the cost of Government of Canada bonds were relied on.

19

20 The computed results are set out in the table below. Enersource proposes a 9.00 per cent rate of  
21 return for rate making purposes in the 2008 Test Year, based on the average of the results shown  
22 in the table below.

23

24

	Long Bond Rate	ERP	ROE	Footnote
Original data: per Dr. Cannon	5.50%	3.85%	9.35%	
Updated data (1)	4.81%		8.83%	(1)
Updated data (2)	5.25%		9.19%	(2)

Footnotes

Formula:  $ROE_t = 9.35\% + 0.75 * (LCBF_t - 5.50\%)$

LCBF<sub>t</sub> is the Long-Canada Bond forecast for the test year

- (1) Conference Board Dec 2006 forecast for Long-Canada bond yield in 2008

$$ROE = 9.35\% + 0.75 * (4.81\% - 5.5\%) = 8.83\%$$

- (2) Royal Bank of Canada July 2007 forecast of 10 year and 30 year Government of Canada bond rates:

$$ROE = 9.35\% + 0.75 * (5.25\% - 5.5\%) = 9.19\% \text{ (see ExE/Sched3/Tab1)}$$



1 **Variance analysis**

2

3 2008 Test Year versus 2007 Bridge Year

4

5 The variances between the actual capital structure and the deemed capital structure shown in  
6 ExE/Sched2/Tab1 are minor and are directly attributable to changes in rate base.

7

8 There is no variance between the actual cost of debt and the cost of debt for rate making  
9 purposes.

10

11 The variance in the allowed return on equity is attributable to changes in the prevailing Long  
12 Canada bond rate.

13

14 The variance between the allowed return on equity and the achieved return on equity is  
15 attributable to the level of authorized rates.

16

17 2007 Bridge Year versus 2006 Historic Year

18

19 The variances between the actual capital structure and the deemed capital structure in  
20 ExE/Sched2/Tab1 are minor and are directly attributable to changes in rate base.

21

22 There is no variance between the actual cost of debt and the cost of debt for rate making  
23 purposes.

24

25 The variance in the allowed return on equity is attributable to changes in the prevailing Long  
26 Canada bond rate.

27

1 The variance between the allowed return on equity and the achieved return on equity is  
2 attributable to the level of authorized rates.

3

4

1  
2

**Capital Structure (\$000's)**

	2008	2007		2006	
	Deemed	Actual	Deemed	Actual	Deemed
Long Term Debt	\$303,242	\$290,000	\$292,345	\$290,000	\$286,632
Short Term Debt	\$0	\$0	\$0	\$0	\$0
Equity	<u>\$202,162</u>	<u>\$197,241</u>	<u>\$194,896</u>	<u>\$187,720</u>	<u>\$191,088</u>
<b>Rate Base</b>	<b>\$505,404</b>	<b>\$487,241</b>	<b>\$487,241</b>	<b>\$477,720</b>	<b>\$477,720</b>

	2008	2007		2006	
	Deemed	Actual		Actual	
Long Term Debt	60.00%	59.52%	60.00%	60.71%	60.00%
Short Term Debt	0.00%	0.00%	0.00%	0.00%	0.00%
Equity	<u>40.00%</u>	<u>40.48%</u>	<u>40.00%</u>	<u>39.29%</u>	<u>40.00%</u>
<b>Total</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>

3

## Return On Equity

Board Approved ROE Formula (see Dec 20 2006 Report of The Board on CoC and 2nd Gen IRM):

$$ROE_t = 9.35\% + 0.75 * (LCBF_t - 5.50\%)$$

where  $LCBF_t$  is the Long-Canada Bond forecast for the test year

	Long Bond	ERP	ROE
Base	5.50%	3.85%	9.35%

Test Year Forecast based on Royal Bank July 2007 forecast for Long-Canada bond yield in 2008

$$= 9.35\% + 0.75 * (5.28\% - 5.5\%)$$

9.19%

10 Year Bond - Per RBC Economic Report July 2007		30 Year Bond - Per RBC Economic Report July 2007	
2008		2008	
January	5.20%	January	5.10%
February	5.25%	February	5.15%
March	5.30%	March	5.25%
April	5.35%	April	5.45%
May	5.40%	May	5.45%
June	5.45%	June	5.45%
July	5.45%	July	5.45%
August	5.45%	August	5.45%
September	5.45%	September	5.45%
October	5.40%	October	5.45%
November	5.40%	November	5.45%
December	5.40%	December	5.45%

From the above data:

An average of the 3-month and 12-month 10 year Bond Forecast

Apr-08	5.35%
Dec-08	<u>5.40%</u>
Average	5.38%

The difference of the Long Term and Short Term Bond Forecast

Jan-08	-0.10%
--------	--------

$LCBF_t =$	5.28%
------------	-------

1  
2

Cost of Capital

	2008	2007		2006	
	Deemed	Actual	Deemed	Actual	Deemed
Long Term Debt	3.86%	3.85%	3.86%	3.91%	3.86%
Short Term Debt	0.00%	0.00%	0.00%	0.00%	0.00%
Equity	3.60%	3.62%	3.60%	3.54%	3.60%
Weighted Average Cost of Capital	7.46%	7.47%	7.46%	7.45%	7.46%

3

1 **Revenue Sufficiency/Deficiency**

2  
3 Enersource's 2008 Test Year gross revenue deficiency at existing distribution rates is  
4 approximately \$12.357 million. It is derived at ExF/Sched2/Tab1.

5  
6 **Causes of the 2008 Test Year Revenue Deficiency**

7  
8 The 2008 Test Year net revenue deficiency of \$7.893 million reflects the continuation of the net  
9 revenue deficiency experienced in the 2007 Bridge Year of \$6.651 million. The increase of  
10 \$1.243 million in net revenue deficiency in the 2008 Test Year over the 2007 Bridge Year is  
11 almost entirely due to an increase of \$18.163 million in rate base. (ExF/Sched2/Tab1,  
12 ExF/Sched2/Tab2)

13  
14 **Variance Analysis**

15  
16 **2008 Test Year versus 2007 Bridge Year**

17  
18 The 2008 Test Year net revenue deficiency is \$1.243 million greater than the net revenue  
19 deficiency experienced in the 2007 Bridge Year. This increase in net revenue deficiency of the  
20 2008 Test Year over the 2007 Bridge Year (See ExF/Sched3/Tab1) is due to:

- 21
- 22 • an increase of \$18.163 million in rate base that gives rise to an incremental return of  
\$1.356 million
  - 23 • an increase in revenue before interest expense that gives rise to a reduction in  
24 incremental return by \$0.113 million
- 25  
26  
27  
28

1 2007 Bridge Year versus 2006 Historic Year

2

3 The 2007 Bridge Year net revenue deficiency is \$2.891 million greater than the net revenue  
4 deficiency experienced in the 2006 Historic Year. This is because of the combined effects of:

- 5
- 6 • The recovery of an additional \$2.432 million through regulated rates and charges;
  - 7 • An increase in costs of \$4.612 million; and
  - 8 • A \$9.521 million increase in rate base that gives rise to an incremental return of \$0.711 million.

**Revenue Sufficiency/Deficiency - 2008 Test Year**

<b>Revenue</b>	
Distribution	\$109,708
Interest Income	\$2,049
Other	<u>\$475</u>
Total	\$112,232
<b>Costs</b>	
OM&A	\$42,076
Amortization of capital assets	\$34,357
Amortization of Regulatory Assets	(\$2,817)
CDM Operating Expenses	\$0
Capital Taxes	\$1,482
PILs	<u>\$7,304</u>
Total	\$82,402
<b>Sufficiency/Deficiency</b>	
Revenue before Interest Expense	\$29,830
Rate Base	\$505,404
Achieved Return on Rate Base	5.90%
Required Return on Rate Base	<u>7.46%</u>
Sufficiency/Deficiency of Return	-1.56%
Net Deficiency	-\$7,893
Tax Rate	<u>36.12%</u>
Gross Deficiency	-\$12,357



**Revenue Sufficiency/Deficiency - 2007 Bridge Year**

**Revenue**

Distribution	\$107,098
Interest Income	\$2,807
Other	<u>\$9,417</u>
Total	\$119,322

**Costs**

OM&A	\$39,289
Amortization of capital assets	\$32,007
Amortization of Regulatory Assets	\$6,129
CDM Operating Expenses	\$2,600
Capital Taxes	\$1,450
PILs	<u>\$8,130</u>
Total	\$89,605

**Sufficiency/Deficiency**

Revenue before Interest Expense	\$29,717
Rate Base	\$487,241
Achieved Return on Rate Base	6.10%
Required Return on Rate Base	<u>7.46%</u>
Sufficiency/Deficiency of Return	-1.36%
Net Deficiency	-\$6,651
Tax Rate	<u>36.12%</u>
Gross Deficiency	-\$10,411

**Revenue Sufficiency/Deficiency - 2006 Historic Year**

**Revenue**

Distribution	\$103,650
Interest Income	\$2,764
Other	<u>\$10,476</u>
Total	\$116,890

**Costs**

OM&A	\$33,992
Amortization of capital assets	\$30,275
Amortization of Regulatory Assets	\$7,144
CDM Operating Expenses	\$1,906
Capital Taxes	\$1,557
PILs	<u>\$10,119</u>
Total	\$84,993

**Sufficiency/Deficiency**

Revenue before Interest Expense	\$31,897
Rate Base	\$477,720
Achieved Return on Rate Base	6.68%
Required Return on Rate Base	<u>7.46%</u>
Sufficiency/Deficiency of Return	-0.79%
Net Deficiency	-\$3,760
Tax Rate	<u>36.12%</u>
Gross Deficiency	-\$5,886

**Variance Analysis 2008 Test Year  
2008 Test Year versus 2007 Bridge Year**

	2008 Test Year	2007 Bridge Year	Variance
<b>Revenue</b>			
Distribution	\$ 109,708	\$ 107,098	\$ 2,610
Interest Income	\$ 2,049	\$ 2,807	\$ (758)
Other	<u>\$ 475</u>	<u>\$ 9,417</u>	<u>\$ (8,942)</u>
Total	\$ 112,232	\$ 119,322	\$ (7,090)
<b>Costs</b>			
OM&A	\$ 42,076	\$ 39,289	\$ 2,787
Amortization of capital assets	\$ 34,357	\$ 32,007	\$ 2,350
CDM Operating Expenses	\$ -	\$ 2,600	\$ (2,600)
Capital Taxes	\$ 1,482	\$ 1,450	\$ 32
PILs	<u>\$ 7,304</u>	<u>\$ 8,130</u>	<u>\$ (826)</u>
Total	\$ 82,402	\$ 89,605	\$ (7,203)
<b>Sufficiency/Deficiency</b>			
Revenue before Interest Expense	\$ 29,830	\$ 29,717	\$ 113
Rate Base	\$ 505,404	\$ 487,241	\$ 18,163
Achieved Return on Rate Base	5.90%	6.10%	
Required Return on Rate Base	<u>7.46%</u>	<u>7.46%</u>	
Sufficiency/Deficiency of Return	-1.56%	-1.36%	-0.20%
Net Deficiency	(\$7,893)	(\$6,651)	(\$1,243)
Tax Rate	<u>\$0</u>	<u>\$0</u>	
Gross Deficiency	(\$12,357)	(\$10,411)	(\$1,945)

**Variance Analysis  
2007 Bridge Year versus 2006 Historic Year**

	2007 Bridge Year	2006 Historic Year	Variance
<b>Revenue</b>			
Distribution	\$107,098	\$103,650	\$3,448
Interest Income	\$2,807	\$2,764	\$43
Other	<u>\$9,417</u>	<u>\$10,476</u>	<u>-\$1,059</u>
Total	\$119,322	\$116,890	\$2,432
<b>Costs</b>			
OM&A	\$39,289	\$33,992	\$5,297
Amortization of capital assets	\$32,007	\$30,275	\$1,732
CDM Operating Expenses	\$2,600	\$1,906	\$694
Capital Taxes	\$1,450	\$1,557	-\$107
PILs	<u>\$8,130</u>	<u>\$10,119</u>	<u>-\$1,989</u>
Total	\$89,605	\$84,993	\$4,612
<b>Sufficiency/Deficiency</b>			
Revenue before Interest Expense	\$29,717	\$31,897	-\$2,180
Rate Base	<u>\$487,241</u>	<u>\$477,720</u>	\$9,521
Achieved Return on Rate Base	6.10%	6.68%	
Required Return on Rate Base	<u>7.46%</u>	<u>7.46%</u>	
Sufficiency/Deficiency of Return	-1.36%	-0.79%	-0.58%
Net Deficiency	-\$6,651	-\$3,760	-\$2,891
Tax Rate	<u>36.12%</u>	<u>36.12%</u>	
Gross Deficiency	-\$10,411	-\$5,886	-\$4,525

1 **Revenue Requirement Responsibility**

2  
3 Enersource proposes that the following amounts be recovered from each customer class through  
4 base distribution rates in the 2008 Test Year (all amounts in millions):

5

6	• Residential:	\$ 44.455
7	• General Service <50 kW:	\$ 17.155
8	• Small Commercial:	\$ 0.973
9	• General Service 50 – 499 kW:	\$ 35.810
10	• General Service 500 – 4,999 kW:	\$ 18.064
11	• Large User:	\$ 7.057
12	• Street Lighting:	<u>\$ 0.594</u>
13	Total:	\$ 124.108

14

15 The detailed derivation of these amounts is provided at ExG/Sched2/Tab1.

16  
17 Enersource relied on the 2006 EDR methodology to determine the 2008 Test Year revenue  
18 requirement responsibility of each customer class. Briefly, for each customer class, this  
19 methodology continues proportional responsibility from the 2007 Bridge Year to the 2008 Test  
20 Year. Enersource has also maintained the proportional recovery of revenue through fixed and  
21 variable rates for each customer class. A more detailed discussion of this methodology is  
22 provided at ExG/Sched2/Tab2.

23  
24 Enersource proposes to return approximately \$5.118 M to customers during the 2008 Rate Year  
25 (ExG/Sched2/Tab3). The proposed responsibility on a customer class basis is (all numbers in  
26 millions):

27

27	• Residential:	\$(1.370)
28	• General Service <50 kW-	\$(0.941)

1	• Small Commercial:	\$(0.055)
2	• General Service 50 – 499 kW:	\$(1.918)
3	• General Service 500 – 4,999 kW:	\$(0.612)
4	• Large User:	\$(0.189)
5	• Street Lighting:	<u>\$(0.033)</u>
6	Total:	\$(5.118)

7 The detailed derivation of these amounts is provided at ExG/Sched2/Tab3.

8

9 This will support:

- 10 • the clearing of several variance account and regulatory asset balances as of December  
11 31, 2006;
- 12 • recovery of the lost Revenue Adjustment Mechanism and Shared Savings Mechanism  
13 claim for Enersource’s Conservation and Demand Management activities undertaken in  
14 2006;
- 15 • recovery of Ontario price Credit Administrative Costs;
- 16 • return of the past over-recovery of the Large Corporation Tax;
- 17 • recovery of Low Voltage charges levied by Hydro One; and
- 18 • interest on regulatory assets.

19

20 Enersource relied on the 2006 EDR rate rider determination methodology to determine the  
21 customer class level of responsibility for these amounts. A more detailed discussion of this  
22 methodology is provided at ExG/Sched2/Tab4.

23

24 There are a number of policy and regulatory initiatives underway that may impact rate design  
25 and rate structure. The policy initiatives include:

- 26 • Conservation and Demand Management;
- 27 • Smart Meters and Time-of-Use commodity rates; and
- 28 • Standard Offer Program and Net Metering.

1 The regulatory initiatives include:

- 2 • Ongoing work on cost allocation methodologies;
- 3 • Examination of rate design;
- 4 • The Distributed Generation: Rates and Connection review (EB-2007-0630); and
- 5 • Promotion of rate making methodologies other than Cost of Service.

6

7 These different initiatives will act independently and in combination. As a result, it is premature  
8 to make changes to either the rate design or to the mechanisms relied on to assign revenue  
9 responsibility to each customer class. Therefore, it is appropriate to continue to use the 2006  
10 EDR method to assign responsibility for the revenue requirement and for assigning responsibility  
11 for the disposition of the balances recorded as regulatory assets and in variance accounts.

12

13 As required by the Board, Enersource filed a Cost Allocation Review – Informational Filing  
14 (“CAR-IF”) on January 15, 2007. Enersource’s executive summary of its CAR-IF Manager’s  
15 Summary is provided at ExG/Sched2/Tab5; it highlights Enersource’s concerns with the data  
16 supporting the CAR-IF, the appropriateness of the CAR-IF as an analytical tool and the ongoing  
17 relevance of the findings. For these reasons Enersource does not propose to rely on the CAR-IF  
18 to support adjustments to rates or rate riders.

19

20 Enersource also proposes to recover and recognize the costs incurred to install Smart Meters  
21 during the 2008 Test Year. The revenue requirement for this investment amounts to \$1.294  
22 million and is set out in more detail at ExG/Sched2/Tab6. The responsibility of each customer  
23 class for this amount is proportional to the number of metered customers in the class.

24

25

26

**Detailed Derivation of Proposed Base Distribution Rates**

Customer Class	2008 Projected Data			Base Rates			Percentage	Percentage Allocation of Fixed / Variable			Inc / (Dec) 2008 RR			Percentage Allocation of Fixed / Variable			Base Rates		
				At Current Rates				Revenue Requirement											
	Connections	kWh	kW	Fixed	Variable	Total		Fixed	Variable	Total	Fixed	Variable	Total	Fixed	Variable	Total	Fixed	Variable	Total
RESIDENTIAL	166,825	#####		\$22,121	\$17,176	\$39,297	35.8%	56.3%	43.7%	100.0%	\$2,904	\$2,255	\$ 5,158	56.3%	43.7%	100.0%	\$25,025	\$19,431	\$ 44,455
GENERAL SERVICE Less than 50 kW	16,081	646,726,132		\$5,529	\$9,636	\$15,165	13.8%	36.5%	63.5%	100.0%	\$726	\$1,265	\$ 1,991	36.5%	63.5%	100.0%	\$6,254	\$10,901	\$ 17,155
GS < 50 kW Small Commercial	3,288	11,905,587		\$554	\$306	\$860	0.8%	64.4%	35.6%	100.0%	\$73	\$40	\$ 113	64.4%	35.6%	100.0%	\$627	\$346	\$ 973
GENERAL SERVICE 50 kW - 499 kW	3,986		#####	\$3,490	\$28,165	\$31,655	28.9%	11.0%	89.0%	100.0%	\$458	\$3,697	\$ 4,155	11.0%	89.0%	100.0%	\$3,948	\$31,862	\$ 35,810
GENERAL SERVICE 500 kW - 4999 kW	470		#####	\$6,991	\$8,977	\$15,968	14.6%	43.8%	56.2%	100.0%	\$918	\$1,178	\$ 2,096	43.8%	56.2%	100.0%	\$7,908	\$10,156	\$ 18,064
GENERAL SERVICE > 5000 Kw	9		#####	\$1,431	\$4,808	\$6,238	5.7%	22.9%	77.1%	100.0%	\$188	\$631	\$ 819	22.9%	77.1%	100.0%	\$1,618	\$5,439	\$ 7,057
STREET LIGHTING	48,255		115,190	\$208	\$316	\$525	0.5%	39.7%	60.3%	100.0%	\$27	\$42	\$ 69	39.7%	60.3%	100.0%	\$236	\$358	\$ 594
<b>Total</b>	<b>238,914</b>			<b>\$40,323</b>	<b>\$69,385</b>	<b>\$109,708</b>	<b>100.0%</b>	<b>36.8%</b>	<b>63.2%</b>	<b>100.0%</b>	<b>\$5,293</b>	<b>\$9,107</b>	<b>\$ 14,400</b>	<b>36.8%</b>	<b>63.2%</b>	<b>100.0%</b>	<b>\$45,616</b>	<b>\$78,492</b>	<b>\$ 124,108</b>
																	Less: Transformer Allowance	\$	2,042
																	<b>Total Revenue Requirement</b>	<b>\$</b>	<b>122,066</b>



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7

**The 2006 EDR Revenue Requirement responsibility Methodology**

The 2006 EDR assigns each customer class proportional responsibility for the utility's revenue requirement in the same proportion of the revenues recovered from that customer class to total distribution revenues recovered through rates in the current year. This approach was documented in the Board Report on 2006 EDR and in the Rate Handbook.

**DERIVATION OF PROPOSED RATE RIDERS FOR 2008 TEST YEAR (000's)**

	Allocation to Customer Classes %	Allocation to Customer Classes % for LRAM	Allocation to Customer Classes % for SSM	Ontario Price Credit Admin Costs	Large Corporation Tax Over Recovery	Deferred OEB Costs (Jan. 1, 2005 to Apr. 30, 2006)	OMERS Pension Deferral (Jan. 1, 2005 to Apr. 30, 2006)	Interest on Regulatory Assets	RSVA Balances returned to customers (as at Dec.31, 2006)	Sub-Total before Low Voltage	LV Charges for 2008 Test Year	Sub-Total Including Low Voltage	LRAM to April 30, 2007	SSM to April 30, 2007	Total to be recovered over 1 year	kWh Forecast 2008	kW Forecast 2008	Proposed Rate Riders
	Total for customer class as % of Total for all classes	Total kWh savings per class / Total kWh savings	Total kWh savings per class / Total kWh savings	\$ 23.1	\$ (30.5)	\$ 1,121.7	\$ 1,613.1	\$ 1,537.4	\$ (11,286.0)	\$ (7,021.1)	\$ 252.9	\$ (6,768.2)	\$ 370.2	\$ 1,279.7	\$ (5,118.3)			
<b>RESIDENTIAL</b>	35.82%	97.96%	56.67%	\$ 8.3	\$ (10.9)	\$ 401.8	\$ 577.8	\$ 550.7	\$ (4,042.6)	\$ (2,515.0)	\$ 56.4	\$ (2,458.5)	\$ 362.7	\$ 725.2	\$ (1,370.6)	1,547,398,184		\$ (0.0009)
General Service < 50 kW	13.82%	1.76%	0.12%	\$ 3.2	\$ (4.2)	\$ 155.1	\$ 223.0	\$ 212.5	\$ (1,560.1)	\$ (970.5)	\$ 21.3	\$ (949.2)	\$ 6.5	\$ 1.5	\$ (941.2)	646,726,132		\$ (0.0015)
Small Commercial	0.78%	0.00%	0.00%	\$ 0.2	\$ (0.2)	\$ 8.8	\$ 12.6	\$ 12.1	\$ (88.5)	\$ (55.0)	\$ 0.4	\$ (54.6)	\$ -	\$ -	\$ (54.6)	11,905,587		\$ (0.0046)
General Service 50 kW - 499 kW	28.85%	0.19%	1.87%	\$ 6.7	\$ (8.8)	\$ 323.7	\$ 465.4	\$ 443.6	\$ (3,256.4)	\$ (2,025.9)	\$ 83.1	\$ (1,942.8)	\$ 0.7	\$ 24.0	\$ (1,918.1)		6,415,732	\$ (0.2990)
General Service 500 kW - 4999 kW	14.55%	0.09%	26.75%	\$ 3.4	\$ (4.4)	\$ 163.3	\$ 234.8	\$ 223.8	\$ (1,642.7)	\$ (1,021.9)	\$ 67.3	\$ (954.6)	\$ 0.3	\$ 342.3	\$ (612.0)		5,310,121	\$ (0.1152)
Large Use (> 5000 kW)	5.69%	0.00%	14.59%	\$ 1.3	\$ (1.7)	\$ 63.8	\$ 91.7	\$ 87.4	\$ (641.8)	\$ (399.2)	\$ 23.3	\$ (376.0)	\$ -	\$ 186.7	\$ (189.3)		1,720,956	\$ (0.1100)
Street Lighting	0.48%	0.00%	0.00%	\$ 0.1	\$ (0.1)	\$ 5.4	\$ 7.7	\$ 7.4	\$ (54.0)	\$ (33.6)	\$ 1.1	\$ (32.5)	\$ -	\$ -	\$ (32.5)		115,190	\$ (0.2822)
<b>TOTALS</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>\$ 23.1</b>	<b>\$ (30.5)</b>	<b>\$ 1,121.7</b>	<b>\$ 1,613.1</b>	<b>\$ 1,537.4</b>	<b>\$ (11,286.0)</b>	<b>\$ (7,021.1)</b>	<b>\$ 252.9</b>	<b>\$ (6,768.2)</b>	<b>\$ 370.2</b>	<b>\$ 1,279.7</b>	<b>\$ (5,118.3)</b>			

1                                    **Responsibility for Amounts to be Collected Through Rate Riders**

2  
3    Enersource proposes to return a total of \$5.118 million to customers through rate riders in the  
4    2008 Test Year. This amount includes:

- 5  
6            • the net return of \$8.552 million related to the clearing of several variance account and  
7            regulatory asset balances as of December 31, 2006;  
8            • recovery of the Lost Revenue Adjustment Mechanism claim of \$0.370 million and  
9            Shared Savings Mechanism claim of \$1.280 million for Enersource's Conservation and  
10           Demand Management activities undertaken in 2006;  
11           • recovery of \$0.023 million of Ontario price Credit Administrative Costs;  
12           • return of \$0.031 million due to the past over-recovery of the Large Corporation Tax;  
13           • recovery of \$0.253 million of Low Voltage charges levied by Hydro One; and  
14           • recovery of \$1.537 million of interest on regulatory assets.

15  
16    The derivation of these amounts is set out at ExG/Sched2/Tab3.

17  
18    Enersource proposes to assign responsibility for the amounts, except for the LRAM and SSM  
19    claims, consistent with the 2006 EDR treatment of the subject amounts. Specifically Enersource  
20    will rely on the historic revenue responsibility ratios for customer classes to assign responsibility  
21    for:

- 22           • the clearing of several variance account and regulatory asset balances as of December  
23           31, 2006;  
24           • recovery of Ontario price Credit Administrative Costs;  
25           • return of the past over-recovery of the Large Corporation Tax;  
26           • recovery of Low Voltage charges levied by Hydro One; and  
27           • interest on regulatory assets.  
28

1 Enersource proposes to assign responsibility for the recovery of the LRAM claim based on kWh  
2 savings realized by the subject customer class. Enersource proposes to assign responsibility for  
3 the recovery of the SSM claim based on the computed responsibility for each customer class.  
4

1 **CAR-IF**

2 **Excerpt from January 15, 2007 filing**

3  
4 **EXECUTIVE SUMMARY**

5  
6 Enersource is a licensed distributor that provides electricity distribution service in the City of  
7 Mississauga and is authorized to charge Ontario Energy Board approved rates for this service. In  
8 order to better understand the appropriateness of these authorized rates Enersource has conducted  
9 a Cost Allocation Review using an OEB authorized model (CAR-IF) and 2004 operating and  
10 financial data, as directed by the Board. All revenue data relied on this informational filing is  
11 consistent with Enersource's 2006 EDR application (Board file number RP-2005-0020/EB-2006-  
12 0109). Enersource has provided the data required by the CAR-IF model and has in many  
13 instances adopted the Board's default values (e.g., density default values, cost weightings).  
14 Enersource has also adopted the Board's definitions, e.g. bulk supply assets.

15  
16 The CAR-IF model, when populated with Enersource's 2004 costs that underpin its approved  
17 2006 EDR application and the Board's defaults, renders the following revenue to cost ratios for  
18 each customer class:

19 Table 1 – Estimated Revenue to Cost ratios

Customer Class	Run1
Residential	87.7%
Small Commercial	149.9%
GS < 50 kW	113.6%
GS 50 – 499 kW	120.6%
GS 500 – 4,999 kW	86.8%
Large User	137.2%
Street Lighting	25.2%

20

1 These computed results suggest that authorized residential rates are reasonable, Street Lighting  
2 rates are too low and the rates charged to Small Commercial customers over-recover the  
3 allocated costs.

4

5 The data set out in the above table would benefit from a careful consideration of many factors,  
6 including:

7

8 • Anticipated changes to throughput and distribution assets and expenses associated with  
9 CDM, SM, SOP and potentially other programs;

10 • The use of OEB authorized default data;

11 • Some definitions relied on to estimate data (e.g., bulk supply);

12 • The use of a single year of operating and financial data.

13

14 Finally, it is important to bear in mind that the OEB will commence its Fundamental Rate  
15 Review project in 2007 and that the cost allocation model and the supporting data will require  
16 adjustment to design and estimate rates consistent with the rate structure and design promoted by  
17 the OEB.

1 **Smart Meters**

2  
3 **Smart Metering**

4  
5 In order to foster a “conservation culture” in Ontario, the Ministry of Energy seeks to have Smart  
6 Meters commissioned throughout Ontario by the end of 2010. A Smart Meter records the energy  
7 consumed according to the time of day that it was consumed and is required to support the  
8 implementation of Time of Use (“TOU”) commodity prices. Pursuant to O. Reg. 427/06,  
9 Enersource has commenced the mass deployment of Smart Meters to its residential and small  
10 commercial customers.

11  
12 Enersource’s Smart Metering System includes:

- 13 • an Advanced Metering Infrastructure (“AMI”);  
14 • interface with a Meter Data Management Repository (“MDM/R”); and  
15 • TOU billing functionality enabled in the utility’s Customer Information System (“CIS”).  
16

17 Enersource is responsible for installing, commissioning, operating and maintaining the AMI  
18 system. The AMI infrastructure includes the Smart Meter, regional collector computers that  
19 operate through a local area network and a controller computer. The AMI interfaces with the  
20 MDM/R once a day and uploads consumption information for all the customers. The MDM/R  
21 validates and, when necessary, estimates consumption data and prepares the data for billing  
22 purposes. The billing data is sent by the MDM/R to Enersource’s CIS system and Enersource  
23 prepares the customer’s bill.

24  
25 In order to realize the benefits of the AMI systems, the following steps and actions must be  
26 taken:

- 27 • Preparation and distribution or release of customer and community communications;

- 1 • Plan and implement Project management (e.g., staff training, logistics, contract  
2 management)
- 3 • Procure the system;
- 4 • Install the system;
- 5 • Test the system;
- 6 • Re-engineer business processes (e.g., develop an interface to the MDM/R, implement  
7 billing system changes).

8  
9 All steps must be planned and implemented with attention to quality and quality control (e.g., an  
10 audit of system security should be included in the testing step.)

11  
12 During the 2008 Test Year, Enersource plans to install approximately 41,300 Smart Meters as  
13 follows:

- 14 • 36,000 residential Smart Meters; and
- 15 • 5,300 Smart Meters for small commercial and industrial customers where metering of  
16 demand is not required.

17  
18 By the end of the 2008 Test Year Enersource expects to have 96,000 residential Smart Meters  
19 and 5,300 small commercial and industrial Smart Meters in service through out the service area.

20

21 Implementing the Board's Decision with Reasons (EB-2007-0063)

22  
23 On August 8, 2008 the Board issued its Decision with Reasons in EB-2007-0063. Enersource is  
24 complying with the Decision. Enersource's implementation of the Board's findings is set out  
25 below.

26

27 Smart Meter Costs

28



1 The Board's Decision allows the 13 LDC applicants to recover the costs of installed Smart  
2 Meters by including the capital invested in rate base. Consistent with the Decision, Enersource  
3 proposes to calculate the revenue requirement for Smart Meters as they are installed on an  
4 ongoing basis effective May 1, 2008 through a sub-account within account 1555 - Smart Meter  
5 Variance Account. Enersource also proposes to recognize the return on a monthly basis by  
6 adjusting USoA accounts 1555 to 4080. Enersource also seeks to recover a 2008 Smart Meter  
7 Rate Adder ("2008 SMRA") of \$0.57/metered-customer/month.

8

9 The derivation of Enersource's proposed 2008 Smart Meter revenue requirement is provided at  
10 ExG/Sched2/Tab7. It has been developed to support the recovery of Enersource's investment in  
11 Smart Meters for the 2008 Test Year and to return the over-recovery of revenue through the 2006  
12 and 2007 SMRA. The proposed 2008 SMRA of \$0.57 cents is the difference between:

- 13 • a rate adder of \$1.32/metered-customer/month; and
- 14 • a return of \$0.75/metered-customer/month

15

16 The derivation of both the \$1.32 and the \$0.75 are provided at ExH/Sched2/Tab8 and  
17 ExH/Sched2/Tab9 respectively.

18 Enersource calculated the proposed \$1.32/ metered-customer/month cumulative 2008 rate adder  
19 based on its actual or proposed investment in Smart Meters in the 2006, 2007 and 2008 rate  
20 years. Enersource's calculation is consistent with the Board's Smart Meter Rate Adder Model  
21 (EB-2007-0523, February 9, 2007 update).

22

23 Enersource calculated the proposed return of \$0.75/metered customer/month by reconciling the  
24 actual 2006 revenue requirement and the revised 2007 revenue requirement to the actual  
25 revenues recovered through the 2006 SMRA and the forecasted revenues that will be recovered  
26 through the 2007 SMRA, being \$0.31 and \$1.28 respectively.

27

28

1 Stranded Costs

2

3 The Board's Decision found that stranded costs, properly calculated, are recoverable through  
4 rates and that the outstanding question is when to commence this recovery. The Board  
5 determined that the stranded costs associated with existing meters removed from service before  
6 the end of their depreciable life should remain in rate base for the time being. Consequently,  
7 Enersource does not propose any removal from rate base associated with stranded meter assets  
8 for rate making purposes for the 2008 Test Year.

9

10 Replacement and Repair Costs

11

12 Enersource in applying the Board's Decision, proposes that:

- 13
- 14 • All labour and associated costs incurred, with the exception of material and parts costs  
15 for customer owned equipment, be capitalized and tracked in a sub-account of the *Smart  
16 Meter Capital & Recovery Offset Variance (Acct.1555)*;
  - 17 • Material costs to repair or replace any customer owned equipment be expensed and also  
18 tracked separately in a different sub-account of the *Smart Meter OM&A Variance  
19 (Acct.1556)*; and
  - 20 • All meter bases will continue as customer owned property of the customer and, therefore,  
will not be eligible for inclusion in rate base.

**SUMMARY OF 2008 SMART METER RATE ADDER**

2008 Revenue Requirement					\$ 2,979,870
2008 average number of metered customers					<u>187,556</u>
Annualized amount required per metered customer					\$ 15.89
Number of months in year					12
<b>2008 Rate Adder</b>					<b>\$ 1.32</b>
2007 Revenue Requirement					\$ 1,772,382
	Rate Adder	Metered Customer	Number of Months	Revenue	
2006 Revenue	\$ 0.31	175,110	12	\$ 651,409	
2007 Revenue	\$ 1.28	182,800	12	<u>\$ 2,807,808</u>	
Total revenue recovered from customers					\$ 3,459,217
Less: 2007 Revenue Requirement					<u>\$ 1,772,382</u>
Over recovery to be returned to customers					-\$ 1,686,836
2008 average number of metered customers					<u>187,556</u>
Annualized amount required per metered customer					-\$ 8.99
Number of months in year					12
<b>2007 Smart Meter Rate Adder</b>					<b><u>-\$ 0.75</u></b>
<b>Rate Adder to 2008 Rate Year</b>					<b>\$ 0.57</b>

### Smart Meter Rate Calculation

	A		B		C		D		E		F		G=C+E+F	
	2006		2006 in 2007		2006 in 2008		2007 in 2007		2007 in 2008		2008 in 2008		2008 Rate Adder	
<b>Average Asset Values</b>														
Net Fixed Assets Smart Meters	\$ 1,563,613		\$ 1,457,802		\$ 1,351,992		\$ 8,283,681		\$ 7,722,075		\$ 5,897,137		\$ 14,971,204	
Net Fixed Assets Computer Hardware	\$ 34,002		\$ 25,914		\$ 17,826		\$ 204,132		\$ 161,157		\$ -		\$ 178,983	
Net Fixed Assets Computer Software	\$ 73,372		\$ 40,962		\$ 8,552		\$ 401,042		\$ 255,208		\$ 17,941		\$ 281,702	
Net Fixed Assets Tools & Equipment					\$ -		\$ -		\$ -		\$ -		\$ -	
Net Fixed Assets Other Equipment					\$ -		\$ -		\$ -		\$ -		\$ -	
Total Net Fixed Assets	\$ 1,670,987		\$ 1,524,679		\$ 1,378,370		\$ 8,888,855		\$ 8,138,441		\$ 5,915,078		\$ 15,431,889	
Opening Net Fixed Assets	\$ -		\$ 1,670,987		\$ 1,524,679		\$ -		\$ 8,888,855		\$ -		\$ 10,413,533	
Closing Net Fixed Assets	\$ 1,670,987		\$ 1,524,679		\$ 1,378,370		\$ 8,888,855		\$ 8,138,441		\$ 5,915,078		\$ 15,431,889	
Average Net Fixed Assets	\$ 835,494		\$ 1,597,833		\$ 1,451,525		\$ 4,444,427		\$ 8,513,648		\$ 2,957,539		\$ 12,922,711	
<b>Working Capital</b>														
Operation Expense	\$ 289,253		\$ -		\$ -		\$ 108,368		\$ -		\$ 321,658		\$ 321,658	
Working Capital 15 %	\$ 43,388	\$ 43,388	\$ -	\$ -	\$ -	\$ -	\$ 16,255	\$ 16,255	\$ -	\$ -	\$ 48,249	\$ 48,249	\$ 48,249	\$ 48,249
<b>Smart Meters included in Rate Base</b>	\$ 878,881		\$ 1,597,833		\$ 1,451,525		\$ 4,460,682		\$ 8,513,648		\$ 3,005,788		\$ 12,970,960	
<b>Return on Rate Base</b>														
Deemed Debt (3. LDC Assumptions and Data)	60.0%	\$ 527,329	60.0%	\$ 958,700	60.0%	\$ 870,915	60.0%	\$ 2,676,409	60.0%	\$ 5,108,189	60.0%	\$ 1,803,473	60.0%	\$ 7,782,576
Deemed Equity (3. LDC Assumptions and Data)	40.0%	\$ 351,553	40.0%	\$ 639,133	40.0%	\$ 580,610	40.0%	\$ 1,784,273	40.0%	\$ 3,405,459	40.0%	\$ 1,202,315	40.0%	\$ 5,188,384
		\$ 878,881		\$ 1,597,833		\$ 1,451,525		\$ 4,460,682		\$ 8,513,648		\$ 3,005,788		\$ 12,970,960
Weighted Debt Rate (3. LDC Assumptions and Data)	6.4%	\$ 33,960	6.4%	\$ 61,740	6.4%	\$ 56,087	6.4%	\$ 172,361	6.4%	\$ 328,967	6.4%	\$ 116,144	6.4%	\$ 501,198
Proposed ROE (3. LDC Assumptions and Data)	9.0%	\$ 31,640	9.0%	\$ 57,522	9.0%	\$ 52,255	9.0%	\$ 160,585	9.0%	\$ 306,491	9.0%	\$ 108,208	9.0%	\$ 466,955
<b>Return on Rate Base</b>	\$ 65,600	\$ 65,600	\$ 119,262	\$ 119,262	\$ 108,342	\$ 108,342	\$ 332,945	\$ 332,945	\$ 635,459	\$ 635,459	\$ 224,352	\$ 224,352	\$ 968,152	\$ 968,152
<b>Operating Expenses</b>														
Incremental Operating Expenses (3. LDC Assumptions and Data)	\$ 289,253		\$ -		\$ -		\$ 108,368		\$ -		\$ 321,658		\$ 321,658	
<b>Amortization Expenses</b>														
Amortization Expenses - Smart Meters	\$ 23,545		\$ 105,811		\$ 105,811		\$ 140,401		\$ 561,605		\$ 203,350		\$ 870,766	
Amortization Expenses - Computer Hardware	\$ 6,437		\$ 8,088		\$ 8,088		\$ 10,744		\$ 42,975		\$ -		\$ 51,063	
Amortization Expenses - Computer Software	\$ 23,858		\$ 32,410		\$ 32,410		\$ 36,458		\$ 145,833		\$ 3,588		\$ 181,832	
Amortization Expenses - Tools & Equipment														
Amortization Expenses - Other Equipment														
<b>Total Amortization Expenses</b>	\$ 53,840		\$ 146,308		\$ 146,308		\$ 187,604		\$ 750,414		\$ 206,938		\$ 1,103,660	
<b>Revenue Requirement Before PILs</b>	\$ 408,693		\$ 265,571		\$ 254,650		\$ 628,917		\$ 1,385,873		\$ 752,948		\$ 2,393,471	
<b>Calculation of Taxable Income</b>														
Incremental Operating Expenses	-\$ 289,253		\$ -		\$ -		-\$ 108,368		\$ -		-\$ 321,658		-\$ 321,658	
Depreciation Expenses	-\$ 53,840		-\$ 146,308		-\$ 146,308		-\$ 187,604		-\$ 750,414		-\$ 206,938		-\$ 1,103,660	
Interest Expense	-\$ 33,960		-\$ 61,740		-\$ 56,087		-\$ 172,361		-\$ 328,967		-\$ 116,144		-\$ 501,198	
<b>Taxable Income For PILs</b>	\$ 31,640		\$ 57,522		\$ 52,255		\$ 160,585		\$ 306,491		\$ 108,208		\$ 466,955	
<b>Grossed up PILs (5. PILs)</b>														
Revenue Requirement Before PILs	\$ 408,693		\$ 265,571		\$ 254,650		\$ 628,917		\$ 1,385,873		\$ 752,948		\$ 2,393,471	
Grossed up PILs (5. PILs)	\$ -		\$ -		\$ -		\$ -		\$ -		\$ 586,399		\$ 586,399	
<b>Revenue Requirement for Smart Meters</b>	\$ 408,693		\$ 265,571		\$ 254,650		\$ 628,917		\$ 1,385,873		\$ 1,339,347		\$ 2,979,870	
<b>2007 Smart Meter Rate Adder</b>														
Revenue Requirement for Smart Meters	\$ 408,692.71		\$ 265,571		\$ 254,650		\$ 628,917		\$ 1,385,873		\$ 1,339,347		\$ 2,979,870	
2006 EDR Total Metered Customers (3. LDC Assumptions and Data)	175,110		182,800		187,556		182,800		187,556		187,556		187,556	
Annualized amount required per metered customer	\$ 2.33		\$ 1.45		\$ 1.36		\$ 3.44		\$ 7.39		\$ 7.14		\$ 15.89	
Number of months in year	12		12		12		12		12		12		12	
<b>2007 Smart Meter Rate Adder</b>	\$ 0.19		\$ 0.12		\$ 0.11		\$ 0.29		\$ 0.62		\$ 0.60		\$ 1.32	



1 **Rate Design**

2  
3 Enersource seeks an order of the Board authorizing Enersource to charge the rates and charges  
4 set out in ExH/Sched3/Tabs1-3. These rates will recover the costs incurred to provide  
5 distribution service and will allow the shareholder an opportunity to earn the proposed rate of  
6 return of 9.00%. A draft tariff sheet is provided at ExH/Sched4/Tab1.

7  
8 Enersource proposes to maintain the current rate design and current customer classes.

9  
10 The detailed derivation of the proposed base distribution rates is set out at ExH/Sched2/Tab1. A  
11 description of the methodology is provided at ExH/Sched2/Tab2.

12  
13 The detailed derivation of the proposed rate riders is set out at ExH/Sched2/Tab3. A description  
14 of the methodology is provided at ExH/Sched2/Tab4.

15  
16 ExH/Sched2/Tab5 describes that Enersource does not propose changes to the levels of Specific  
17 Service Charges or other Regulated Rates and Charges.

18  
19 Enersource also seeks an order of the Board finalizing the interim standby rates currently  
20 charged to the Greater Toronto Airports Authority and to Integrated Gas Recovery Services Inc.  
21 This proposal is described in greater detail at ExH/Sched2/Tab6.

22  
23 The proposed 2008 base distribution rates are set out at ExH/Sched3/Tab1. The proposed 2008  
24 rate riders are set out at ExH/Sched3/Tab2. All other proposed regulated rates and charges for  
25 the 2008 Test Year are set out at ExH/Sched3/Tab3. These are summarized on the draft tariff  
26 sheet provided at ExH/Sched4/Tab1.

- 1 Estimated bill impacts, using the Board's traditional consumption scenarios are provided at
- 2 ExH/Sched5/Tab1. Estimated bill impacts using Enersource's average customer consumption
- 3 levels are provided at ExH/Sched5/Tab2. These exhibits demonstrate that under Enersource's
- 4 proposed rates, rate riders and charges, no customer is expected to incur rate shock.

**Detailed Derivation of Proposed Base Distribution Rates**

Customer Class	Base Rates																		Base Rates					
	2008 Projected Data			At Current Rates			Percentage	Percentage Allocation of Fixed / Variable			Inc / (Dec) 2008 RR			Percentage Allocation of Fixed / Variable			Revenue Requirement			Fixed service charge \$	Rate per kWh \$	Rate per kW \$		
	Connections	kWh	kW	Fixed	Variable	Total		Fixed	Variable	Total	Fixed	Variable	Total	Fixed	Variable	Total	Fixed	Variable	Total					
RESIDENTIAL	166,825	1,547,398,184		\$22,121	\$17,176	\$39,297	35.8%	56.3%	43.7%	100.0%	\$2,904	\$2,255	\$ 5,158	56.3%	43.7%	100.0%	\$25,025	\$19,431	\$ 44,455	\$ 12.50	\$ 0.0126			
GENERAL SERVICE Less than 50 kW	16,081	646,726,132		\$5,529	\$9,636	\$15,165	13.8%	36.5%	63.5%	100.0%	\$726	\$1,265	\$ 1,991	36.5%	63.5%	100.0%	\$6,254	\$10,901	\$ 17,155	\$ 32.41	\$ 0.0169			
GS < 50 kW Small Commercial	3,288	11,905,587		\$554	\$306	\$860	0.8%	64.4%	35.6%	100.0%	\$73	\$40	\$ 113	64.4%	35.6%	100.0%	\$627	\$346	\$ 973	\$ 15.88	\$ 0.0291			
GENERAL SERVICE 50 kW - 499 kW	3,986		6,415,732	\$3,490	\$28,165	\$31,655	28.9%	11.0%	89.0%	100.0%	\$458	\$3,697	\$ 4,155	11.0%	89.0%	100.0%	\$3,948	\$31,862	\$ 35,810	\$ 82.54		\$ 4.9662		
GENERAL SERVICE 500 kW - 4999 kW	470		5,310,121	\$6,991	\$8,977	\$15,968	14.6%	43.8%	56.2%	100.0%	\$918	\$1,178	\$ 2,096	43.8%	56.2%	100.0%	\$7,908	\$10,156	\$ 18,064	\$ 1,402.17		\$ 1.9125		
GENERAL SERVICE > 5000 Kw	9		1,720,956	\$1,431	\$4,808	\$6,238	5.7%	22.9%	77.1%	100.0%	\$188	\$631	\$ 819	22.9%	77.1%	100.0%	\$1,618	\$5,439	\$ 7,057	\$ 14,984.95		\$ 3.1604		
STREET LIGHTING	48,255		115,190	\$208	\$316	\$525	0.5%	39.7%	60.3%	100.0%	\$27	\$42	\$ 69	39.7%	60.3%	100.0%	\$236	\$358	\$ 594	\$ 0.41		\$ 3.1067		
<b>Total</b>	<b>238,914</b>			<b>\$40,323</b>	<b>\$69,385</b>	<b>\$109,708</b>	<b>100.0%</b>	<b>36.8%</b>	<b>63.2%</b>	<b>100.0%</b>	<b>\$5,293</b>	<b>\$9,107</b>	<b>\$ 14,400</b>	<b>36.8%</b>	<b>63.2%</b>	<b>100.0%</b>	<b>\$45,616</b>	<b>\$78,492</b>	<b>\$ 124,108</b>					
																		Less: Transformer Allowance		\$ 2,042				
																		Total Revenue Requirement		<b>\$ 122,066</b>				



## **Derivation of Proposed Distribution Rates**

Enersource derived the proposed distribution rates as follows:

- The revenue deficiency responsibility for each customer class was split into the portion to be recovered through fixed rates and the portion to be recovered through variable rates based on the historic ratio of fixed to variable revenue for that customer class;
- The portion of the revenue deficiency to be recovered through the fixed rate was divided by the projected number of customers in the class in the 2008 Test Year to yield the adjustment to the fixed rate;
- The portion of revenue deficiency to be recovered through the variable rate was divided by the project volumetric charge parameter, either kWh or kW, for the 2008 Test Year to yield the adjustment to the variable rate;
- The calculated adjustment was applied to the appropriate 2007 rate to yield the proposed 2008 Test Year rate.

**DERIVATION OF PROPOSED RATE RIDERS FOR 2008 TEST YEAR (000's)**

	Allocation to Customer Classes %	Allocation to Customer Classes %	Allocation to Customer Classes % for LRAM	Allocation to Customer Classes % for SSM	Sub-Total before Low Voltage	LV Charges for 2008 Test Year	LRAM to April 30, 2007	SSM to April 30, 2007	Total to be recovered over 1 year			
	Total for customer class as % of Total for all classes	Basis for Allocation: Retail transmission connection rate multiplied by volume	Total kWh savings per class / Total kWh savings	Total kWh savings per class / Total kWh savings						kWh Forecast 2008	kW Forecast 2008	Proposed Rate Riders
					\$ (7,021.1)	\$ 252.9	\$ 370.2	\$ 1,279.7	\$ (5,118.3)			
RESIDENTIAL	35.82%	22.32%	97.96%	56.67%	\$ (2,515.0)	\$ 56.4	\$ 362.7	\$ 725.2	\$ (1,370.6)	1,547,398,184		\$ (0.0009)
General Service < 50 kW	13.82%	8.41%	1.76%	0.12%	\$ (970.5)	\$ 21.3	\$ 6.5	\$ 1.5	\$ (941.2)	646,726,132		\$ (0.0015)
Small Commercial	0.78%	0.15%	0.00%	0.00%	\$ (55.0)	\$ 0.4	\$ -	\$ -	\$ (54.6)	11,905,587		\$ (0.0046)
General Service 50 kW - 499 kW	28.85%	32.86%	0.19%	1.87%	\$ (2,025.9)	\$ 83.1	\$ 0.7	\$ 24.0	\$ (1,918.1)		6,415,732	\$ (0.2990)
General Service 500 kW - 4999 kW	14.55%	26.61%	0.09%	26.75%	\$ (1,021.9)	\$ 67.3	\$ 0.3	\$ 342.3	\$ (612.0)		5,310,121	\$ (0.1152)
Large Use (> 5000 kW)	5.69%	9.21%	0.00%	14.59%	\$ (399.2)	\$ 23.3	\$ -	\$ 186.7	\$ (189.3)		1,720,956	\$ (0.1100)
Street Lighting	0.48%	0.43%	0.00%	0.00%	\$ (33.6)	\$ 1.1	\$ -	\$ -	\$ (32.5)		115,190	\$ (0.2822)
<b>TOTALS</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>\$ (7,021.1)</b>	<b>\$ 252.9</b>	<b>\$ 370.2</b>	<b>\$ 1,279.7</b>	<b>\$ (5,118.3)</b>			

1                   **Description of the Derivation of Proposed 2008 Test Year Rate Riders**  
2

3   For each customer class, Enersource determined the responsibility for regulatory assets, LRAM,  
4   SSM, variance and deferral account balances and carrying charges. Consistent with the Board's  
5   Regulatory Assets decision and with its 2006 EDR methodology, Enersource proposed that these  
6   amounts be collected through a variable charge. For simplicity and ease of application,  
7   Enersource proposes that the rate rider amounts for the LRAM and SSM be combined and  
8   recovered through a variable rate component for each class. To compute the correct rate rider for  
9   each customer class, the computed revenue to be recovered through rate riders from that  
10   customer class was divided by the volumetric charge parameter estimated for the 2008 Test  
11   Year. This is set out in ExH/Sched2/Tab3.

12  
13   Enersource also proposes to recover and recognize the costs incurred to install Smart Meters  
14   during the 2008 Test Year. The revenue requirement for this investment amounts to \$1.294  
15   million which results in a smart meter rate adder of \$0.57/metered customer/month and is set out  
16   in detail at ExG/Sched2/Tab6. The responsibility of each customer class for this amount is  
17   proportional to the number of metered customers in the class.  
18

**All Other Regulated Rates and Charges for the 2008 Test Year**

Enersource does not propose any changes to the level or design of any Other Regulated Rate and Charge for the 2008 Test Year.

1 **Standby Rates**

2  
3 Enersource seeks an order of the Board declaring that the currently authorized interim standby  
4 rates charged to the Greater Toronto Airport Authority (“GTAA”) and Integrated Gas Recovery  
5 Services Inc. (“IGRS”) as final for the purposes of Enersource’s 2006 and 2007 rates and to  
6 authorize standby rates in 2008 rates, on a final basis.

7  
8 The standby rates have been interim since September 15, 2005 and were intended to be interim  
9 pending the disposition of Enersource’s 2006 rates application. The Board subsequently decided  
10 to keep standby rates interim pending a further Board process, Distributed Generation: Rates and  
11 Connection (EB-2007-0630) review, which was only commenced on July 13, 2007. As things  
12 stand now, rate uncertainty has occurred for two rates periods - 2006 and 2007 - and potentially  
13 into a third rate period - 2008. Enersource seeks to finalize these rates so that Enersource and its  
14 customers do not continue to be exposed to an ever-lengthening period of uncertainty.

15  
16 The Board granted Enersource interim approval to charge IGRS for the provision of standby  
17 service according to a Deemed Contract Quantity applied to currently authorized variable rates  
18 as well as a monthly administrative charge of \$200 (EB-2005-0465); that order was effective  
19 September 15, 2005. The Board granted Enersource interim approval to charge the GTAA for  
20 the provision of standby service according to its gross metered load applied to currently  
21 authorized variable rates as well as a monthly administrative charge of \$500 (EB-2005-0560);  
22 that order was effective December 15, 2005. As of May 1, 2008, when the applied for rate order  
23 is expected to take effect, the IGRS rate order will have been in force for 32 months and the  
24 GTAA rate order will have been in force for 29 months.

25  
26 As Enersource submitted in the generic issues portion of the 2006 EDR process (EB-2006-0529),  
27 it is inconsistent to authorize the rates charged to two specific customers on an interim basis and  
28 to authorize the rates charged to all other customers on a final basis. This construct eliminates

1 the ability to adjust the interim rates as of their effective date and to make a compensating  
2 adjustment to all other rates, since those rates are final.

3

4 Concurrent with this application the Board is reviewing electricity rate design and rate issues  
5 related to distributed generation. Enersource is a participant in the Board's Review of Electricity  
6 Distribution Rate Design (EB-2007-0031) and is seeking standing as a participant in the Board's  
7 Distributed Generation: Rates and Connection (EB-2007-0630) review. Enersource is aware that  
8 the provision of standby services and the appropriate rates and charges will be considered in both  
9 reviews.

10

11 At the conclusion of the Board's process, the Board may conclude that a different approach to  
12 standby rates is justified. Any changes resulting from this should be implemented on a  
13 prospective basis, out of fairness to all ratepayers and to Enersource, consistent with established  
14 principles of ratemaking.

## Proposed Base Distribution Rates

Customer Class	2008 Projected Data			Base Rates		
	Connections	kWh	kW	Fixed service charge \$	Rate per kWh \$	Rate per kW \$
RESIDENTIAL	166,825	1,547,398,184		\$ 12.50	\$ 0.0126	
GENERAL SERVICE Less than 50 kW	16,081	646,726,132		\$ 32.41	\$ 0.0169	
GS < 50 kW Small Commercial	3,288	11,905,587		\$ 15.88	\$ 0.0291	
GENERAL SERVICE 50 kW - 499 kW	3,986		6,415,732	\$ 82.54		\$ 4.9662
GENERAL SERVICE 500 kW - 4999 kW	470		5,310,121	\$ 1,402.17		\$ 1.9125
GENERAL SERVICE > 5000 Kw	9		1,720,956	\$ 14,984.95		\$ 3.1604
STREET LIGHTING	48,255		115,190	\$ 0.41		\$ 3.1067

**PROPOSED RATE RIDERS FOR 2008 TEST YEAR (000's)**

	Proposed Rate Riders	Revenue from Rate Riders
		<b>\$ (5,118.3)</b>
RESIDENTIAL	\$ (0.0009)	\$ (1,370.6)
General Service < 50 kW	\$ (0.0015)	\$ (941.2)
Small Commercial	\$ (0.0046)	\$ (54.6)
General Service 50 kW - 499 kW	\$ (0.2990)	\$ (1,918.1)
General Service 500 kW - 4999 kW	\$ (0.1152)	\$ (612.0)
Large Use (> 5000 kW)	\$ (0.1100)	\$ (189.3)
Street Lighting	\$ (0.2822)	\$ (32.5)
<b>TOTALS</b>		<b>\$ (5,118.3)</b>



**All Other Regulated Rates and Charges for the 2008 Test Year**

**Specific Service Charges**

**Customer Administration**

Arrears certificate	\$	15.00
Request for other billing information	\$	15.00
Credit reference/credit check (plus credit agency costs)	\$	15.00
Credit reference/credit check (plus credit agency costs)	\$	25.00
Income tax letter	\$	15.00
Returned cheque charge (plus bank charges)	\$	12.50
Account set up charge/change of occupancy charge (plus credit agency costs if applicable)	\$	30.00
Account set up charge/change of occupancy charge (plus credit agency costs if applicable)	\$	20.00
Meter dispute charge plus Measurement Canada fees (if meter found correct)	\$	10.00
Special meter reads	\$	30.00
Meter dispute charge plus Measurement Canada fees (if meter found correct)	\$	40.00
Late Payment - per month	%	1.50
Late Payment - per annum	%	19.56
Collection of account charge - no disconnection	\$	9.00
Disconnect/Reconnect at meter - during regular hours	\$	20.00
Disconnect/Reconnect at pole - during regular hours	\$	185.00
Disconnect/Reconnect at meter - after regular hours	\$	415.00
Temporary service install & remove - overhead - no transformer	\$	400.00
Specific Charge for Access to the Power Poles \$/pole/year	\$	22.35

**Allowances**

Transformer Allowance for Ownership - per kW of Billing demand/month	\$	0.40
Primary Metering Allowance for Transformer Losses - applied to measured demand and energy	%	1.00



# Enersource Hydro Mississauga Inc.

## Tariff OF RATES AND CHARGES

Effective May 1, 2008\*

(\*Except as otherwise noted)

This schedule supersedes and replaces all previously approved schedules of Rates, Charges, and Loss Factors

Enersource Hydro Mississauga Inc.

EB-2007-0706

2008 Electricity Distribution Rates Application

Filed: August 22, 2007

Exhibit H

Schedule 4

Tab 1

Page 1 of 2

### SERVICE CLASSIFICATIONS

#### Residential

This classification refers to all residential services including, without limitation, single family or single unit dwellings, multi-family dwellings, row-type dwellings and subdivision developments. Energy is supplied in single phase, 3-wire, or three phase, 4-wire, having a nominal voltage of 120/240 Volts. There shall be only one delivery point to a dwelling.

#### GS < 50 kW

This classification refers to a non-residential account whose monthly average peak demand is less than, or is forecast to be less than, 50 kW.

#### Small Commercial and USL

This classification applies to an account taking electricity at 750 volts or less whose average monthly maximum demand is less than, or is forecast to be less than, 50 kW and the consumption is either metered or unmetered. While this customer class includes existing metered customers, metered customers are no longer added to this customer class. The unmetered connections include cable TV power packs, bus shelters, telephone booths, traffic lights, railway crossings, etc. The level of the consumption will be agreed to by the distributor and the customer, based on detailed manufacturer information/documentation with regard to electrical consumption of the unmetered load or periodic monitoring of actual consumption.

#### GS 50 - 499 kW

This classification refers to a non-residential account whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than, 50 kW but less than 500 kW.

#### GS 500 - 4999 kW

This classification refers to a non-residential account whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than, 500 kW but less than 5,000 kW.

#### Large User > 5000 kW

This classification refers to an account whose monthly average peak demand is equal to or greater than, or is forecast to be equal to or greater than, 5,000 kW.

#### Streetlighting

This classification refers to an account for roadway lighting with a Municipality. Street lighting equipment in the City of Mississauga is owned by the City of Mississauga. All street lighting will be non-metered with energy consumption based on the connected wattage and calculated hours of use using the approved methods and rates established by the OEB. Street lighting plant, facilities, or equipment owned by the Customer is subject to the Ontario Electrical Safety Code (latest edition) and the Electrical Safety Authority requirements.

### MONTHLY RATES AND CHARGES

#### Residential

Service Charge	\$	13.07
Distribution Volumetric Rate	\$/kWh	0.0126
Regulatory Asset Recovery	\$/kWh	(0.0009)
Retail Transmission Rate – Network Service Rate	\$/kWh	0.0059
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kWh	0.0051
Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0010
Regulated Price Plan – Administration Charge	\$	0.25

#### GS < 50 kW

Service Charge	\$	32.98
Distribution Volumetric Rate	\$/kWh	0.0169
Regulatory Asset Recovery	\$/kWh	(0.0015)
Retail Transmission Rate – Network Service Rate	\$/kWh	0.0053
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kWh	0.0046
Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0010
Regulated Price Plan – Administration Charge	\$	0.25

#### Small Commercial and USL

Service Charge	\$	16.45
Distribution Volumetric Rate	\$/kWh	0.0291
Regulatory Asset Recovery	\$/kWh	(0.0046)
Retail Transmission Rate – Network Service Rate	\$/kWh	0.0053
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kWh	0.0046
Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0010
Regulated Price Plan – Administration Charge	\$	0.25

#### GS 50 - 499 kW

Service Charge	\$	83.11
Distribution Volumetric Rate	\$/kW	4.9662
Regulatory Asset Recovery	\$/kW	(0.2990)
Retail Transmission Rate – Network Service Rate	\$/kW	2.1136
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.8109
Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0010
Regulated Price Plan – Administration Charge	\$	0.25

**GS 500 - 4999 kW**

Service Charge	\$	1,402.74
Distribution Volumetric Rate	\$/kW	1.9125
Regulatory Asset Recovery	\$/kW	(0.1152)
Retail Transmission Rate – Network Service Rate	\$/kW	2.0449
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.7719
Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0010
Regulated Price Plan – Administration Charge	\$	0.25

**Large User > 5000 kW**

Service Charge	\$	14,985.52
Distribution Volumetric Rate	\$/kW	3.1604
Regulatory Asset Recovery	\$/kW	(0.1100)
Retail Transmission Rate – Network Service Rate	\$/kW	2.1820
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.8924
Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0010
Regulated Price Plan – Administration Charge	\$	0.25

**Streetlighting**

Service Charge	\$	0.41
Distribution Volumetric Rate	\$/kW	3.1067
Regulatory Asset Recovery	\$/kW	(0.2822)
Retail Transmission Rate – Network Service Rate	\$/kW	1.4637
Retail Transmission Rate – Line and Transformation Connection Service Rate	\$/kW	1.3094
Wholesale Market Service Rate	\$/kWh	0.0052
Rural Rate Protection Charge	\$/kWh	0.0010
Regulated Price Plan – Administration Charge	\$	0.25

**Specific Service Charges****Customer Administration**

Arrears certificate	\$	15.00
Request for other billing information	\$	15.00
Credit reference/credit check (plus credit agency costs)	\$	15.00
Credit reference/credit check (plus credit agency costs)	\$	25.00
Income tax letter	\$	15.00
Returned cheque charge (plus bank charges)	\$	12.50
Account set up charge/change of occupancy charge (plus credit agency costs if applicable)	\$	30.00
Account set up charge/change of occupancy charge (plus credit agency costs if applicable)	\$	20.00
Meter dispute charge plus Measurement Canada fees (if meter found correct)	\$	10.00
Special meter reads	\$	30.00
Meter dispute charge plus Measurement Canada fees (if meter found correct)	\$	40.00
Late Payment - per month	%	1.50
Late Payment - per annum	%	19.56
Collection of account charge - no disconnection	\$	9.00
Disconnect/Reconnect at meter - during regular hours	\$	20.00
Disconnect/Reconnect at pole - during regular hours	\$	185.00
Disconnect/Reconnect at meter - after regular hours	\$	415.00
Temporary service install & remove - overhead - no transformer	\$	400.00
Specific Charge for Access to the Power Poles \$/pole/year	\$	22.35

**Allowances**

Transformer Allowance for Ownership - per kW of Billing demand/month	\$	0.40
Primary Metering Allowance for Transformer Losses - applied to measured demand and energy	%	1.00

**LOSS FACTORS**

Total Loss Factor – Secondary Metered Customer < 5,000 kW	1.0360
Total Loss Factor – Secondary Metered Customer > 5,000 kW	1.0145
Total Loss Factor – Primary Metered Customer < 5,000 kW	1.0256
Total Loss Factor – Primary Metered Customer > 5,000 kW	1.0044

**2008 BILL IMPACTS - SUMMER**  
**Enersource Hydro Mississauga Inc.**

2008 Electricity Distribution Rates Application

Filed: August 22, 2007

Exhibit H

Schedule 5

Page 1 of 15

**Bill Impact - May 1 to Oct 31**

Regulated Price Plan	2007	2007	2008	2008
<b>Residential</b>	Threshold	\$ / kWh	Threshold	\$ / kWh
less than or equal to	600	\$ 0.053	600	\$ 0.053
greater than	> 600	\$ 0.062	> 600	\$ 0.062

Regulated Price Plan	2007	2007	2008	2008
<b>Non-Residential</b>	Threshold	\$ / kWh	Threshold	\$ / kWh
less than or equal to	750	\$ 0.053	750	\$ 0.053
greater than	> 750	\$ 0.062	> 750	\$ 0.062

**Residential**

<b>Consumption</b>	100 kWh 0 kW	<b>Loss Factor 1.036</b>
--------------------	-----------------	--------------------------

	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 12.33			\$ 13.07	\$ 0.74	6.00%	58.77%
Distribution (kWh)	100	\$ 0.0111	\$ 1.11	100	\$ 0.0126	\$ 1.26	\$ 0.1500	13.51%	5.67%
Distribution (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kWh)	100	\$ 0.0028	\$ 0.28	100	\$ 0.0009	\$ 0.09	\$ 0.37	-132.14%	-0.40%
Regulatory Assets (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
<b>Sub-Total</b>			<b>\$ 13.72</b>			<b>\$ 14.24</b>	<b>\$ 0.52</b>	<b>3.79%</b>	<b>64.04%</b>
Other Charges (kWh)	104	\$ 0.0242	\$ 2.51	104	\$ 0.0242	\$ 2.51	\$ -	0.00%	11.27%
Other Charges (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Cost of Power Commodity (kWh)	104	\$ 0.0530	\$ 5.49	104	\$ 0.0530	\$ 5.49	\$ -	0.00%	24.69%
Cost of Power Commodity (kW)	0	\$ 0.0620	\$ -	0	\$ 0.0620	\$ -	\$ -	0.00%	0.00%
<b>Total Bill before Taxes</b>			<b>\$ 21.72</b>			<b>\$ 22.24</b>	<b>\$ 0.52</b>	<b>2.40%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 1.30</b>			<b>\$ 1.33</b>	<b>\$ 0.03</b>	<b>2.40%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 23.02</b>			<b>\$ 23.57</b>	<b>\$ 0.55</b>	<b>2.40%</b>	

**Residential**

<b>Consumption</b>	250 kWh 0 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 12.33			\$ 13.07	\$ 0.74	6.00%	36.32%
Distribution (kWh)	250	\$ 0.0111	\$ 2.78	250	\$ 0.0126	\$ 3.15	\$ 0.3750	13.51%	8.75%
Distribution (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kWh)	250	\$ 0.0028	\$ 0.70	250	\$ 0.0009	\$ 0.23	\$ 0.93	-132.14%	-0.63%
Regulatory Assets (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
<b>Sub-Total</b>			<b>\$ 15.81</b>			<b>\$ 16.00</b>	<b>\$ 0.19</b>	<b>1.20%</b>	<b>44.44%</b>
Other Charges (kWh)	259	\$ 0.0242	\$ 6.27	259	\$ 0.0242	\$ 6.27	\$ -	0.00%	17.42%
Other Charges (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Cost of Power Commodity (kWh)	259	\$ 0.0530	\$ 13.73	259	\$ 0.0530	\$ 13.73	\$ -	0.00%	38.14%
Cost of Power Commodity (kW)	0	\$ 0.0620	\$ -	0	\$ 0.0620	\$ -	\$ -	0.00%	0.00%
<b>Total Bill before Taxes</b>			<b>\$ 35.80</b>			<b>\$ 35.99</b>	<b>\$ 0.19</b>	<b>0.53%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 2.15</b>			<b>\$ 2.16</b>	<b>\$ 0.01</b>	<b>0.53%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 37.95</b>			<b>\$ 38.15</b>	<b>\$ 0.20</b>	<b>0.53%</b>	

**2008 BILL IMPACTS - SUMMER**  
**Enersource Hydro Mississauga Inc.**

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**Bill Impact - May 1 to Oct 31**

**Residential**

<b>Consumption</b>	500 kWh 0 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 12.33			\$ 13.07	\$ 0.74	6.00%	22.19%
Distribution (kWh)	500	\$ 0.0111	\$ 5.55	500	\$ 0.0126	\$ 6.30	\$ 0.7500	13.51%	10.69%
Distribution (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kWh)	500	\$ 0.0028	\$ 1.40	500	\$ 0.0009	\$ 0.45	\$ 1.85	-132.14%	-0.76%
Regulatory Assets (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
<b>Sub-Total</b>			<b>\$ 19.28</b>			<b>\$ 18.92</b>	<b>-\$ 0.36</b>	<b>-1.87%</b>	<b>32.12%</b>
Other Charges (kWh)	518	\$ 0.0242	\$ 12.54	518	\$ 0.0242	\$ 12.54	\$ -	0.00%	21.28%
Other Charges (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Cost of Power Commodity (kWh)	518	\$ 0.0530	\$ 27.45	518	\$ 0.0530	\$ 27.45	\$ -	0.00%	46.60%
Cost of Power Commodity (kW)	0	\$ 0.0620	\$ -	0	\$ 0.0620	\$ -	\$ -	0.00%	0.00%
<b>Total Bill before Taxes</b>			<b>\$ 59.27</b>			<b>\$ 58.91</b>	<b>-\$ 0.36</b>	<b>-0.61%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 3.56</b>			<b>\$ 3.53</b>	<b>-\$ 0.02</b>	<b>-0.61%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 62.83</b>			<b>\$ 62.44</b>	<b>-\$ 0.38</b>	<b>-0.61%</b>	

**Residential**

<b>Consumption</b>	750 kWh 0 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 12.33			\$ 13.07	\$ 0.74	6.00%	15.67%
Distribution (kWh)	750	\$ 0.0111	\$ 8.33	750	\$ 0.0126	\$ 9.45	\$ 1.1250	13.51%	11.33%
Distribution (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kWh)	750	\$ 0.0028	\$ 2.10	750	\$ 0.0009	\$ 0.68	\$ 2.78	-132.14%	-0.81%
Regulatory Assets (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
<b>Sub-Total</b>			<b>\$ 22.76</b>			<b>\$ 21.85</b>	<b>-\$ 0.91</b>	<b>-4.00%</b>	<b>26.19%</b>
Other Charges (kWh)	777	\$ 0.0242	\$ 18.80	777	\$ 0.0242	\$ 18.80	\$ -	0.00%	22.54%
Other Charges (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Cost of Power Commodity (kWh)	600	\$ 0.0530	\$ 31.80	600	\$ 0.0530	\$ 31.80	\$ -	0.00%	38.12%
Cost of Power Commodity (kW)	177	\$ 0.0620	\$ 10.97	177	\$ 0.0620	\$ 10.97	\$ -	0.00%	13.15%
<b>Total Bill before Taxes</b>			<b>\$ 84.33</b>			<b>\$ 83.42</b>	<b>-\$ 0.91</b>	<b>-1.08%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 5.06</b>			<b>\$ 5.01</b>	<b>-\$ 0.05</b>	<b>-1.08%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 89.39</b>			<b>\$ 88.43</b>	<b>-\$ 0.96</b>	<b>-1.08%</b>	

**Residential**

<b>Consumption</b>	1,000 kWh 0 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 12.33			\$ 13.07	\$ 0.74	6.00%	12.03%
Distribution (kWh)	1,000	\$ 0.0111	\$ 11.10	1,000	\$ 0.0126	\$ 12.60	\$ 1.5000	13.51%	11.59%
Distribution (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kWh)	1,000	\$ 0.0028	\$ 2.80	1,000	\$ 0.0009	\$ 0.90	\$ 3.70	-132.14%	-0.83%
Regulatory Assets (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%

**2008 BILL IMPACTS - SUMMER**  
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<b>Sub-Total</b>			<b>\$ 26.23</b>			<b>\$ 24.77</b>	<b>-\$ 1.46</b>	<b>-5.56%</b>	<b>22.79%</b>
Other Charges (kWh)	1036	\$ 0.0242	\$ 25.07	1036	\$ 0.0242	\$ 25.07	\$ -	0.00%	23.07%
Other Charges (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Cost of Power Commodity (kWh)	600	\$ 0.0530	\$ 31.80	600	\$ 0.0530	\$ 31.80	\$ -	0.00%	29.26%
Cost of Power Commodity (kW)	436	\$ 0.0620	\$ 27.03	436	\$ 0.0620	\$ 27.03	\$ -	0.00%	24.87%
<b>Total Bill before Taxes</b>			<b>\$ 110.13</b>			<b>\$ 108.67</b>	<b>-\$ 1.46</b>	<b>-1.33%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 6.61</b>			<b>\$ 6.52</b>	<b>-\$ 0.09</b>	<b>-1.33%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 116.74</b>			<b>\$ 115.19</b>	<b>-\$ 1.55</b>	<b>-1.33%</b>	

**Residential**

<b>Consumption</b>	1,500 kWh 0 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 12.33			\$ 13.07	\$ 0.74	6.00%	8.21%
Distribution (kWh)	1,500	\$ 0.0111	\$ 16.65	1,500	\$ 0.0126	\$ 18.90	\$ 2.2500	13.51%	11.87%
Distribution (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kWh)	1,500	\$ 0.0028	\$ 4.20	1,500	-\$ 0.0009	-\$ 1.35	-\$ 5.55	-132.14%	-0.85%
Regulatory Assets (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
<b>Sub-Total</b>			<b>\$ 33.18</b>			<b>\$ 30.62</b>	<b>-\$ 2.56</b>	<b>-7.71%</b>	<b>19.24%</b>
Other Charges (kWh)	1554	\$ 0.0242	\$ 37.61	1554	\$ 0.0242	\$ 37.61	\$ -	0.00%	23.63%
Other Charges (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Cost of Power Commodity (kWh)	600	\$ 0.0530	\$ 31.80	600	\$ 0.0530	\$ 31.80	\$ -	0.00%	19.98%
Cost of Power Commodity (kW)	954	\$ 0.0620	\$ 59.15	954	\$ 0.0620	\$ 59.15	\$ -	0.00%	37.16%
<b>Total Bill before Taxes</b>			<b>\$ 161.73</b>			<b>\$ 159.18</b>	<b>-\$ 2.56</b>	<b>-1.58%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 9.70</b>			<b>\$ 9.55</b>	<b>-\$ 0.15</b>	<b>-1.58%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 171.44</b>			<b>\$ 168.73</b>	<b>-\$ 2.71</b>	<b>-1.58%</b>	

**Residential**

<b>Consumption</b>	2,000 kWh 0 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 12.33			\$ 13.07	\$ 0.74	6.00%	6.23%
Distribution (kWh)	2,000	\$ 0.0111	\$ 22.20	2,000	\$ 0.0126	\$ 25.20	\$ 3.0000	13.51%	12.02%
Distribution (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kWh)	2,000	\$ 0.0028	\$ 5.60	2,000	-\$ 0.0009	-\$ 1.80	-\$ 7.40	-132.14%	-0.86%
Regulatory Assets (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
<b>Sub-Total</b>			<b>\$ 40.13</b>			<b>\$ 36.47</b>	<b>-\$ 3.66</b>	<b>-9.12%</b>	<b>17.39%</b>
Other Charges (kWh)	2072	\$ 0.0242	\$ 50.14	2072	\$ 0.0242	\$ 50.14	\$ -	0.00%	23.91%
Other Charges (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Cost of Power Commodity (kWh)	600	\$ 0.0530	\$ 31.80	600	\$ 0.0530	\$ 31.80	\$ -	0.00%	15.17%
Cost of Power Commodity (kW)	1,472	\$ 0.0620	\$ 91.26	1,472	\$ 0.0620	\$ 91.26	\$ -	0.00%	43.53%
<b>Total Bill before Taxes</b>			<b>\$ 213.34</b>			<b>\$ 209.68</b>	<b>-\$ 3.66</b>	<b>-1.72%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 12.80</b>			<b>\$ 12.58</b>	<b>-\$ 0.22</b>	<b>-1.72%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 226.14</b>			<b>\$ 222.26</b>	<b>-\$ 3.88</b>	<b>-1.72%</b>	

**GS < 50 kW**

**2008 BILL IMPACTS - SUMMER**  
**Enersource Hydro Mississauga Inc.**

2008 Electricity Distribution Rates Application

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**Bill Impact - May 1 to Oct 31**

<b>Consumption</b>	1,000 kWh 0 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 29.93			\$ 32.98	\$ 3.05	10.19%	25.41%
Distribution (kWh)	1,000	\$ 0.0149	\$ 14.90	1,000	\$ 0.0169	\$ 16.90	\$ 2.0000	13.42%	13.02%
Distribution (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kWh)	1,000	\$ 0.0011	\$ 1.10	1,000	-\$ 0.0015	-\$ 1.50	-\$ 2.60	-236.36%	-1.16%
Regulatory Assets (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
<b>Sub-Total</b>			<b>\$ 45.93</b>			<b>\$ 48.38</b>	<b>\$ 2.45</b>	<b>5.34%</b>	<b>37.27%</b>
Other Charges (kWh)	1036	\$ 0.0231	\$ 23.93	1036	\$ 0.0231	\$ 23.93	\$ -	0.00%	18.44%
Other Charges (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	30.63%
Cost of Power Commodity (kW)	286	\$ 0.0620	\$ 17.73	286	\$ 0.0620	\$ 17.73	\$ -	0.00%	13.66%
<b>Total Bill before Taxes</b>			<b>\$ 127.34</b>			<b>\$ 129.79</b>	<b>\$ 2.45</b>	<b>1.92%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 7.64</b>			<b>\$ 7.79</b>	<b>\$ 0.15</b>	<b>1.92%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 134.98</b>			<b>\$ 137.58</b>	<b>\$ 2.60</b>	<b>1.92%</b>	

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**Bill Impact - May 1 to Oct 31**

**GS < 50 kW**

<b>Consumption</b>	2,000 kWh 0 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 29.93			\$ 32.98	\$ 3.05	10.19%	14.13%
Distribution (kWh)	2,000	\$ 0.0149	\$ 29.80	2,000	\$ 0.0169	\$ 33.80	\$ 4.0000	13.42%	14.48%
Distribution (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kWh)	2,000	\$ 0.0011	\$ 2.20	2,000	-\$ 0.0015	-\$ 3.00	-\$ 5.20	-236.36%	-1.29%
Regulatory Assets (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
<b>Sub-Total</b>			<b>\$ 61.93</b>			<b>\$ 63.78</b>	<b>\$ 1.85</b>	<b>2.99%</b>	<b>27.33%</b>
Other Charges (kWh)	2072	\$ 0.0231	\$ 47.86	2072	\$ 0.0231	\$ 47.86	\$ -	0.00%	20.51%
Other Charges (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	17.03%
Cost of Power Commodity (kW)	1,322	\$ 0.0620	\$ 81.96	1,322	\$ 0.0620	\$ 81.96	\$ -	0.00%	35.12%
<b>Total Bill before Taxes</b>			<b>\$ 231.51</b>			<b>\$ 233.36</b>	<b>\$ 1.85</b>	<b>0.80%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 13.89</b>			<b>\$ 14.00</b>	<b>\$ 0.11</b>	<b>0.80%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 245.40</b>			<b>\$ 247.36</b>	<b>\$ 1.96</b>	<b>0.80%</b>	

**GS < 50 kW**

<b>Consumption</b>	5,000 kWh 0 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 29.93			\$ 32.98	\$ 3.05	10.19%	6.06%
Distribution (kWh)	5,000	\$ 0.0149	\$ 74.50	5,000	\$ 0.0169	\$ 84.50	\$ 10.0000	13.42%	15.53%
Distribution (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kWh)	5,000	\$ 0.0011	\$ 5.50	5,000	-\$ 0.0015	-\$ 7.50	-\$ 13.00	-236.36%	-1.38%
Regulatory Assets (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
<b>Sub-Total</b>			<b>\$ 109.93</b>			<b>\$ 109.98</b>	<b>\$ 0.05</b>	<b>0.05%</b>	<b>20.22%</b>
Other Charges (kWh)	5180	\$ 0.0231	\$ 119.66	5180	\$ 0.0231	\$ 119.66	\$ -	0.00%	21.99%
Other Charges (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	7.31%
Cost of Power Commodity (kW)	4,430	\$ 0.0620	\$ 274.66	4,430	\$ 0.0620	\$ 274.66	\$ -	0.00%	50.48%
<b>Total Bill before Taxes</b>			<b>\$ 544.00</b>			<b>\$ 544.05</b>	<b>\$ 0.05</b>	<b>0.01%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 32.64</b>			<b>\$ 32.64</b>	<b>\$ 0.00</b>	<b>0.01%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 576.64</b>			<b>\$ 576.69</b>	<b>\$ 0.05</b>	<b>0.01%</b>	



**2008 BILL IMPACTS - SUMMER**  
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**Bill Impact - May 1 to Oct 31**

**GS < 50 kW**

<b>Consumption</b>	10,000 kWh 0 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 29.93			\$ 32.98	\$ 3.05	10.19%	3.11%
Distribution (kWh)	10,000	\$ 0.0149	\$ 149.00	10,000	\$ 0.0169	\$ 169.00	\$ 20.0000	13.42%	15.92%
Distribution (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kWh)	10,000	\$ 0.0011	\$ 11.00	10,000	\$ 0.0015	\$ 15.00	\$ 26.00	-236.36%	-1.41%
Regulatory Assets (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
<b>Sub-Total</b>			<b>\$ 189.93</b>			<b>\$ 186.98</b>	<b>-\$ 2.95</b>	<b>-1.55%</b>	<b>17.61%</b>
Other Charges (kWh)	10360	\$ 0.0231	\$ 239.32	10360	\$ 0.0231	\$ 239.32	\$ -	0.00%	22.54%
Other Charges (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	3.74%
Cost of Power Commodity (kW)	9,610	\$ 0.0620	\$ 595.82	9,610	\$ 0.0620	\$ 595.82	\$ -	0.00%	56.11%
<b>Total Bill before Taxes</b>			<b>\$ 1,064.82</b>			<b>\$ 1,061.87</b>	<b>-\$ 2.95</b>	<b>-0.28%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 63.89</b>			<b>\$ 63.71</b>	<b>-\$ 0.18</b>	<b>-0.28%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 1,128.70</b>			<b>\$ 1,125.58</b>	<b>-\$ 3.13</b>	<b>-0.28%</b>	

**GS < 50 kW**

<b>Consumption</b>	15,000 kWh 0 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 29.93			\$ 32.98	\$ 3.05	10.19%	2.09%
Distribution (kWh)	15,000	\$ 0.0149	\$ 223.50	15,000	\$ 0.0169	\$ 253.50	\$ 30.0000	13.42%	16.05%
Distribution (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kWh)	15,000	\$ 0.0011	\$ 16.50	15,000	\$ 0.0015	\$ 22.50	\$ 39.00	-236.36%	-1.42%
Regulatory Assets (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
<b>Sub-Total</b>			<b>\$ 269.93</b>			<b>\$ 263.98</b>	<b>-\$ 5.95</b>	<b>-2.20%</b>	<b>16.71%</b>
Other Charges (kWh)	15540	\$ 0.0231	\$ 358.97	15540	\$ 0.0231	\$ 358.97	\$ -	0.00%	22.72%
Other Charges (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	2.52%
Cost of Power Commodity (kW)	14,790	\$ 0.0620	\$ 916.98	14,790	\$ 0.0620	\$ 916.98	\$ -	0.00%	58.05%
<b>Total Bill before Taxes</b>			<b>\$ 1,585.63</b>			<b>\$ 1,579.68</b>	<b>-\$ 5.95</b>	<b>-0.38%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 95.14</b>			<b>\$ 94.78</b>	<b>-\$ 0.36</b>	<b>-0.38%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 1,680.77</b>			<b>\$ 1,674.47</b>	<b>-\$ 6.31</b>	<b>-0.38%</b>	

**2008 BILL IMPACTS - SUMMER**  
**Enersource Hydro Mississauga Inc.**

2008 Electricity Distribution Rates Application

Filed: August 22, 2007

Exhibit H

Schedule 5

**Bill Impact - May 1 to Oct 31**

**Small Commercial and USL**

<b>Consumption</b>	15,000 kWh 0 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 15.32			\$ 16.45	\$ 1.13	7.39%	0.97%
Distribution (kWh)	15,000	\$ 0.0257	\$ 385.50	15,000	\$ 0.0291	\$ 436.50	\$ 51.0000	13.23%	25.68%
Distribution (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kWh)	15,000	\$ 0.0008	\$ 12.00	15,000	\$ 0.0046	\$ 69.00	\$ 81.00	-675.00%	-4.06%
Regulatory Assets (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
<b>Sub-Total</b>			<b>\$ 412.82</b>			<b>\$ 383.95</b>	<b>-\$ 28.87</b>	<b>-6.99%</b>	<b>22.59%</b>
Other Charges (kWh)	15540	\$ 0.0231	\$ 358.97	15540	\$ 0.0231	\$ 358.97	\$ -	0.00%	21.12%
Other Charges (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	2.34%
Cost of Power Commodity (kW)	14,790	\$ 0.0620	\$ 916.98	14,790	\$ 0.0620	\$ 916.98	\$ -	0.00%	53.95%
<b>Total Bill before Taxes</b>			<b>\$ 1,728.52</b>			<b>\$ 1,699.66</b>	<b>-\$ 28.87</b>	<b>-1.67%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 103.71</b>			<b>\$ 101.98</b>	<b>-\$ 1.73</b>	<b>-1.67%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 1,832.24</b>			<b>\$ 1,801.64</b>	<b>-\$ 30.60</b>	<b>-1.67%</b>	

**Small Commercial and USL**

<b>Consumption</b>	40,000 kWh 0 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 15.32			\$ 16.45	\$ 1.13	7.39%	0.36%
Distribution (kWh)	40,000	\$ 0.0257	\$ 1,028.00	40,000	\$ 0.0291	\$ 1,164.00	\$ 136.0000	13.23%	25.77%
Distribution (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kWh)	40,000	\$ 0.0008	\$ 32.00	40,000	\$ 0.0046	\$ 184.00	\$ 216.00	-675.00%	-4.07%
Regulatory Assets (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
<b>Sub-Total</b>			<b>\$ 1,075.32</b>			<b>\$ 996.45</b>	<b>-\$ 78.87</b>	<b>-7.33%</b>	<b>22.06%</b>
Other Charges (kWh)	41440	\$ 0.0231	\$ 957.26	41440	\$ 0.0231	\$ 957.26	\$ -	0.00%	21.20%
Other Charges (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	0.88%
Cost of Power Commodity (kW)	40,690	\$ 0.0620	\$ 2,522.78	40,690	\$ 0.0620	\$ 2,522.78	\$ -	0.00%	55.86%
<b>Total Bill before Taxes</b>			<b>\$ 4,595.11</b>			<b>\$ 4,516.25</b>	<b>-\$ 78.87</b>	<b>-1.72%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 275.71</b>			<b>\$ 270.97</b>	<b>-\$ 4.73</b>	<b>-1.72%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 4,870.82</b>			<b>\$ 4,787.22</b>	<b>-\$ 83.60</b>	<b>-1.72%</b>	

**Small Commercial and USL**

<b>Consumption</b>	100,000 kWh 0 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 15.32			\$ 16.45	\$ 1.13	7.39%	0.18%
Distribution (kWh)	10,000	\$ 0.0257	\$ 257.00	10,000	\$ 0.0291	\$ 291.00	\$ 34.0000	13.23%	3.21%
Distribution (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kWh)	10,000	\$ 0.0008	\$ 8.00	10,000	\$ 0.0046	\$ 46.00	\$ 54.00	-675.00%	-0.51%

**2008 BILL IMPACTS - SUMMER**  
**Enersource Hydro Mississauga Inc.**

**Bill Impact - May 1 to Oct 31**

Regulatory Assets (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
<b>Sub-Total</b>			<b>\$ 280.32</b>			<b>\$ 261.45</b>	<b>-\$ 18.87</b>	<b>-6.73%</b>	<b>2.88%</b>
Other Charges (kWh)	103600	\$ 0.0231	\$ 2,393.16	103600	\$ 0.0231	\$ 2,393.16	\$ -	0.00%	26.38%
Other Charges (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	0.44%
Cost of Power Commodity (kW)	102,850	\$ 0.0620	\$ 6,376.70	102,850	\$ 0.0620	\$ 6,376.70	\$ -	0.00%	70.30%
<b>Total Bill before Taxes</b>			<b>\$ 9,089.93</b>			<b>\$ 9,071.06</b>	<b>-\$ 18.87</b>	<b>-0.21%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 545.40</b>			<b>\$ 544.26</b>	<b>-\$ 1.13</b>	<b>-0.21%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 9,635.33</b>			<b>\$ 9,615.33</b>	<b>-\$ 20.00</b>	<b>-0.21%</b>	

**2008 BILL IMPACTS - SUMMER**  
**Enersource Hydro Mississauga Inc.**

2008 Electricity Distribution Rates Application

Filed: August 22, 2007

Exhibit H

Schedule 5

**Bill Impact - May 1 to Oct 31**

**Small Commercial and USL**

<b>Consumption</b>	150,000 kWh 0 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 15.32			\$ 16.45	\$ 1.13	7.39%	0.10%
Distribution (kWh)	150,000	\$ 0.0257	\$ 3,855.00	150,000	\$ 0.0291	\$ 4,365.00	\$ 510.0000	13.23%	25.81%
Distribution (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kWh)	150,000	\$ 0.0008	\$ 120.00	150,000	\$ 0.0046	\$ 690.00	\$ 810.00	-675.00%	-4.08%
Regulatory Assets (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
<b>Sub-Total</b>			<b>\$ 3,990.32</b>			<b>\$ 3,691.45</b>	<b>-\$ 298.87</b>	<b>-7.49%</b>	<b>21.83%</b>
Other Charges (kWh)	155400	\$ 0.0231	\$ 3,589.74	155400	\$ 0.0231	\$ 3,589.74	\$ -	0.00%	21.23%
Other Charges (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	0.24%
Cost of Power Commodity (kW)	154,650	\$ 0.0620	\$ 9,588.30	154,650	\$ 0.0620	\$ 9,588.30	\$ -	0.00%	56.70%
<b>Total Bill before Taxes</b>			<b>\$ 17,208.11</b>			<b>\$ 16,909.24</b>	<b>-\$ 298.87</b>	<b>-1.74%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 1,032.49</b>			<b>\$ 1,014.55</b>	<b>-\$ 17.93</b>	<b>-1.74%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 18,240.60</b>			<b>\$ 17,923.80</b>	<b>-\$ 316.80</b>	<b>-1.74%</b>	

**GS 50 - 499 kW**

<b>Consumption</b>	15,000 kWh 60 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 74.24			\$ 83.11	\$ 8.87	11.94%	4.70%
Distribution (kWh)	15,000	\$ -	\$ -	15,000	\$ -	\$ -	\$ -	0.00%	0.00%
Distribution (kW)	60	\$ 4.3900	\$ 263.40	60	\$ 4.9662	\$ 297.97	\$ 34.57	13.13%	16.84%
Regulatory Assets (kWh)	15,000	\$ -	\$ -	15,000	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kW)	60	\$ 0.3293	\$ 19.76	60	\$ 0.2990	\$ 17.94	\$ 37.70	-190.80%	-1.01%
<b>Sub-Total</b>			<b>\$ 357.40</b>			<b>\$ 363.14</b>	<b>\$ 5.74</b>	<b>1.61%</b>	<b>20.53%</b>
Other Charges (kWh)	15540	\$ 0.0132	\$ 205.13	15540	\$ 0.0132	\$ 205.13	\$ -	0.00%	11.60%
Other Charges (kW)	62	\$ 3.9245	\$ 243.95	62	\$ 3.9245	\$ 243.95	\$ -	0.00%	13.79%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	2.25%
Cost of Power Commodity (kW)	14,790	\$ 0.0620	\$ 916.98	14,790	\$ 0.0620	\$ 916.98	\$ -	0.00%	51.84%
<b>Total Bill before Taxes</b>			<b>\$ 1,763.20</b>			<b>\$ 1,768.94</b>	<b>\$ 5.74</b>	<b>0.33%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 105.79</b>			<b>\$ 106.14</b>	<b>\$ 0.34</b>	<b>0.33%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 1,869.00</b>			<b>\$ 1,875.08</b>	<b>\$ 6.09</b>	<b>0.33%</b>	

**2008 BILL IMPACTS - SUMMER**  
**Enersource Hydro Mississauga Inc.**

2008 Electricity Distribution Rates Application

Filed: August 22, 2007

Exhibit H

Schedule 5

**Bill Impact - May 1 to Oct 31**

**GS 50 - 499 kW**

<b>Consumption</b>	40,000 kWh 100 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 74.24			\$ 83.11	\$ 8.87	11.94%	2.04%
Distribution (kWh)	40,000	\$ -	\$ -	40,000	\$ -	\$ -	\$ -	0.00%	0.00%
Distribution (kW)	100	\$ 4.3900	\$ 439.00	100	\$ 4.9662	\$ 496.62	\$ 57.62	13.13%	12.21%
Regulatory Assets (kWh)	40,000	\$ -	\$ -	40,000	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kW)	100	\$ 0.3293	\$ 32.93	100	-\$ 0.2990	-\$ 29.90	-\$ 62.83	-190.80%	-0.74%
<b>Sub-Total</b>			<b>\$ 546.17</b>			<b>\$ 549.83</b>	<b>\$ 3.66</b>	<b>0.67%</b>	<b>13.52%</b>
Other Charges (kWh)	41440	\$ 0.0132	\$ 547.01	41440	\$ 0.0132	\$ 547.01	\$ -	0.00%	13.45%
Other Charges (kW)	104	\$ 3.9245	\$ 406.58	104	\$ 3.9245	\$ 406.58	\$ -	0.00%	10.00%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	0.98%
Cost of Power Commodity (kW)	40,690	\$ 0.0620	\$ 2,522.78	40,690	\$ 0.0620	\$ 2,522.78	\$ -	0.00%	62.05%
<b>Total Bill before Taxes</b>			<b>\$ 4,062.29</b>			<b>\$ 4,065.94</b>	<b>\$ 3.66</b>	<b>0.09%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 243.74</b>			<b>\$ 243.96</b>	<b>\$ 0.22</b>	<b>0.09%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 4,306.02</b>			<b>\$ 4,309.90</b>	<b>\$ 3.88</b>	<b>0.09%</b>	

**GS 50 - 499 kW**

<b>Consumption</b>	100,000 kWh 500 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 74.24			\$ 83.11	\$ 8.87	11.94%	0.68%
Distribution (kWh)	100,000	\$ -	\$ -	100,000	\$ -	\$ -	\$ -	0.00%	0.00%
Distribution (kW)	500	\$ 4.3900	\$ 2,195.00	500	\$ 4.9662	\$ 2,483.10	\$ 288.10	13.13%	20.30%
Regulatory Assets (kWh)	100,000	\$ -	\$ -	100,000	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kW)	500	\$ 0.3293	\$ 164.65	500	-\$ 0.2990	-\$ 149.50	-\$ 314.15	-190.80%	-1.22%
<b>Sub-Total</b>			<b>\$ 2,433.89</b>			<b>\$ 2,416.71</b>	<b>-\$ 17.18</b>	<b>-0.71%</b>	<b>19.75%</b>
Other Charges (kWh)	103600	\$ 0.0132	\$ 1,367.52	103600	\$ 0.0132	\$ 1,367.52	\$ -	0.00%	11.18%
Other Charges (kW)	518	\$ 3.9245	\$ 2,032.89	518	\$ 3.9245	\$ 2,032.89	\$ -	0.00%	16.62%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	0.32%
Cost of Power Commodity (kW)	102,850	\$ 0.0620	\$ 6,376.70	102,850	\$ 0.0620	\$ 6,376.70	\$ -	0.00%	52.12%
<b>Total Bill before Taxes</b>			<b>\$ 12,250.75</b>			<b>\$ 12,233.57</b>	<b>-\$ 17.18</b>	<b>-0.14%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 735.05</b>			<b>\$ 734.01</b>	<b>-\$ 1.03</b>	<b>-0.14%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 12,985.80</b>			<b>\$ 12,967.58</b>	<b>-\$ 18.21</b>	<b>-0.14%</b>	

**2008 BILL IMPACTS - SUMMER**  
**Enersource Hydro Mississauga Inc.**

2008 Electricity Distribution Rates Application

Filed: August 22, 2007

Exhibit H

Schedule 5

**Bill Impact - May 1 to Oct 31**

**GS 500 - 4999 kW**

<b>Consumption</b>	100,000 kWh 500 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 1,240.76			\$ 1,402.74	\$ 161.98	13.06%	11.63%
Distribution (kWh)	100,000	\$ -	\$ -	100,000	\$ -	\$ -	\$ -	0.00%	0.00%
Distribution (kW)	500	\$ 1.6906	\$ 845.30	500	\$ 1.9125	\$ 956.25	\$ 110.95	13.13%	7.93%
Regulatory Assets (kWh)	100,000	\$ -	\$ -	100,000	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kW)	500	-\$ 0.0222	-\$ 11.10	500	-\$ 0.1152	-\$ 57.60	-\$ 46.50	418.92%	-0.48%
<b>Sub-Total</b>			<b>\$ 2,074.96</b>			<b>\$ 2,301.39</b>	<b>\$ 226.43</b>	<b>10.91%</b>	<b>19.08%</b>
Other Charges (kWh)	103600	\$ 0.0132	\$ 1,367.52	103600	\$ 0.0132	\$ 1,367.52	\$ -	0.00%	11.34%
Other Charges (kW)	518	\$ 3.8168	\$ 1,977.10	518	\$ 3.8168	\$ 1,977.10	\$ -	0.00%	16.39%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	0.33%
Cost of Power Commodity (kW)	102,850	\$ 0.0620	\$ 6,376.70	102,850	\$ 0.0620	\$ 6,376.70	\$ -	0.00%	52.86%
<b>Total Bill before Taxes</b>			<b>\$ 11,836.03</b>			<b>\$ 12,062.47</b>	<b>\$ 226.43</b>	<b>1.91%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 710.16</b>			<b>\$ 723.75</b>	<b>\$ 13.59</b>	<b>1.91%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 12,546.19</b>			<b>\$ 12,786.21</b>	<b>\$ 240.02</b>	<b>1.91%</b>	

**GS 500 - 4999 kW**

<b>Consumption</b>	400,000 kWh 1000 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 1,240.76			\$ 1,402.74	\$ 161.98	13.06%	3.66%
Distribution (kWh)	400,000	\$ -	\$ -	400,000	\$ -	\$ -	\$ -	0.00%	0.00%
Distribution (kW)	1,000	\$ 1.6906	\$ 1,690.60	1,000	\$ 1.9125	\$ 1,912.50	\$ 221.90	13.13%	4.99%
Regulatory Assets (kWh)	400,000	\$ -	\$ -	400,000	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kW)	1,000	-\$ 0.0222	-\$ 22.20	1,000	-\$ 0.1152	-\$ 115.20	-\$ 93.00	418.92%	-0.30%
<b>Sub-Total</b>			<b>\$ 2,909.16</b>			<b>\$ 3,200.04</b>	<b>\$ 290.88</b>	<b>10.00%</b>	<b>8.35%</b>
Other Charges (kWh)	414400	\$ 0.0132	\$ 5,470.08	414400	\$ 0.0132	\$ 5,470.08	\$ -	0.00%	14.28%
Other Charges (kW)	1,036	\$ 3.8168	\$ 3,954.20	1,036	\$ 3.8168	\$ 3,954.20	\$ -	0.00%	10.32%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	0.10%
Cost of Power Commodity (kW)	413,650	\$ 0.0620	\$ 25,646.30	413,650	\$ 0.0620	\$ 25,646.30	\$ -	0.00%	66.94%
<b>Total Bill before Taxes</b>			<b>\$ 38,019.49</b>			<b>\$ 38,310.38</b>	<b>\$ 290.88</b>	<b>0.77%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 2,281.17</b>			<b>\$ 2,298.62</b>	<b>\$ 17.45</b>	<b>0.77%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 40,300.66</b>			<b>\$ 40,609.00</b>	<b>\$ 308.34</b>	<b>0.77%</b>	

**2008 BILL IMPACTS - SUMMER**  
**Enersource Hydro Mississauga Inc.**

2008 Electricity Distribution Rates Application

Filed: August 22, 2007

Exhibit H

Schedule 5

**Bill Impact - May 1 to Oct 31**

**GS 500 - 4999 kW**

<b>Consumption</b>	1,000,000 kWh 3000 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 1,240.76			\$ 1,402.74	\$ 161.98	13.06%	1.45%
Distribution (kWh)	1,000,000	\$ -	\$ -	1,000,000	\$ -	\$ -	\$ -	0.00%	0.00%
Distribution (kW)	3,000	\$ 1.6906	\$ 5,071.80	3,000	\$ 1.9125	\$ 5,737.50	\$ 665.70	13.13%	5.94%
Regulatory Assets (kWh)	1,000,000	\$ -	\$ -	1,000,000	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kW)	3,000	-\$ 0.0222	-\$ 66.60	3,000	-\$ 0.1152	-\$ 345.60	-\$ 279.00	418.92%	-0.36%
<b>Sub-Total</b>			<b>\$ 6,245.96</b>			<b>\$ 6,794.64</b>	<b>\$ 548.68</b>	<b>8.78%</b>	<b>7.04%</b>
Other Charges (kWh)	1036000	\$ 0.0132	\$ 13,675.20	1036000	\$ 0.0132	\$ 13,675.20	\$ -	0.00%	14.16%
Other Charges (kW)	3,108	\$ 3.8168	\$ 11,862.61	3,108	\$ 3.8168	\$ 11,862.61	\$ -	0.00%	12.29%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	0.04%
Cost of Power Commodity (kW)	1,035,250	\$ 0.0620	\$ 64,185.50	1,035,250	\$ 0.0620	\$ 64,185.50	\$ -	0.00%	66.47%
<b>Total Bill before Taxes</b>			<b>\$ 96,009.02</b>			<b>\$ 96,557.71</b>	<b>\$ 548.68</b>	<b>0.57%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 5,760.54</b>			<b>\$ 5,793.46</b>	<b>\$ 32.92</b>	<b>0.57%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 101,769.57</b>			<b>\$ 102,351.17</b>	<b>\$ 581.60</b>	<b>0.57%</b>	

**GS 500 - 4999 kW**

<b>Consumption</b>	1,500,000 kWh 4000 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 1,240.76			\$ 1,402.74	\$ 161.98	13.06%	0.99%
Distribution (kWh)	1,500,000	\$ -	\$ -	1,500,000	\$ -	\$ -	\$ -	0.00%	0.00%
Distribution (kW)	4,000	\$ 1.6906	\$ 6,762.40	4,000	\$ 1.9125	\$ 7,650.00	\$ 887.60	13.13%	5.42%
Regulatory Assets (kWh)	1,500,000	\$ -	\$ -	1,500,000	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kW)	4,000	-\$ 0.0222	-\$ 88.80	4,000	-\$ 0.1152	-\$ 460.80	-\$ 372.00	418.92%	-0.33%
<b>Sub-Total</b>			<b>\$ 7,914.36</b>			<b>\$ 8,591.94</b>	<b>\$ 677.58</b>	<b>8.56%</b>	<b>6.08%</b>
Other Charges (kWh)	1554000	\$ 0.0132	\$ 20,512.80	1554000	\$ 0.0132	\$ 20,512.80	\$ -	0.00%	14.52%
Other Charges (kW)	4,144	\$ 3.8168	\$ 15,816.82	4,144	\$ 3.8168	\$ 15,816.82	\$ -	0.00%	11.20%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	0.03%
Cost of Power Commodity (kW)	1,553,250	\$ 0.0620	\$ 96,301.50	1,553,250	\$ 0.0620	\$ 96,301.50	\$ -	0.00%	68.17%
<b>Total Bill before Taxes</b>			<b>\$ 140,585.23</b>			<b>\$ 141,262.81</b>	<b>\$ 677.58</b>	<b>0.48%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 8,435.11</b>			<b>\$ 8,475.77</b>	<b>\$ 40.65</b>	<b>0.48%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 149,020.34</b>			<b>\$ 149,738.58</b>	<b>\$ 718.24</b>	<b>0.48%</b>	

**2008 BILL IMPACTS - SUMMER**  
**Enersource Hydro Mississauga Inc.**

2008 Electricity Distribution Rates Application

Filed: August 22, 2007

Exhibit H

Schedule 5

**Bill Impact - May 1 to Oct 31**

**Large User > 5000 kW**

<b>Consumption</b>	100,000 kWh 5000 kW	<b>Loss Factor 1.0145</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 13,247.54			\$ 14,985.52	\$ 1,737.98	13.12%	25.60%
Distribution (kWh)	100,000	\$ -	\$ -	100,000	\$ -	\$ -	\$ -	0.00%	0.00%
Distribution (kW)	5,000	\$ 2.7937	\$ 13,968.50	5,000	\$ 3.1604	\$ 15,802.00	\$ 1,833.50	13.13%	27.00%
Regulatory Assets (kWh)	100,000	\$ -	\$ -	100,000	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kW)	5,000	\$ 0.0143	\$ 71.50	5,000	-\$ 0.1100	-\$ 550.00	-\$ 621.50	-869.23%	-0.94%
<b>Sub-Total</b>			<b>\$ 27,287.54</b>			<b>\$ 30,237.52</b>	<b>\$ 2,949.98</b>	<b>10.81%</b>	<b>51.66%</b>
Other Charges (kWh)	101450	\$ 0.0132	\$ 1,339.14	101450	\$ 0.0132	\$ 1,339.14	\$ -	0.00%	2.29%
Other Charges (kW)	5,073	\$ 4.0744	\$ 20,667.39	5,073	\$ 4.0744	\$ 20,667.39	\$ -	0.00%	35.31%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	0.07%
Cost of Power Commodity (kW)	100,700	\$ 0.0620	\$ 6,243.40	100,700	\$ 0.0620	\$ 6,243.40	\$ -	0.00%	10.67%
<b>Total Bill before Taxes</b>			<b>\$ 55,577.22</b>			<b>\$ 58,527.21</b>	<b>\$ 2,949.98</b>	<b>5.31%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 3,334.63</b>			<b>\$ 3,511.63</b>	<b>\$ 177.00</b>	<b>5.31%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 58,911.86</b>			<b>\$ 62,038.84</b>	<b>\$ 3,126.98</b>	<b>5.31%</b>	

**Large User > 5000 kW**

<b>Consumption</b>	400,000 kWh 6000 kW	<b>Loss Factor 1.0145</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 13,247.54			\$ 14,985.52	\$ 1,737.98	13.12%	16.91%
Distribution (kWh)	400,000	\$ -	\$ -	400,000	\$ -	\$ -	\$ -	0.00%	0.00%
Distribution (kW)	6,000	\$ 2.7937	\$ 16,762.20	6,000	\$ 3.1604	\$ 18,962.40	\$ 2,200.20	13.13%	21.40%
Regulatory Assets (kWh)	400,000	\$ -	\$ -	400,000	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kW)	6,000	\$ 0.0143	\$ 85.80	6,000	-\$ 0.1100	-\$ 660.00	-\$ 745.80	-869.23%	-0.74%
<b>Sub-Total</b>			<b>\$ 30,095.54</b>			<b>\$ 33,287.92</b>	<b>\$ 3,192.38</b>	<b>10.61%</b>	<b>37.57%</b>
Other Charges (kWh)	405800	\$ 0.0132	\$ 5,356.56	405800	\$ 0.0132	\$ 5,356.56	\$ -	0.00%	6.05%
Other Charges (kW)	6,087	\$ 4.0744	\$ 24,800.87	6,087	\$ 4.0744	\$ 24,800.87	\$ -	0.00%	27.99%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	0.04%
Cost of Power Commodity (kW)	405,050	\$ 0.0620	\$ 25,113.10	405,050	\$ 0.0620	\$ 25,113.10	\$ -	0.00%	28.34%
<b>Total Bill before Taxes</b>			<b>\$ 85,405.82</b>			<b>\$ 88,598.21</b>	<b>\$ 3,192.38</b>	<b>3.74%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 5,124.35</b>			<b>\$ 5,315.89</b>	<b>\$ 191.54</b>	<b>3.74%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 90,530.17</b>			<b>\$ 93,914.10</b>	<b>\$ 3,383.93</b>	<b>3.74%</b>	



**2008 BILL IMPACTS - SUMMER**  
**Enersource Hydro Mississauga Inc.**

2008 Electricity Distribution Rates Application

Filed: August 22, 2007

Exhibit H

Schedule 5

**Bill Impact - May 1 to Oct 31**

**Large User > 5000 kW**

<b>Consumption</b>	1,000,000 kWh 10000 kW	<b>Loss Factor 1.0145</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 13,247.54			\$ 14,985.52	\$ 1,737.98	13.12%	9.19%
Distribution (kWh)	1,000,000	\$ -	\$ -	1,000,000	\$ -	\$ -	\$ -	0.00%	0.00%
Distribution (kW)	10,000	\$ 2.7937	\$ 27,937.00	10,000	\$ 3.1604	\$ 31,604.00	\$ 3,667.00	13.13%	19.38%
Regulatory Assets (kWh)	1,000,000	\$ -	\$ -	1,000,000	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kW)	10,000	\$ 0.0143	\$ 143.00	10,000	-\$ 0.1100	-\$ 1,100.00	-\$ 1,243.00	-869.23%	-0.67%
<b>Sub-Total</b>			<b>\$ 41,327.54</b>			<b>\$ 45,489.52</b>	<b>\$ 4,161.98</b>	<b>10.07%</b>	<b>27.89%</b>
Other Charges (kWh)	1014500	\$ 0.0132	\$ 13,391.40	1014500	\$ 0.0132	\$ 13,391.40	\$ -	0.00%	8.21%
Other Charges (kW)	10,145	\$ 4.0744	\$ 41,334.79	10,145	\$ 4.0744	\$ 41,334.79	\$ -	0.00%	25.34%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	0.02%
Cost of Power Commodity (kW)	1,013,750	\$ 0.0620	\$ 62,852.50	1,013,750	\$ 0.0620	\$ 62,852.50	\$ -	0.00%	38.53%
<b>Total Bill before Taxes</b>			<b>\$ 158,945.98</b>			<b>\$ 163,107.96</b>	<b>\$ 4,161.98</b>	<b>2.62%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 9,536.76</b>			<b>\$ 9,786.48</b>	<b>\$ 249.72</b>	<b>2.62%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 168,482.74</b>			<b>\$ 172,894.44</b>	<b>\$ 4,411.70</b>	<b>2.62%</b>	

**Large User > 5000 kW**

<b>Consumption</b>	1,500,000 kWh 15000 kW	<b>Loss Factor 1.0145</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 13,247.54			\$ 14,985.52	\$ 1,737.98	13.12%	6.32%
Distribution (kWh)	1,500,000	\$ -	\$ -	1,500,000	\$ -	\$ -	\$ -	0.00%	0.00%
Distribution (kW)	15,000	\$ 2.7937	\$ 41,905.50	15,000	\$ 3.1604	\$ 47,406.00	\$ 5,500.50	13.13%	19.99%
Regulatory Assets (kWh)	1,500,000	\$ -	\$ -	1,500,000	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kW)	15,000	\$ 0.0143	\$ 214.50	15,000	-\$ 0.1100	-\$ 1,650.00	-\$ 1,864.50	-869.23%	-0.70%
<b>Sub-Total</b>			<b>\$ 55,367.54</b>			<b>\$ 60,741.52</b>	<b>\$ 5,373.98</b>	<b>9.71%</b>	<b>25.61%</b>
Other Charges (kWh)	1521750	\$ 0.0132	\$ 20,087.10	1521750	\$ 0.0132	\$ 20,087.10	\$ -	0.00%	8.47%
Other Charges (kW)	15,218	\$ 4.0744	\$ 62,002.18	15,218	\$ 4.0744	\$ 62,002.18	\$ -	0.00%	26.14%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	0.02%
Cost of Power Commodity (kW)	1,521,000	\$ 0.0620	\$ 94,302.00	1,521,000	\$ 0.0620	\$ 94,302.00	\$ -	0.00%	39.76%
<b>Total Bill before Taxes</b>			<b>\$ 231,798.57</b>			<b>\$ 237,172.56</b>	<b>\$ 5,373.98</b>	<b>2.32%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 13,907.91</b>			<b>\$ 14,230.35</b>	<b>\$ 322.44</b>	<b>2.32%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 245,706.49</b>			<b>\$ 251,402.91</b>	<b>\$ 5,696.42</b>	<b>2.32%</b>	

**2008 BILL IMPACTS - SUMMER**  
**Enersource Hydro Mississauga Inc.**

2008 Electricity Distribution Rates Application

Filed: August 22, 2007

Exhibit H

**Bill Impact - May 1 to Oct 31**

Schedule 5

<b>Streetlights</b>									
<i>Consumption</i>		70 kWh 2 kW		<i>Loss Factor 1.036</i>					
	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 0.36			\$ 0.42	\$ 0.06	16.67%	2.49%
Distribution (kWh)	70	\$ -	\$ -	70	\$ -	\$ -	\$ -	0.00%	0.00%
Distribution (kW)	2	\$ 2.7462	\$ 5.49	2	\$ 3.2376	\$ 6.48	\$ 0.98	17.89%	38.36%
Regulatory Assets (kWh)	70	\$ -	\$ -	70	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kW)	2	\$ 0.0143	\$ 0.03	2	-\$ 0.2813	-\$ 0.56	-\$ 0.59	-2067.13%	-3.33%
<b>Sub-Total</b>			<b>\$ 5.88</b>			<b>\$ 6.33</b>	<b>\$ 0.45</b>	<b>7.68%</b>	<b>37.52%</b>
Other Charges (kWh)	73	\$ 0.0132	\$ 0.96	73	\$ 0.0132	\$ 0.96	\$ -	0.00%	5.67%
Other Charges (kW)	2	\$ 2.7731	\$ 5.75	2	\$ 2.7731	\$ 5.75	\$ -	0.00%	34.04%
Cost of Power Commodity (kWh)	73	\$ 0.0530	\$ 3.84	73	\$ 0.0530	\$ 3.84	\$ -	0.00%	22.77%
Cost of Power Commodity (kW)	0	\$ 0.0620	\$ -	0	\$ 0.0620	\$ -	\$ -	0.00%	0.00%
<b>Total Bill before Taxes</b>			<b>\$ 16.43</b>			<b>\$ 16.88</b>	<b>\$ 0.45</b>	<b>2.75%</b>	<b>100%</b>
<b>GST (2006 - 7%, 2007 - 6%)</b>			<b>\$ 0.99</b>			<b>\$ 1.01</b>	<b>\$ 0.03</b>	<b>2.75%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 17.41</b>			<b>\$ 17.89</b>	<b>\$ 0.48</b>	<b>2.75%</b>	

**2008 BILL IMPACTS - SUMMER**  
**Enersource Hydro Mississauga Inc.**

Enersource Hydro Mississauga Inc.  
 EB-2007-0706  
 2008 Electricity Distribution Rates Application  
 Filed: August 22, 2007

**Bill Impact - May 1 to Oct 31**

Exhibit H  
 Schedule 5  
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Regulated Price Plan	2007	2007	2008	2008
<b>Residential</b>	Threshold	\$ / kWh	Threshold	\$ / kWh
less than or equal to	600	\$ 0.053	600	\$ 0.053
greater than	> 600	\$ 0.062	> 600	\$ 0.062

Regulated Price Plan	2007	2007	2008	2008
<b>Non-Residential</b>	Threshold	\$ / kWh	Threshold	\$ / kWh
less than or equal to	750	\$ 0.053	750	\$ 0.053
greater than	> 750	\$ 0.062	> 750	\$ 0.062

**Residential**

<b>Consumption</b>	800 kWh 0 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 12.33			\$ 13.07	\$ 0.74	6.00%	14.77%
Distribution (kWh)	800	\$ 0.0111	\$ 8.88	800	\$ 0.0126	\$ 10.08	\$ 1.2000	13.51%	11.39%
Distribution (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kWh)	800	\$ 0.0028	\$ 2.24	800	\$ 0.0009	\$ 0.72	\$ 2.96	-132.14%	-0.81%
Regulatory Assets (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
<b>Sub-Total</b>			<b>\$ 23.45</b>			<b>\$ 22.43</b>	<b>-\$ 1.02</b>	<b>-4.35%</b>	<b>25.35%</b>
Other Charges (kWh)	829	\$ 0.0242	\$ 20.06	829	\$ 0.0242	\$ 20.06	\$ -	0.00%	22.67%
Other Charges (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Cost of Power Commodity (kWh)	600	\$ 0.0530	\$ 31.80	600	\$ 0.0530	\$ 31.80	\$ -	0.00%	35.94%
Cost of Power Commodity (kW)	229	\$ 0.0620	\$ 14.19	229	\$ 0.0620	\$ 14.19	\$ -	0.00%	16.03%
<b>Total Bill before Taxes</b>			<b>\$ 89.49</b>			<b>\$ 88.47</b>	<b>-\$ 1.02</b>	<b>-1.14%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 5.37</b>			<b>\$ 5.31</b>	<b>-\$ 0.06</b>	<b>-1.14%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 94.86</b>			<b>\$ 93.78</b>	<b>-\$ 1.08</b>	<b>-1.14%</b>	

**Residential**

<b>Consumption</b>	1,000 kWh 0 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 12.33			\$ 13.07	\$ 0.74	6.00%	12.03%
Distribution (kWh)	1,000	\$ 0.0111	\$ 11.10	1,000	\$ 0.0126	\$ 12.60	\$ 1.5000	13.51%	11.59%
Distribution (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kWh)	1,000	\$ 0.0028	\$ 2.80	1,000	\$ 0.0009	\$ 0.90	\$ 3.70	-132.14%	-0.83%
Regulatory Assets (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
<b>Sub-Total</b>			<b>\$ 26.23</b>			<b>\$ 24.77</b>	<b>-\$ 1.46</b>	<b>-5.56%</b>	<b>22.79%</b>
Other Charges (kWh)	1036	\$ 0.0242	\$ 25.07	1036	\$ 0.0242	\$ 25.07	\$ -	0.00%	23.07%
Other Charges (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Cost of Power Commodity (kWh)	600	\$ 0.0530	\$ 31.80	600	\$ 0.0530	\$ 31.80	\$ -	0.00%	29.26%
Cost of Power Commodity (kW)	436	\$ 0.0620	\$ 27.03	436	\$ 0.0620	\$ 27.03	\$ -	0.00%	24.87%
<b>Total Bill before Taxes</b>			<b>\$ 110.13</b>			<b>\$ 108.67</b>	<b>-\$ 1.46</b>	<b>-1.33%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 6.61</b>			<b>\$ 6.52</b>	<b>-\$ 0.09</b>	<b>-1.33%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 116.74</b>			<b>\$ 115.19</b>	<b>-\$ 1.55</b>	<b>-1.33%</b>	

**GS < 50 kW**

<b>Consumption</b>	<b>3,500 kWh</b> <b>0 kW</b>	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 29.93			\$ 32.98	\$ 3.05	10.19%	8.48%
Distribution (kWh)	3,500	\$ 0.0149	\$ 52.15	3,500	\$ 0.0169	\$ 59.15	\$ 7.0000	13.42%	15.22%
Distribution (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kWh)	3,500	\$ 0.0011	\$ 3.85	3,500	\$ 0.0015	\$ 5.25	\$ 9.10	-236.36%	-1.35%
Regulatory Assets (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
<b>Sub-Total</b>			<b>\$ 85.93</b>			<b>\$ 86.88</b>	<b>\$ 0.95</b>	<b>1.11%</b>	<b>22.35%</b>
Other Charges (kWh)	3626	\$ 0.0231	\$ 83.76	3626	\$ 0.0231	\$ 83.76	\$ -	0.00%	21.55%
Other Charges (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	10.23%
Cost of Power Commodity (kW)	2,876	\$ 0.0620	\$ 178.31	2,876	\$ 0.0620	\$ 178.31	\$ -	0.00%	45.87%
<b>Total Bill before Taxes</b>			<b>\$ 387.75</b>			<b>\$ 388.70</b>	<b>\$ 0.95</b>	<b>0.25%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 23.27</b>			<b>\$ 23.32</b>	<b>\$ 0.06</b>	<b>0.25%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 411.02</b>			<b>\$ 412.03</b>	<b>\$ 1.01</b>	<b>0.25%</b>	

### Small Commercial and USL

<b>Consumption</b>	<b>300 kWh</b> <b>0 kW</b>	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 15.32			\$ 16.45	\$ 1.13	7.39%	34.67%
Distribution (kWh)	300	\$ 0.0257	\$ 7.71	300	\$ 0.0291	\$ 8.73	\$ 1.0200	13.23%	18.40%
Distribution (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kWh)	300	\$ 0.0008	\$ 0.24	300	\$ 0.0046	\$ 1.38	\$ 1.62	-675.00%	-2.91%
Regulatory Assets (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
<b>Sub-Total</b>			<b>\$ 23.27</b>			<b>\$ 23.80</b>	<b>\$ 0.53</b>	<b>2.29%</b>	<b>50.16%</b>
Other Charges (kWh)	311	\$ 0.0231	\$ 7.18	311	\$ 0.0231	\$ 7.18	\$ -	0.00%	15.13%
Other Charges (kW)	0	\$ -	\$ -	0	\$ -	\$ -	\$ -	0.00%	0.00%
Cost of Power Commodity (kWh)	311	\$ 0.0530	\$ 16.47	311	\$ 0.0530	\$ 16.47	\$ -	0.00%	34.71%
Cost of Power Commodity (kW)	0	\$ 0.0620	\$ -	0	\$ 0.0620	\$ -	\$ -	0.00%	0.00%
<b>Total Bill before Taxes</b>			<b>\$ 46.92</b>			<b>\$ 47.45</b>	<b>\$ 0.53</b>	<b>1.14%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 2.82</b>			<b>\$ 2.85</b>	<b>\$ 0.03</b>	<b>1.14%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 49.74</b>			<b>\$ 50.30</b>	<b>\$ 0.56</b>	<b>1.14%</b>	

### GS 50 - 499 kW

<b>Consumption</b>	<b>48,700 kWh</b> <b>140 kW</b>	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 74.24			\$ 83.11	\$ 8.87	11.94%	1.63%
Distribution (kWh)	48,700	\$ -	\$ -	48,700	\$ -	\$ -	\$ -	0.00%	0.00%
Distribution (kW)	140	\$ 4.3900	\$ 614.60	140	\$ 4.9662	\$ 695.27	\$ 80.67	13.13%	13.65%
Regulatory Assets (kWh)	48,700	\$ -	\$ -	48,700	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kW)	140	\$ 0.3293	\$ 46.10	140	\$ 0.2990	\$ 41.86	\$ 87.96	-190.80%	-0.82%
<b>Sub-Total</b>			<b>\$ 734.94</b>			<b>\$ 736.51</b>	<b>\$ 1.57</b>	<b>0.21%</b>	<b>14.46%</b>
Other Charges (kWh)	50453	\$ 0.0132	\$ 665.98	50453	\$ 0.0132	\$ 665.98	\$ -	0.00%	13.08%
Other Charges (kW)	145	\$ 3.9245	\$ 569.21	145	\$ 3.9245	\$ 569.21	\$ -	0.00%	11.18%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	0.78%
Cost of Power Commodity (kW)	49,703	\$ 0.0620	\$ 3,081.60	49,703	\$ 0.0620	\$ 3,081.60	\$ -	0.00%	60.51%
<b>Total Bill before Taxes</b>			<b>\$ 5,091.48</b>			<b>\$ 5,093.05</b>	<b>\$ 1.57</b>	<b>0.03%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 305.49</b>			<b>\$ 305.58</b>	<b>\$ 0.09</b>	<b>0.03%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 5,396.97</b>			<b>\$ 5,398.64</b>	<b>\$ 1.67</b>	<b>0.03%</b>	

**GS 500 - 4999 kW**

<b>Consumption</b>	420,000 kWh 940 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 1,240.76			\$ 1,402.74	\$ 161.98	13.06%	3.55%
Distribution (kWh)	420,000	\$ -	\$ -	420,000	\$ -	\$ -	\$ -	0.00%	0.00%
Distribution (kW)	940	\$ 1.6906	\$ 1,589.16	940	\$ 1.9125	\$ 1,797.75	\$ 208.59	13.13%	4.55%
Regulatory Assets (kWh)	420,000	\$ -	\$ -	420,000	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kW)	940	-\$ 0.0222	-\$ 20.87	940	-\$ 0.1152	-\$ 108.29	-\$ 87.42	418.92%	-0.27%
<b>Sub-Total</b>			<b>\$ 2,809.06</b>			<b>\$ 3,092.21</b>	<b>\$ 283.15</b>	<b>10.08%</b>	<b>7.82%</b>
Other Charges (kWh)	435120	\$ 0.0132	\$ 5,743.58	435120	\$ 0.0132	\$ 5,743.58	\$ -	0.00%	14.53%
Other Charges (kW)	974	\$ 3.8168	\$ 3,716.95	974	\$ 3.8168	\$ 3,716.95	\$ -	0.00%	9.40%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	0.10%
Cost of Power Commodity (kW)	434,370	\$ 0.0620	\$ 26,930.94	434,370	\$ 0.0620	\$ 26,930.94	\$ -	0.00%	68.14%
<b>Total Bill before Taxes</b>			<b>\$ 39,240.28</b>			<b>\$ 39,523.43</b>	<b>\$ 283.15</b>	<b>0.72%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 2,354.42</b>			<b>\$ 2,371.41</b>	<b>\$ 16.99</b>	<b>0.72%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 41,594.70</b>			<b>\$ 41,894.84</b>	<b>\$ 300.14</b>	<b>0.72%</b>	

**Large User > 5000 kW**

<b>Consumption</b>	9,200,000 kWh 15900 kW	<b>Loss Factor 1.0145</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 13,247.54			\$ 14,985.52	\$ 1,737.98	13.12%	1.80%
Distribution (kWh)	9,200,000	\$ -	\$ -	9,200,000	\$ -	\$ -	\$ -	0.00%	0.00%
Distribution (kW)	15,900	\$ 2.7937	\$ 44,419.83	15,900	\$ 3.1604	\$ 50,250.36	\$ 5,830.53	13.13%	6.05%
Regulatory Assets (kWh)	9,200,000	\$ -	\$ -	9,200,000	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kW)	15,900	\$ 0.0143	\$ 227.37	15,900	-\$ 0.1100	-\$ 1,749.00	-\$ 1,976.37	-869.23%	-0.21%
<b>Sub-Total</b>			<b>\$ 57,894.74</b>			<b>\$ 63,486.88</b>	<b>\$ 5,592.14</b>	<b>9.66%</b>	<b>7.64%</b>
Other Charges (kWh)	9333400	\$ 0.0132	\$ 123,200.88	9333400	\$ 0.0132	\$ 123,200.88	\$ -	0.00%	14.82%
Other Charges (kW)	16,131	\$ 4.0744	\$ 65,722.31	16,131	\$ 4.0744	\$ 65,722.31	\$ -	0.00%	7.91%
Cost of Power Commodity (kWh)	750	\$ 0.0530	\$ 39.75	750	\$ 0.0530	\$ 39.75	\$ -	0.00%	0.00%
Cost of Power Commodity (kW)	9,332,650	\$ 0.0620	\$ 578,624.30	9,332,650	\$ 0.0620	\$ 578,624.30	\$ -	0.00%	69.62%
<b>Total Bill before Taxes</b>			<b>\$ 825,481.98</b>			<b>\$ 831,074.13</b>	<b>\$ 5,592.14</b>	<b>0.68%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 49,528.92</b>			<b>\$ 49,864.45</b>	<b>\$ 335.53</b>	<b>0.68%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 875,010.90</b>			<b>\$ 880,938.57</b>	<b>\$ 5,927.67</b>	<b>0.68%</b>	

**Streetlights**

<b>Consumption</b>	70 kWh 2 kW	<b>Loss Factor 1.036</b>
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	2007 BILL			2008 BILL			IMPACT		
	Volume	RATE \$	CHARGE \$	Volume	RATE \$	CHARGE \$	\$	%	% of Total Bill
Monthly Service Charge			\$ 0.36			\$ 0.42	\$ 0.06	16.67%	2.49%
Distribution (kWh)	70	\$ -	\$ -	70	\$ -	\$ -	\$ -	0.00%	0.00%
Distribution (kW)	2	\$ 2.7462	\$ 5.49	2	\$ 3.2376	\$ 6.48	\$ 0.98	17.89%	38.36%
Regulatory Assets (kWh)	70	\$ -	\$ -	70	\$ -	\$ -	\$ -	0.00%	0.00%
Regulatory Assets (kW)	2	\$ 0.0143	\$ 0.03	2	-\$ 0.2813	-\$ 0.56	-\$ 0.59	-2067.13%	-3.33%
<b>Sub-Total</b>			<b>\$ 5.88</b>			<b>\$ 6.33</b>	<b>\$ 0.45</b>	<b>7.68%</b>	<b>37.52%</b>
Other Charges (kWh)	73	\$ 0.0132	\$ 0.96	73	\$ 0.0132	\$ 0.96	\$ -	0.00%	5.67%
Other Charges (kW)	2	\$ 2.7731	\$ 5.75	2	\$ 2.7731	\$ 5.75	\$ -	0.00%	34.04%
Cost of Power Commodity (kWh)	73	\$ 0.0530	\$ 3.84	73	\$ 0.0530	\$ 3.84	\$ -	0.00%	22.77%
Cost of Power Commodity (kW)	0	\$ 0.0620	\$ -	0	\$ 0.0620	\$ -	\$ -	0.00%	0.00%
<b>Total Bill before Taxes</b>			<b>\$ 16.43</b>			<b>\$ 16.88</b>	<b>\$ 0.45</b>	<b>2.75%</b>	<b>100%</b>
<b>GST (2007 - 6%, 2008 - 6%)</b>			<b>\$ 0.99</b>			<b>\$ 1.01</b>	<b>\$ 0.03</b>	<b>2.75%</b>	
<b>Total Bill after Taxes</b>			<b>\$ 17.41</b>			<b>\$ 17.89</b>	<b>\$ 0.48</b>	<b>2.75%</b>	