



Hydro One Networks Inc.  
Distribution Customers  
Conditions of Service

AUGUST 2004

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## SECTION 1 INTRODUCTION

These Conditions of Service describe Hydro One Networks Inc.'s. ("Hydro One") operating practices and connection policies and set out the terms and conditions upon which Hydro One offers and the Customer accepts Distribution Services.

Terms contained in these Conditions of Service or in any contract for the supply of electricity by Hydro One shall not prejudice or affect any rights, privileges, or powers vested in Hydro One by law under any federal or Ontario statute or any regulations thereunder.

The definitions of terms used in these Conditions of Service appear in section 4.0. Capitalized expressions used in these Conditions of Service have the meaning ascribed in that section.

### 1.1. Identification of Distributor and Service Area

Hydro One is a corporation incorporated under Ontario's *Business Corporations Act* and an electricity Distributor licenced by the OEB to distribute electricity in the service area described in Hydro One's Distribution Licence, ED-2003-0043 (the "Licence"). Hydro One's service area may be changed from time to time by the approval of the OEB.

Details of the Licence may be viewed at [www.HydroOneNetworks.com](http://www.HydroOneNetworks.com).

### 1.2. Related Codes and Governing Laws

Hydro One and the Customer shall comply with all Applicable Laws including the provisions of the latest editions of the following documents:

- (i) *Electricity Act*;
- (ii) *Ontario Energy Board Act*;
- (iii) the Licence;
- (iv) Affiliate Relationships Code for Electricity Distributors and Transmitters;
- (v) Distribution System Code;
- (vi) Retail Settlement Code;
- (vii) Standard Supply Service Code; and
- (viii) Relevant Rate Orders

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If there is a conflict between these Conditions of Service and any of the above, the documents listed above shall govern. If there is a conflict between these Conditions of Service and a Connection Agreement executed by the Customer and Hydro One; the Connection Agreement shall govern. The fact that a condition, right, obligation, or other term appears in these Conditions of Service but not in any of the documents listed above or in a Connection Agreement shall not be interpreted as a conflict or be deemed grounds for finding a conflict.

Customers and their agents planning and designing for electricity service must refer to all applicable provincial and Canadian electrical codes and all applicable federal, provincial, and municipal laws, regulations, codes and by-laws to ensure compliance. All work shall be conducted in accordance with the latest edition of the Ontario *Occupational Health and Safety Act* (OHSA), and where applicable the Regulations for Construction Projects and the harmonized Electrical and Utility Safety Association (E & USA) rulebook.

### **1.3. Interpretations**

In these Conditions of Service

- (i) the singular includes the plural and vice versa;
- (ii) the use of one gender includes the other;
- (iii) the word “person” includes not only a natural person but also a firm, a body corporate, an unincorporated association and an authority;
- (iv) the word “its” may mean “his”, “her” or “their”;
- (v) the words “including”, “include(s)” and “included” shall be interpreted as being without limitation;
- (vi) a reference to a person includes a reference to the person’s heirs, executors, administrators, successors, substitutes (including, but not limited to, persons taking by novation) and assigns;
- (vii) an agreement, representation or warranty on the part of or in favour of two or more persons binds or is for the benefit of them jointly and severally;
- (viii) specified periods of time refer to business days, and the number of days from a given day or the day of an act or event is to be calculated exclusive of the given day or day of the act or event; and

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- (ix) a reference to a day is to be interpreted as the period of time commencing at midnight and ending 24 hours later and does not include weekends and Public Holidays.

#### **1.4. Amendments and Changes**

The provisions of these Conditions of Service and any amendments made from time to time form part of the contract between Hydro One and any connected Customer, Retailer, or Generator, and these Conditions of Service supersede all previous Conditions of Service, oral or written, of Hydro One or any of its predecessor municipal electric utilities as of the effective date (Section 1.7 J) of these Conditions of Service.

In the event of changes to these Conditions of Service, Hydro One will issue an advance public notice with the Customer's bill as per Section 2.4.8 of the Distribution System Code. Customers will have ten (10) days, from receipt of the notification, to provide comments through the contacts identified in the public notice.

The Customer is responsible for contacting Hydro One to obtain the current version of these Conditions of Service. Hydro One may charge a reasonable fee for providing the Customer with a copy of these Conditions of Service. The current version of the Conditions of Service is posted on the Hydro One Web site and may be downloaded from: [www.HydroOneNetworks.com](http://www.HydroOneNetworks.com).

#### **1.5. Contact Information**

For general inquiries, Hydro One can be reached during its normal business hours: Monday to Friday from 7:30 am to 8 pm. E.T. at 1-888-664-9376, by e-mail at [CustomerCommunications@HydroOneNetworks.com](mailto:CustomerCommunications@HydroOneNetworks.com) or by writing to:

Hydro One Networks Inc.  
Box 5700  
Markham, Ontario  
L3R 1C8

**For emergency purposes, Customers can call Hydro One at 1-800-434-1235, twenty four (24) hours per day, seven (7) days per week, or the number shown on the Customer's bill.**

#### **1.6. Customer Rights**

Hydro One shall be liable to a Customer and a Customer shall be liable to Hydro One only for any damages that arise directly out of the willful misconduct or negligence of:

- (i) Hydro One in providing Distribution Services to the Customer;
- (ii) the Customer in being connected to the Distribution System; or
- (iii) Hydro One or the Customer in meeting their respective obligations or exercising their respective rights under these Conditions of Service, their Licences and any other Applicable Laws.

Notwithstanding the above, neither Hydro One nor the Customer 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.

## 1.7. Hydro One’s Distributor Rights

### A. Space and Access

The Customer shall provide Hydro One, free of charge or rent, with a convenient and safe place for Hydro One’s Facilities and Equipment, for example, a meter, on the Customer’s premises. Hydro One assumes no risk thereby and under no circumstances will Hydro One be liable for any damages resulting from, arising out of or related to the presence of the Hydro One Facilities and Equipment.

The Customer shall not allow anyone other than an employee, or authorized agent of Hydro One, or a person lawfully entitled to do so, to repair, remove, replace, alter, inspect or tamper with the Hydro One Facilities and Equipment on the Customer’s premises.

In addition to Hydro One’s rights under Section 40 of the *Electricity Act*, Hydro One or its authorized agents may enter the Customer’s property at any time for any of the following purposes:

- (i) install, inspect, read, calibrate, maintain, repair, alter, remove, or replace a meter;
- (ii) inspect, maintain, repair, alter, remove, replace, or disconnect wires or other facilities used to transmit or Distribute electricity;
- (iii) inspect, maintain, repair, alter, remove, and replace Hydro One Facilities and Equipment such as sentinel lights; and
- (iv) perform switching operations or interrupt the Customer’s supply to maintain or improve the supply system or to provide new or upgraded services to other Customers

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Hydro One will use reasonable efforts to exercise this power of entry during normal business hours. The Hydro One employee or authorized agent exercising this power of entry will identify himself with proper identification upon request.

Where Hydro One has requested key access, for meters or meter rooms inside the Customer's premises, key access shall be provided to Hydro One. Any exceptions to this requirement are subject to Hydro One's written approval. Hydro One may require that a Customer relocate an inaccessible meter to an accessible location at the Customer's expense.

### **B. Tree and Vegetation Management**

To ensure public safety and the continued reliable operation of the Distribution System Hydro One maintains its rights of way on a continued and cyclical basis. The timing of this periodic re-clearing of existing rights of way is determined by system assessments, rights of way limitations, storm damage, diseased trees, and vegetation type. Re-clearing of rights of way typically affects trees and vegetation on private property. Hydro One will notify and discuss the planned re-clearing of existing rights of way with property owners prior to performing the work in order to mitigate the impacts to the environment and the property. However, in the event of emergencies, Hydro One may be unable to notify the property owner prior to performing the work.

Subject to any prior agreements, Customers are responsible for all initial and continuing tree trimming, tree and brush removal for all new and existing Secondary Services, Primary Services, and Sub-transmission Services on a Customer's property. Clearances must conform to the Electrical Safety Code. To permit the safe clearance of trees and vegetation from Customer lines Hydro One will, upon at least ten (10) days prior notice from the Customer, once each year during normal business hours, disconnect and reconnect the Customer's service without charge.

For distribution or sub-transmission lines built by the Customer, and where ownership is to be transferred to Hydro One upon Connection, the clearances must conform to Distribution Standards.

### **C. Liability for Damage to Hydro One Equipment**

Hydro One Facilities and Equipment located on the Customer's premises are in the care of and at the risk of the Customer. If any of Hydro One's Facilities and Equipment are damaged or destroyed by fire or any other cause other than ordinary wear and tear, the Customer shall pay Hydro One either, at Hydro One's sole discretion, the value of said Hydro One Facilities and Equipment or the cost of repairing or replacing same.



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The Customer shall not build, or cause to be built, plant or maintain any structure, tree, shrub or landscaping that would or could obstruct or endanger any Hydro One Facilities and Equipment, interfere with the proper and safe operation of the Distribution System or any part thereof or affect Hydro One's compliance with any Applicable Laws.

**D. Indemnity for Generation Facilities**

The Customer shall indemnify and hold harmless Hydro One, its directors, officers, employees and authorized agents from any claims made by any third parties related to the construction, installation, or Connection of a Generation Facility by or on behalf of the Customer.

**E. Safety of Customer / Embedded Generator Equipment**

The Customer shall comply with all Applicable Laws, including, but not limited to the Electrical Safety Code. The Customer shall ensure that the Customer Equipment is properly identified and connected for metering and operation purposes and will take whatever steps necessary to correct any deficiencies in a timely fashion. If the Customer does not take such action within the time specified by Hydro One, Hydro One may disconnect the supply of power to the Customer.

**F. Customer's Equipment**

Where applicable, Customer Equipment shall be subject to the reasonable acceptance of Hydro One and the approval of the Electrical Safety Authority. Hydro One's approval of any Customer Equipment is solely for the purposes of Hydro One's protection of the Distribution System. The Customer is solely responsible for protecting its own property.

**G. Testing Customer's Load**

The Customer shall allow Hydro One to install and use meters and other equipment to conduct tests to determine the electrical characteristics of the Customer's load.

**H. Hydro One's Automatic Reclosing Facilities**

In order to safeguard and protect the Distribution System, Hydro One installs facilities for automatic reclosing of circuit breakers, reclosing facilities, and from time to time may change the reclosing time of any such reclosing facilities. The Customer shall be responsible for providing at his own expense:

- (i) adequate protective equipment for any electrical apparatus which might be adversely affected by reclosing facilities; and

- (ii) such equipment as may be required for the proper reconnection of any apparatus or equipment of the Customer, without adversely affecting the proper functioning of the reclosing facilities.

**I. Registration/Deregistration as a Wholesale Market Participant**

In order for Hydro One to make the necessary changes to its billing systems, Customers who wish to register or de-register with the Independent Electricity Market Operator (IMO) as a Wholesale Market Participant shall notify Hydro One in writing at least sixty (60) days in advance and complete the necessary documentation.

**J. Coming Into Force**

These Conditions of Service are effective as of August 1, 2004 unless noted otherwise.

**K. Force Majeure**

Other than for any amounts due and payable by the Customer to Hydro One or by Hydro One to the Customer, neither Hydro One nor the Customer shall be deemed to have committed an event of default in respect of any obligation under these Conditions of Service if prevented from performing that obligation, in whole or in part, because of a Force Majeure Event.

Hydro One shall not be liable for any delay or failure in the performance of any of its obligations under these Conditions of Service due to any Force Majeure Event.

If a Force Majeure Event prevents either party from performing any of its obligations under these Conditions of Service, that party shall:

- (i) other than for Force Majeure Events related to Acts of God, promptly notify the other party of the Force Majeure Event and a good faith assessment of the effect that the event will have on the former party's ability to perform any of its obligations. If the immediate notice is not in writing, it shall be confirmed in writing as soon as reasonably practical;
- (ii) not be entitled to suspend performance of any of its obligations under these Conditions of Service to any greater extent or for any longer time than the Force Majeure Event requires it to do;
- (iii) 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;

- (iv) keep the other party continually informed of its efforts; and
- (v) 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
- (vi) if the Force Majeure Event is a strike, lock out or other labour dispute involving Hydro One’s employees or authorized agents, Hydro One shall be entitled to discharge its obligations to notify its Customers in writing by means of placing a notice in the local newspaper, and, notwithstanding (iii) above, the settlement of any strike, lockout or labour dispute involving Hydro One’s employees or authorized agents shall be within the sole discretion of Hydro One or its authorized agents, none of whom shall be under any of the obligations in (iii) above.

**L. Accounts with more than one Person**

If an account is opened in more than one person’s name, all such persons are Customers and are jointly and severally responsible for compliance with these Conditions of Service and to pay the Rates and charges in accordance with these Conditions of Service.

**1.8. Disputes**

Initial contacts for Customer complaints should be made by calling Hydro One at 1-888-664-9376 during normal business hours Monday to Friday from 7:30 a.m. to 8 p.m. E.T. Customer complaints that cannot be resolved by calling this number will be escalated to Hydro One’s Customer Relations Centre (CRC) which will serve as the primary point of contact with Hydro One. A member of the CRC will make contact with the Customer, coordinate internal complaint activities, research, investigate, and follow up (when necessary) on the complaint to ensure resolution and closure.

In the event that issues cannot be resolved between Hydro One and the Customer, complaints can be escalated to a third party complaints resolution service provider approved by the OEB. Until such time as the OEB approves an independent third party, the OEB will assume this role.

**SECTION 2 DISTRIBUTION ACTIVITIES – GENERAL**

**A. Cable Locates**

Upon request, Hydro One will locate, if able, all secondary and primary underground cables without charge. If Hydro One is unable to locate an

underground cable, Hydro One will provide a service disconnection and reconnection during normal working hours without charge. Hydro One will charge for underground cable locates outside normal business hours, other than in an Emergency situation.

**B. Fault Locates and Repairs**

Hydro One will normally locate and repair faults on all Hydro One owned service cables without charge. In the event that a fault and/or damage is caused by the Customer or third party, the costs of repair will be charged to the party responsible.

In the event that structures, pavement, or landscaping make the cable inaccessible for repair, the Customer shall provide all civil work, supports, vegetation and landscaping associated with any repair or replacement of the failed cable.

**C. Motors and Welders**

The maximum acceptable rating for a motor or combination of motors that may be started simultaneously at full voltage across the line is:

| <u>Voltage Level</u> | <u>Maximum Rating</u> |
|----------------------|-----------------------|
| 120 V                | 2 HP                  |
| 240 V                | 4 HP                  |
| 120/208 V            | 6 HP                  |
| 347/600 V            | 8 HP                  |

Where the simultaneous motor load is more than allowable for simultaneous starting at full voltage across the line, the Customer shall use reduced-voltage starters that are acceptable to Hydro One.

Motors and welders in excess of the following thresholds are subject to approval by Hydro One.

- Welder size exceeds 30 kVA
- Motor size exceeds the following levels:

| <b>Voltage Level</b> | <b>1-phase motor</b> | <b>3-phase motor</b> |
|----------------------|----------------------|----------------------|
|                      |                      |                      |



|                  |         |          |
|------------------|---------|----------|
| 16/27.6 kV       | > 20 hp | > 100 hp |
| Below 16/27.6 kV | > 10 hp | > 25 hp  |

**2.1. Connections**

**A. Early Consultation**

The Customer shall submit to Hydro One, well in advance of commencement of construction, the following information:

- (i) required in-service date;
- (ii) service entrance capacity and voltage rating of the service entrance equipment;
- (iii) detailed information on heating equipment, air conditioners and any other appliances and/or equipment that demands a high consumption of electrical energy;
- (iv) detailed information, as per application forms for the connection of a Generation Facility, for all generators being connected in parallel with the Distribution System;
- (v) survey plan or site plan, at the request of Hydro One indicating the proposed location of the service entrance equipment with respect to public rights-of-way and property lot lines;
- (vi) all information required to set up an account for billing purposes; and
- (vii) Additional information as noted on the Hydro One Web site at [www.HydroOneNetworks.com](http://www.HydroOneNetworks.com) or specified by Hydro One, in writing.

**B. Common Service Taps**

Standard Customers shall provide, at their expense, a secondary or primary pole or an underground primary voltage line, for common service taps in compliance with the Electrical Safety Code. Hydro One will supply two neighbouring Standard Customers from the same Customer supplied facility (common service taps) only when the following conditions are met:

- 
- (i) the Standard Customers and Hydro One agree on the location of the portion of the Standard Customer's supplied and built facility to be owned by Hydro One ("Common Line");
  - (ii) the Common Line is located on property owned by one or both of the neighbouring Standard Customers;
  - (iii) the Common Line, which will be owned by Hydro One is built to Hydro One's Distribution Standards; and
  - (iv) the Common Line is transferred with easements and tree clearing rights to Hydro One for a nominal fee.

If all the above conditions cannot be met, each Customer will be required to supply, install, and own a separate line on its own property.

### **C. Temporary Connections**

If a Customer requires temporary service, the two types and applicable charges are as follows:

- (i) temporary service that at a later date is to be relocated to a permanent service site. A standard temporary service fee is charged;
- (ii) temporary service that has a finite Connection and cancellation time period, for example, service to construction sites. The material cost of the transformation and metering will be provided by Hydro One without charge. All other labour and material costs to install and remove the service will be charged to the Customer based on actual costs.

### **D. Sub-transmission Service – Exclusive of Embedded Distributor**

Sub-transmission Service may be a Basic Connection or an Expansion. However transformation, conductor or a credit for conductor is not provided by Hydro One. A MIST Meter is required for all Sub-transmission Customers with an average estimated load exceeding 200 kilowatt ("kW") annually, and the Sub-transmission Customer will be required to contribute to the cost with such contribution to be determined by Hydro One using a discounted cash flow model in compliance with Appendix B of the Distribution System Code.

### **E. Large Users and Direct Customers**

Facilities for Large Users and Direct Customers requiring Distribution Services or Sub-transmission Service are normally treated as an Expansion. Transformation and conductor are not provided. A MIST Meter is required for all Connections and

is either provided by the Large User and Direct Customer or by Hydro One in which case the Large User and Direct Customer will be required to contribute to the cost with such contribution to be determined by Hydro One using a discounted cash flow model in compliance with Appendix B of the Distribution System Code.

**F. Embedded Distributor**

Facilities for an Embedded Distributor requiring Distribution Services or Sub-transmission Service are normally treated as an Expansion. Transformation and conductor are not provided. A MIST Meter is required for all Connections and is either provided by the Embedded Distributor or by Hydro One in which case the Embedded Distributor will be required to contribute to the cost with such contribution to be determined by Hydro One using a discounted cash flow model in compliance with Appendix B of the Distribution System Code.

**G. Central Metered Services**

At the request of a Customer, Hydro One may, at its discretion, supply a Single-Phase Standard Customer with a central metering service to two or more buildings. The Standard Customer shall:

- (i) pay the difference between the cost of the central metering and the meter that Hydro One would have provided to the Standard Customer under the Standard Supply Code;
- (ii) comply strictly with the Electrical Safety Code and Hydro One’s Distribution Standards;
- (iii) have an appropriately sized main disconnect and equipment for each service connected to the central metering service; and
- (iv) supply and install, at its own expense, all conductor, poles, and underground conductor, as required on its private property.

The maximum number of services to be connected at the central metering point is four. Additional services must be connected downstream of the central metering point.

Where Hydro One requires that a Customer install the central metering, the costs set out in Section 2.3.7 shall apply.

**H. Primary Metered Services**

When a Customer requests a Primary Metered Service (connected at the primary voltage level) or the design of the layout makes secondary metering impractical, the Customer shall install, own, and maintain, at its own expense, the entire

distribution system required downstream from the metering point, including conductors, poles, and transformation.

Secondary metering is considered practical when the Customer’s entire load can be metered on the secondary side of the transformation.

**I. Travel Trailer Parks**

The park authority/owner will provide, own, and maintain all Distribution facilities, including transformers and individual metering as required, within the park boundary. Such facilities will be subject to the approval of the Electrical Safety Authority. All electricity supplied for park services will be combined and billed under one General Service account. If secondary metering is not practical, a Primary Metered Service will be required at or near the park property limit.

**J. Existing Parks - Non Primary Metered**

For an existing park, where Hydro One owns as of the date of these Conditions of Service, the transformers on the Customer’s Distribution line and the secondary metering within the park boundary, Hydro One will continue to own these facilities provided that no new services are added.

When the park owner requests additional services within the park or such additional services are required, the following conditions shall apply:

- (i) the park owner will, subject to OEB approval, purchase the existing Distribution facilities owned by Hydro One within the park boundary (“Existing Park Facilities”). If the park owner does not purchase the Existing Park Facilities, the park owner may choose to replace the Existing Park Facilities at its own expense and will own the new facilities;
- (ii) the park owner shall supply and install new Distribution facilities including transformers, etc., as required for the addition;
- (iii) Hydro One shall remove existing secondary metering, install a primary metering unit at or near the Customer's property limit without charge, and consolidate existing contracts into one General Service account;
- (iv) park owners of privately-owned systems shall meet all the requirements of the Electrical Safety Authority.



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**K. Service and Supply Locations**

Hydro One reserves the right to determine the service supply and Connection locations. The Customer shall obtain Hydro One's approval prior to the construction of electrical facilities.

One service layout or estimate is normally provided without charge. The Customer shall pay a fee to Hydro One if the Customer changes any of its Connection requirements after the initial layout or estimate is provided or the Customer requests another estimate or layout for the same Connection.

**L. Number of Delivery Points**

Normally Hydro One permits only one Delivery Point per property. Where it is not technically or financially feasible to have only one Delivery Point, Hydro One may, in its sole discretion, connect additional Delivery Point(s) on the same property. Each Delivery Point must be separately metered and billed at the appropriate rate classification.

**M. Delivery Point Capacity**

The maximum size of Primary Service or Secondary Service at any Delivery Point is as follows:

- (i) for a Single Phase Customer Connection: 167 kVA of transformation capacity
- (ii) for a Three Phase Customer Connection:
  - a) if the Distribution voltage is 13 kV or less: 501 kVA of transformation capacity
  - b) if the Distribution voltage is above 13 kV or the Distribution Network is supplied from a Distribution Station that is directly connected to a high voltage Transmission Line, the maximum size is determined by Hydro One based on system configuration and capability.

**N. Transformation - Overhead Transformers**

The maximum overhead transformer sizes for standard secondary voltages installed by Hydro One without charge are:

- (i) for a Single Phase overhead Standard Customer Connection: 167 kVA

- 
- (ii) for a Three Phase Standard Customer Connection: 501 kVA

Customers requiring non-standard secondary voltages will be responsible for installing, owning, maintaining and operating their own transformer.

**O. Transformation - Pad- Mounted Transformers (underground type)**

Maximum transformer sizes supplied by Hydro One are:

- (i) for Single Phase Standard Customer Connection: 150 kVA
- (ii) for a Three Phase Standard Customer Connection: 500 kVA (Y-Y)

Standard Customers requesting underground pad-mounted type transformers will pay the difference in material and installation costs between the overhead installation and the underground installation, and will supply and install at the Standard Customer's expense an appropriate transformer pad. The Customer should contact Hydro One for further information on transformer pads.

Standard Customers may install their own pad-mounted transformer larger than 500 kVA and will be entitled to a Customer supplied transformation allowance. Customer owned transformers shall be properly sized, acceptable to Hydro One and meet the energy efficiency standards in CSA C802.1.

At the Customer's request, Hydro One may install, own and maintain transformer installations of 750kVA and 1000 kVA, 27.6 kV – 347/600 V, Y-Y and the Customer shall contribute 100 per cent of Hydro One's actual costs. The Customer will not receive a Customer supplied transformation allowance.

Customers requiring non-standard secondary voltages will be responsible for installing, owning, maintaining and operating their own transformer.

**P. Transformation - Station Transformers**

Where Customers require transformation capacity in excess of the sizes noted above, the Customer shall supply the station site, pad, transformers, fencing, structure, and distribution line on Private Property in accordance with the Electrical Safety Code. Customer owned transformers shall be properly sized, acceptable to Hydro One and meet the energy efficiency standards in CSA C802.1

The high voltage protection of a Customer supplied and owned transformer(s) shall co-ordinate with the Distribution System protection.

An appropriate transformation ownership allowance shall be applied, as approved by the OEB. Hydro One does not supply live bushing (station type) transformers for new Connections.

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Existing Hydro One owned station type transformers serving a Customer will be maintained to the end of their useful life. At the end of the useful life, the Customer will supply, install, own, and maintain the replacement unit.

**Q. Transformation - Additional Station Transformers**

In the event that additional transformation is required due to load growth, and Hydro One owns the original transformer, the Sub-transmission Customer has two options:

- (i) purchase Hydro One's transformer and switchgear and add additional transformation; or
- (ii) if mutually agreeable, pay Hydro One the actual costs of installing the additional transformation, in which case Hydro One would continue to own, maintain, and replace the transformer as needed.

The Sub-transmission Customer will supply all other associated material and perform any other work required to accommodate the additional transformation, at its own expense.

**R. Types of Connections**

The two types of Connections to the Distribution System are:

- (i) Basic Connection; and
- (ii) an Expansion

**2.1.1. Basic Connection (Building that Lies Along)**

The terms below may also apply to Customers requiring a service capacity increase.

Where a Customer makes a written request to Hydro One to connect a Building that Lies Along Hydro One's Distribution System, Hydro One is required to provide a Connection. Hydro One provides a Basic Connection at no charge. The Basic Connection consists of:

- (i) supply and installation of standard overhead transformation which includes secondary buss extensions or installations complete with conductor and anchoring;
- (ii) supply and installation of standard metering;
- (iii) an estimate and layout for the new service;

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- (iv) connection of the Secondary or Primary Service at described Demarcation Points; and
  - (v) for year-round residential and seasonal residential classes only, the supply and installation of up to 30 metres overhead secondary conductor for up to a 200 amp service, or an equivalent credit towards underground conductor. Year-round residential and seasonal residential Customers with Primary Services will be credited for the 30 meters of secondary wire.

A Basic Connection does not include the following additional costs for which the Customer shall pay Hydro One:

- (a) for year-round residential and seasonal residential Customer classes – the cost difference between overhead and underground secondary wire;
- (b) incremental costs associated with the supply and installation of underground transformation;
- (c) the supply and installation of poles, anchors, all secondary conductor over 30 metres, hardware, and structures, as required on Customer’s property; or
- (d) the costs of all changes required to the Distribution System exclusive of the secondary bus installation. These costs include pole changes, anchoring or hardware changes.

Where applicable and at their own expense, Standard Customers will also be responsible for:

- (aa) the supply of tree and vegetation management on the Customer’s property;
- (bb) any easements or property agreements as required by Hydro One;
- (cc) the cost of any fees, permits, or other permissions required to connect the service; and
- (dd) the amount payable by the Customer to Hydro One if the Customer is being added to a Single or Three Phase line constructed on or after January 1, 1993.

### **2.1.2. Expansions / Offer to Connect**

Where a Customer makes a written request to Hydro One to connect a building that is in Hydro One’s service territory, Hydro One is required to make an “Offer to

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Connect”. For an Expansion, Hydro One will perform an economic evaluation using a discounted cash flow model in compliance with Appendix B of the Distribution System Code to determine the Customer’s share, if any, of the equipment, labour, material and on-going maintenance costs of the Expansion (the “Expansion Costs”). If the Present Value of the future revenue is not sufficient to recover the Expansion Costs, the Customer will be required to pay a capital contribution calculated in a manner consistent with the requirements of the Distribution System Code. The capital contribution shall not exceed the Customer’s share of the difference between the Present Value of the Expansion Costs and the Present Value of the projected revenue.

When performing the economic evaluation, Hydro One will estimate the Customer’s monthly consumption based on information provided by the Customer. Where available, Customer supplied load forecasts acceptable to Hydro One will be used.

For Customers requesting a service capacity increase which requires an Expansion of the Distribution System, an economic evaluation will also be performed using a discounted cash flow model in compliance with Appendix B of the Distribution System Code to determine the Customer’s contribution amount.

**A. Revenue Horizon**

Hydro One uses a revenue horizon of up to twenty-five (25) years to project expected forecasted revenues based on the forecasted load from the Expansion. The load forecast and the revenue horizon used for the economic evaluation are in the sole discretion of Hydro One.

**B. Connection and Cost Recovery Agreement/Revenue Guarantee**

For an Expansion where Hydro One is making an investment of \$75,000.00 or more in the Distribution System, the Customer may be required to execute a Connection and Cost Recovery Agreement, which includes a revenue guarantee. Key provisions of this agreement are described in Appendix “A” to these Conditions of Service.

**C. Staking and Engineering Fees**

Hydro One will provide staking and design at the Customer’s expense. This payment will be recognized in the discounted cash flow calculation.

**D. Offer to Connect**

Hydro One will respond to requests for Connection within the following timeframes:

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- (i) from Micro Embedded Generators, Standard Customers, Sub-transmission Customers, Large Users and Direct Customers by no later than 15 calendar days after receipt of the request. At this time, Hydro One will specify any information that must be provided, and any obligations that must be met, by the Customer in order for Hydro One to process the request. An offer to connect will be made by no later than 60 calendar days following Hydro One's receipt of all necessary information and the Customer's meeting of all its obligations;
  - (ii) from Embedded Distributors by no later than 30 calendar days after receipt of a request. At this time, Hydro One will specify any information that must be provided, and any obligations that must be met, by the Customer in order for Hydro One to process the request. An offer to connect will be made by no later than 90 calendar days following Hydro One's receipt of all necessary information and the Customer meeting all of its obligations; and
  - (iii) from Embedded Generators, time frames vary depending on the size of the proposed generation. Hydro One connection activities will be in accordance with Appendix F of the Distribution System Code

At a minimum, the "offer to connect" will contain:

- (a) if a capital contribution is required from the Customer, a description of material and labour required to build the Expansion delineating the costs attributed to engineering design, materials, labour, equipment, and administrative activities;
- (a) the capital contribution to be paid by the Customer for the Expansion;
- (b) the amounts to be paid by the Customer to Hydro One if the Customer is being added to a Single or Three Phase line constructed on or after January 1, 1993;
- (c) a description of the Connection charges that would apply;
- (d) identification of work for which the Customer may seek alternative bids;
- (e) terms and conditions for payments and deposits required; and
- (f) any additional information pertinent to the offer.

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**E. Alternative Bids**

**E.1. Customers may seek alternative bids for the Expansion from Qualified Contractors where:**

- (i) the Expansion requires a capital contribution to be made by the Customer; and
- (ii) the construction work will not involve work on existing Hydro One Facilities and Equipment.

Information on electrical contractors is available from the following sources:

- Yellow Pages under Electric Contractors
- [www.ECAO.org](http://www.ECAO.org) under Visitor area and Contractor Locator
- [www.yellowpages.ca](http://www.yellowpages.ca) under Electric Contractors

**E.2. The Customer shall be responsible for:**

- (i) selecting, hiring, and paying the Qualified Contractor the costs for the work eligible for the alternative bid;
- (ii) assuming full responsibility for the construction of that aspect of the Expansion;
- (iii) administering the contract or paying Hydro One to perform this service, at time and material rates. Administering the contract includes acquisition of all required permissions, permits, and property rights as required;
- (iv) constructing the System Expansion (line extension) to meet Hydro One's design requirements;
- (v) paying an inspection fee to Hydro One for inspection of the construction;
- (vi) paying the cost of any easements or property agreements as required by Hydro One;
- (vii) transferring ownership of the facilities built on public property or servicing more than one Customer to Hydro One for a nominal fee prior to connection;
- (viii) paying costs for any additional design and engineering; and

- (ix) paying all applicable Electrical Safety Authority inspection fees.

**E.3. Hydro One shall be responsible for:**

- (i) providing the design specifications for the construction; and
- (ii) inspecting and authorizing the line for Connection.

**E.4. Private Ownership of Alternate Bid Construction**

As a condition of Connection, the Customer built-line shall be transferred to Hydro One's ownership. However, the Customer may privately construct and own the Expansion if both of the following conditions are met:

- (i) the line to be constructed is for the sole benefit of one Customer;  
and
- (ii) the line to be constructed is located on Private Property

**F. Rebates for Capital Contribution Customers**

If a Customer is added, after November, 2000, and within 5 years of the original construction, to an Expansion that was constructed and paid for by another Customer, Hydro One may use the economic evaluation model to calculate the capital contribution of both the original Customer and the new Customers, based on the forecasted load and revenue of the new Customer.

The new Customer will contribute its fair share of the original Expansion costs prior to the Connection for the shared portion of the line, and the original contributor or present property owner, as the case may be, will be entitled to a rebate without interest based on the apportioned benefit for the remaining period. 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). No rebates will occur after the 5-year Connection horizon has expired.

**G. Rebates for Refund Administration Service**

Rebates will normally be made to the present property owners, unless a Refund Administration Service agreement is in place.



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**G.1. Single and Three Phase Lines constructed from January 1, 1993 to October 31, 2000**

If a Customer is added to a Single or Three Phase line constructed during the period January 1, 1993 to October 31, 2000 and there is a Refund Administration Service agreement in effect for that line, Hydro One will rebate an amount equal to the new Customer's fair share of the original cost of the shared portion of the line. The original capital contribution is not depreciated.

**G.2. Single and Three Phase Lines constructed prior to January 1, 1993 - Capital contribution collected or recorded was \$20,000 or more**

If a Customer is added to a Single or Three Phase line constructed prior to January 1, 1993 and the original contribution collected or recorded is \$20,000 or more, Hydro One will rebate in accordance with the agreement with the original contributor(s), but will not collect from the new Customer, an amount equal to the new Customer's fair share of the original cost of the shared portion of the line. The capital contribution is depreciated at 3 per cent per year in service. Pre-paid maintenance charges are not depreciated. At the end of the 15th year of the line Connection date, Hydro One will refund all remaining capital and pre-paid maintenance.

**2.1.3. Connection Denial**

Hydro One may deny Connection to any Customer for any of the following reasons:

- (i) refusal by the Customer to sign any agreements required to be executed by the Customer under these Conditions of Service;
- (ii) the Connection will represent a contravention of the laws of Canada or the Province of Ontario;
- (iii) the Connection will cause Hydro One to be in violation of the conditions in the Licence;
- (iv) the Connection will have an adverse effect on the reliability or the safety of the Distribution System;
- (v) the Connection will cause a material decrease in the efficiency of the Distribution System;
- (vi) the Connection will have a material adverse effect on the quality of the Distribution service received by an existing Customer. Such effect on quality could include voltage flicker, harmonics and power outages;

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- (vii) the Connection will result in the discriminatory access to Distribution Services by other Customers;
  - (viii) the person requesting the Connection is currently in arrears for Distribution Services, electricity supplied, or other services provided by Hydro One;
  - (ix) the Connection is not in compliance with these Conditions of Service;
  - (x) the Connection does not meet Hydro One's design requirements;
  - (xi) the Connection will impose an unsafe situation to workers or the public beyond the normal risks inherent in the operation of the Distribution System;
  - (xii) the Connection will result in the inability of Hydro One to perform planned inspections or maintenance;
  - (xiii) by order of the Electrical Safety Authority;
  - (xiv) the Customer does not have the requisite approval(s) of the Electrical Safety Authority for the Connection; or
  - (xv) the premises being connected are the subject of a stop work order under the Building Code Act (Ontario).

Hydro One shall notify the Customer of the Connection denial with reasons in writing. Remedies will be suggested to the Customer where Hydro One is able to do so. If it is not possible for Hydro One to resolve the issue, it is the responsibility of the Customer to do so before a Connection will be made.

#### **2.1.4. Inspections Before Connections**

All Customer electrical installations shall be inspected and approved by the Electrical Safety Authority before Connection to the Distribution System. Hydro One requires notification from the Electrical Safety Authority of this approval prior to Connection of a Customer.

Where Hydro One has required the Customer to perform specified work associated with the installation of connection assets on the Customer's premises, the Customer is required to obtain acceptance by Hydro One of said work as a prerequisite to Connection to the Distribution System.

Before connecting to Hydro One's Distribution System, Hydro One will exercise its obligation to inspect all electrical connections and provisions for metering to

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ensure that they satisfy all technical requirements, unless a protective device that has been accepted by Hydro One separates the Connection.

Hydro One may at any time re-inspect any electrical connection or meter installation notwithstanding any previous inspection and acceptance of the installation.

Inspection requirements also apply to reconnections noted in Section 2.2.D.

### **2.1.5. Relocation of Plant**

A Customer requesting a Plant relocation is required to pay Hydro One all associated costs incurred by Hydro One in relocating the Plant. In situations, where there is applicable legislation or there exists an agreement made with Ontario Hydro prior to April 1, 1999, the cost of Plant relocation will be as per the legislation or agreement.

If the relocation is from public to Private Property, Hydro One shall acquire easement rights at the expense of the Customer. This would include the actual cost to carry out the work, as well as any costs resulting from having to obtain the new easement or authorization equivalent.

### **2.1.6. Easements**

#### **A. Unregistered Rights**

Section 46 of the Electricity Act provides that all property that is subject to unregistered rights prior to April 1, 1999 will continue to be subject to the right until the right expires or until it is released by the holder of the right.

#### **B. Registered Easements and Owner Agreement**

For new or modified Connections, Hydro One may require a Customer to provide Hydro One with a registered easement or an owner agreement with respect to Hydro One Facilities and Equipment located on the property of the Customer or the property of a third party.

Hydro One requires registered easements for facilities under any of the following conditions:

- (i) any single or multi-phase line, underground or submarine cables, poles, anchors, or aerial occupation where the line crosses Private Property, including any common service taps;

- (ii) anchors on Private Property supporting 44 kV lines, 27.6 kV lines, Three Phase feeders, and any single or multi-phase structures supporting reclosers, voltage regulators or capacitor banks where the poles are located on road allowance; and
- (iii) any new plant being added to Hydro One Facilities and Equipment which are the subject of an existing unregistered easement that does not include replacement or maintenance of the existing Hydro One Facilities and Equipment.

Owner agreements are required for Hydro One Facilities and Equipment where Hydro One does not require registered easements.

## 2.1.7. Contracts

### A. Implied Contracts

In all cases, notwithstanding the absence of a written contract, Hydro One has an implied contract with any Customer that is connected to the Distribution System and receives Distribution Services from Hydro One. The terms of the implied contract are embedded in these Conditions of Service, the Electricity Distribution Rate Handbook, Hydro One’s Rate schedules, the Licence, the Distribution System Code, the Standard Supply Service Code and the Retail Settlement Code, all as amended from time to time.

Any person(s) who take or use electricity delivered and/or supplied by Hydro One shall be liable for payment for such electricity. Any implied contract for the supply of electricity by Hydro One shall be binding upon the heirs, administrators, executors, successors or assigns of the person(s) who took and/or used the electricity supplied by Hydro One.

In the absence of a contract for electricity with a tenant, or in the event the electricity is used by a person(s) unknown to Hydro One, the cost for electricity consumed by such person(s) is due and payable by the owner(s) of such property.

### B. Connection and Cost Recovery Agreements

Where Hydro One is entitled under these Conditions of Service to recover all or a portion of the costs of a Connection and/or requires that a Customer provide a revenue guarantee, Hydro One requires that the Customer execute a Connection and Cost Recovery Agreement (the “CCRA”). The CCRA shall be executed prior to Hydro One commencing any construction activities in respect of the Connection. The CCRA will describe the work to be performed by Hydro One in respect of the Connection and any other conditions set forth in Hydro One’s offer to connect together with the applicable payment terms (including revenue guarantees and/or

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capital contribution where applicable). Key provisions of the CCRA are described in Appendix “A” to these Conditions of Service.

**C. Connection Agreements**

Hydro One requires all Standard Customers, below 502 kVA, wishing to connect to the Distribution System, to sign a Customer Service Contract as described in Appendix “A” to these Conditions of Service. Hydro One requires all Embedded Distributors, Sub-transmission Customers, Large Users, Direct Customers, Standard Customers with loads above 501kVA or with Generation Facilities connected in parallel with the Distribution System and all Embedded Generators wishing to connect to the Distribution System to execute a Connection Agreement. Developers shall be required to execute a Subdivision Agreement Key provisions of the Connection Agreement and Subdivision Agreement are described in Appendix “A” to these Conditions of Service.

Hydro One, in its sole discretion, shall have the right to require Customers to execute a Connection Agreement on or after Connection.

The Connection Agreement with an Embedded Generator who is not a Market Participant will also contain the terms under which Hydro One purchases power from that Embedded Generator.

Where an Embedded Distributor, Sub-transmission Customer, Large User, Direct Customer or Standard Customer with a load above 501kVA has not executed a Connection Agreement with Hydro One and the Customer Equipment was connected to the Distribution System prior to May 1, 2002, provision of Distribution Services to such Customer by Hydro One shall imply acceptance of all of the terms of the Connection Agreement by the Customer until such time that Hydro One and such Customer execute a Connection Agreement.

Key provisions of the Connection Agreements are described in Appendix “A” to these Conditions of Service.

**D. Special Contracts**

Special contracts that are customized in accordance with the service requested by the Customer normally include the following examples:

- (i) construction sites;
- (ii) mobile facilities;
- (iii) non-permanent structures;
- (iv) special occasions, etc.;

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- (v) generation; and
  - (vi) house move.

## **2.2. Disconnection**

Hydro One reserves the right to physically Disconnect or limit the amount of electricity that a Customer can consume for any of the following reasons:

- (i) failure to pay Hydro One any amounts due and payable for the Distribution of electricity or for supply of electricity under Section 29 of the Electricity Act;
- (ii) failure to pay Hydro One any amounts due and payable on a distributor-consolidated bill;
- (iii) failure to pay any Connection costs due and payable;
- (iv) non-payment of security deposits identified as a condition of service or a condition of continuing service;
- (v) contravention of the laws of Canada or the Province of Ontario;
- (vi) imposition of an unsafe worker situation beyond normal risks inherent in the operation of the Distribution System.
- (vii) adverse effect on the reliability and safety of the Distribution System;
- (viii) a material decrease in the efficiency of the Distribution System;
- (ix) a material adverse effect on the quality of Distribution Services received by an existing Connection;
- (x) inability of Hydro One to perform meter reading, planned inspections or maintenance;
- (xi) failure of the Customer to comply with a directive of Hydro One that Hydro One makes for the purposes of meeting its Licence obligations;
- (xii) failure of the Customer to comply with any requirements in these Conditions of Service or a term of any agreement made between the Customer and Hydro One including but not limited to a Connection Agreement or a Connection and Cost Recovery Agreement;

- (xiii) failure of the Customer to enter into a Connection Agreement required by these Conditions of Service;
- (xiv) in compliance with a court order;
- (xv) by order of the Electrical Safety Authority;
- (xvi) by order of the IMO; or
- (xvii) for the reasons identified in Section 2.2.A of these Conditions of Service.

**A. Disconnection Process**

Immediately following the due date, steps will be taken to collect the full amount of the bill. If the bill is still unpaid twenty-one (21) calendar days after the due date and at least seven (7) calendar days after a written notice has been provided to the Customer by personal service, pre-paid mail or by posting notice on the property in a conspicuous place, Hydro One may disconnect or limit the distribution of electricity to the Customer.

**B. Immediate Disconnection without Notice**

Hydro One may immediately interrupt a Customer, without notice, in accordance with a court order, a request by a fire department or for emergency, public safety (including potential for loss of life or limb), system reliability reasons or in order to inspect, maintain, repair, alter, remove, replace or disconnect wires or other facilities used to distribute electricity or where there is an energy diversion, fraud or abuse on the part of the Customer.

**C. Liability for Disconnection**

Disconnection does not relieve the Customer of the liability for arrears or minimum bills for the balance of the term of the contract.

Under no circumstances will Hydro One be liable for any damage resulting from, associated with or related to the Disconnection or the limitation of consumption of electricity, including damage to the Customer or the Customer's premises and any business or other losses suffered by the Customer as a result of the disconnection.

**D. Reconnection**

Where the reason for the Disconnection has been remedied to Hydro One's satisfaction, Hydro One shall reconnect a Customer. All costs, including

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inspections, associated with the Disconnection and reconnection shall be paid for by the Customer prior to reconnection of the service.

Under any of the following circumstances, Hydro One requires that the Customer obtain the approval of the Electrical Safety Authority prior to Hydro One reconnecting the service:

- (i) where Hydro One has reason to believe that the wiring may have been damaged or altered;
- (ii) where service was disconnected for modification of Customer wiring;
- (iii) where service has been disconnected for a period of six months or longer;
- (iv) where the service was disconnected as a result of an adverse effect on the reliability and safety of the Distribution System; or
- (v) where it is a requirement of the Electrical Safety Code.

**E. Disconnection and Reconnection Related Charges**

Unless specified elsewhere in these Conditions of Service, a charge, shall apply in cases where it is necessary for Hydro One to make a trip to the Customer's premises to collect payment for an overdue account, disconnect service, install a load limiter or reconnect service.

**F. Unauthorized Energy Use**

Hydro One reserves the right to disconnect the Distribution of electricity to a Customer, without notice, for causes including energy diversion, fraud or abuse on the part of the Customer. Such service shall not be reconnected until the Customer rectifies the condition and provides full payment to Hydro One of all uncollected charges and costs incurred by Hydro One arising from unauthorized energy use, including inspections and repair costs, and the cost of disconnection and reconnection.

**2.3. Conveyance of Electricity**

**2.3.1. Limitations on the Guarantee of Supply**

Hydro One will endeavour to use reasonable diligence in providing a regular and uninterrupted supply of electricity but does not guarantee a constant supply or the



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maintenance of unvaried 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 and/or pay all associated incremental costs. Customers may require, at their premises, special protective equipment which is subject to the approval of Hydro One, to minimize the effect of momentary power interruptions.

During an emergency, Hydro One may interrupt supply of electricity to a Customer in response to a shortage of supply or to effect repairs on the Distribution System.

In addition to Hydro One's rights under Section 40 of the Electricity Act, Hydro One or its authorized agents may enter the Customer's property in accordance with Section 1.7.A of these Conditions of Service.

### **2.3.2. Power Quality**

#### **A. Standards and Guidelines for Power Quality**

Hydro One shall follow Good Utility Practice in terms of its guidelines and standards for power quality where applicable but will not guarantee an unvaried voltage or frequency.

#### **B. Voltage and Current Harmonics**

Large rectifiers, inverters, arc furnaces, static VAR systems and other non-linear loads generate harmonic voltages and currents. These harmonics may interfere with the operation of the power system by conductive interference and/or may interfere with communication systems by inductive interference.

Hydro One will follow Good Utility Practice for establishing limits on harmonic current emissions and voltage distortions. The Customer shall ensure that the equipment at its facility does not generate harmonic currents that exceed acceptable industry practices.

#### **C. Voltage Fluctuations and Flicker**

Voltage fluctuations will normally be within the limits of the Hydro One voltage flicker curve, which is based on the GE Borderline of Irritability for incandescent lighting.

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**D. Frequency Fluctuations**

In general, the frequency of AC power on the Distribution System is dictated by the supply frequency on the transmission system to which the Distribution System is connected.

**E. Over-voltages**

In general, Hydro One will follow Good Utility Practice to minimize the magnitude and extent of short-term over-voltages.

**F. Neutral-to-Earth Voltage**

Hydro One will use applicable standards and Good Utility Practice as a guideline. However, in a properly functioning electrical Distribution System, some voltage will always exist between the system neutral and the earth (“NEV”). The level of NEV may change on a daily or seasonal basis, depending on changes in electrical loading on the system, climatic conditions or other factors. The Distribution System is designed and maintained to normally result in less than 10 volts of NEV voltage. Typically, readings are much lower. A Customer may also experience NEV that is caused by the Customer’s own electrical facilities, such as poor or faulty wiring, improper grounding, defective equipment or ground currents from telephone lines or pipelines. Hydro One provides up to 4 hours of NEV testing at the Customer’s premises without charge. An hourly charge is applicable for additional testing after the first 4 hours.

**G. Power Quality Inquiries**

Hydro One maintains a 24-hour call answer service (Section 1.5) for the purpose of receiving inquiries from Customers regarding power interruptions, power quality incidents, and incidents related to the integrity or safety of its Distribution System.

In response to a Customer’s power quality concern, where the utilization of electric power affects the performance of electrical equipment, Hydro One will work with the Customer to perform investigative analysis 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.

If, after an initial investigation, the power quality issue remains unresolved, and it is determined that further detailed engineering study is required, Hydro One shall advise the Customer of an intended course of action. 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, Hydro One will recommend and/or take appropriate mitigation measures. Hydro One will not be obligated to correct a problem if correcting the problem would adversely affect other Hydro One

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Customers. Hydro One will use appropriate industry standards and Good Utility Practice as a guideline.

If through an initial assessment, or subsequent detailed investigation, it is determined that the source of a power quality complaint is the Customer's own equipment, then Hydro One may require reimbursement from the Customer for all or a portion of the costs incurred in carrying out the investigation.

#### **H. Outage Notification Process**

It is occasionally necessary to interrupt a Customer's supply to maintain or improve the Distribution System. For planned outages, Hydro One will endeavor to provide as much notice as possible but at least two (2) business days for minor interruptions and up to ten (10) business days notice for larger interruptions. Hydro One will notify Customers by telephone, facsimile, mail or hand delivery. Additional notification through the media may also be provided.

In emergencies, Hydro One will not provide prior notification of an interruption.

### **2.3.3. Electrical Disturbances**

#### **Customer Responsibilities**

Customers shall ensure that their electrical equipment does not cause any unacceptable voltage fluctuations, voltage unbalance, harmonics, or other disturbances that could negatively affect other Customers connected to the Distribution System, or Hydro One Facilities and Equipment. Examples of equipment which are capable of causing disturbances are large motors, welders, and variable speed drives. In planning the installation of such equipment, the Customer must consult with Hydro One.

The Customer's equipment shall comply with the limitations for permissible distortion caused by harmonic currents and voltages described in CAN/CSA-C61000-3-6 from the Canadian Standards Association.

If it is determined that unacceptable conditions are being caused by any Customer Equipment, the Customer shall take appropriate remedial action to correct the condition. Depending on the severity of the electrical disturbance, Hydro One may require that such equipment be disconnected from the Distribution System, in accordance with Section 2.2, until corrective measures are taken.

The characteristics of specific electrical disturbances should be referred to Hydro One for evaluation and interpretation against the Hydro One standards and guidelines for power quality. (See Section 2.3.2A)

Customers who may require an uninterrupted source of electricity, or a supply completely free from fluctuations and disturbance, must provide their own power conditioning equipment for these purposes.

**2.3.4. Standard Voltage Offerings**

Hydro One will supply standard voltages only. These voltages will conform to Canadian Standards Association (“CSA”) standards. The Customer will supply transformation for all other voltages required.

**A. Standard Secondary Voltages**

Single Phase – 120/240 volts 3 wire;

Three Phase – 120/208 volts 4 wire; and

Three Phase - 347/600 volts 4 wire.

**B. Standard Primary Voltages**

Hydro One has a variety of primary distribution and sub-transmission voltages across the province, but in general has only one primary voltage in each vicinity. Hydro One shall provide only the nominal primary voltage present in the vicinity to service a Connection or development, unless the development cannot be effectively fed from the existing supply. Customers requesting a Primary or Sub-transmission Service should contact Hydro One to determine the primary voltage available at their location.

**2.3.5. Voltage Guidelines**

Standard operating conditions are:

| <b>CSA Standard CAN3-235-83 Table 3</b> |  |                             |         |                              |
|---|--|-----------------------------|---------|------------------------------|
| Nominal System Voltages                 | Recommended Voltage Variation Limits for Circuits up to 1000 volts, at the Service Entrance. |                             |         |                              |
|   | Extreme Operating Conditions   | Normal Operating Conditions |         | Extreme Operating Conditions |
| Single Phase                            |  |                             |         |                              |
| 120/240                                 | 106/212  | 110/220                     | 125/250 | 127/254                      |
| 240                                     | 212  | 220                         | 250     | 254                          |
| 480                                     | 424  | 440                         | 500     | 508                          |
| 600                                     | 530  | 550                         | 625     | 635                          |

|                         |         |         |         |         |
|-------------------------|---------|---------|---------|---------|
| Three Phase<br>4 -Wire  |         |         |         |         |
| 120/208Y                | 110/190 | 112/194 | 125/216 | 127/220 |
| 240/416Y                | 220/380 | 224/388 | 250/432 | 254/440 |
| 277/480Y                | 245/424 | 254/440 | 288/500 | 293/508 |
| 346/600Y                | 306/530 | 318/550 | 360/625 | 367/635 |
| Three Phase<br>3 – Wire |         |         |         |         |
| 240                     | 212     | 220     | 250     | 254     |
| 480                     | 424     | 440     | 500     | 508     |
| 600                     | 530     | 550     | 625     | 635     |

These voltage guidelines relate to long-term steady-state levels and do not include short term or transient disturbances.

Where voltages lie outside the indicated limits for Normal Operating Conditions but within the indicated limits for Extreme Operating Conditions, improvement or corrective action will be taken on a planned and programmed basis, but not necessarily on an emergency basis.

Where voltages lie outside the indicated limits for Extreme Operating Conditions, improvement or corrective action will be taken on an emergency basis. The urgency for such action will depend on many factors such as the location and nature of load or circuit involved, and the extent to which limits are exceeded with respect to voltage levels and duration, etc.

Hydro One practises reasonable diligence in maintaining supply voltage levels, but is not responsible for variations in voltage from external forces such as operating contingencies, exceptionally high loads and low voltage supply from the transmitter.

### 2.3.6. Portable or Emergency Generators

Customers with portable or permanently connected emergency generation capability shall comply with all the applicable criteria of the Electrical Safety Code and in particular, shall ensure that the Customer emergency generation does not back feed on the Distribution System. The Customer shall be responsible for proper interface protection between the Customer’s electrical circuits and the Distribution System. Any Customer emergency back-up energy supply shall not be installed in a manner that would adversely affect the Distribution System. Portable and emergency generators must be operated in isolation from the Distribution System.

Customers with permanently connected emergency generation equipment shall notify Hydro One regarding the presence of such equipment. All applicable environmental requirements are the responsibility of the Customer. Customers shall consult with Hydro One during the planning and prior to the installation of any back-up generation.

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## 2.3.7. Metering

### 2.3.7.1. General

For Retail settlement and billing purposes, Hydro One shall provide, install, own and maintain a Meter Installation for all Customers except where the Customer or Embedded Distributor elects to be a Wholesale Market Participant or is an Embedded Generator.

The type of metering will be based on the Customer's Rate class, energy consumption and peak load. The security and accuracy of metering will be maintained under regulations and standards established by Measurement Canada and Hydro One.

When a Customer's power factor is known to be less than 90 per cent, a kVA meter, or other equivalent electronic meter shall be used for measuring and billing.

If deemed appropriate by Hydro One, the Customer shall permit Hydro One to connect a revenue meter through the Customer's phone line for remote interrogation and data transfer. Hydro One will ensure that there are no material adverse impacts of the revenue meter connection on the Customer's use of the phone line.

#### A. Location of metering

The meter(s) shall be located on the exterior of the building as determined by the layout and approved by Hydro One based on standards established by the Electrical Safety Code and the Ontario Building Code. In general, the meter(s) may be located:

- (i) on the front side of the building facing the street or roadway;
- (ii) no more than 3 metres from the front facing the street or roadway;
- (iii) installed on the wall of the building so that midpoint of the meter after installation will be 1.75 metres plus or minus 100mm from finished grade, or, where this is not possible, the meter may be installed on poles or on a separate support;
- (iv) if the meter(s) are located on poles, the poles must be installed, owned and maintained by the Customer on the Customer's property;  
or
- (v) in dedicated metering rooms for large general service class Customers (e.g. shopping centres, apartment and condominium buildings), provided that guaranteed continuous access, by key or

other appropriate means, is provided to Hydro One or its authorized agent.

**B. Single Phase – Secondary Metered**

New Customers with Secondary Metered Service shall have metering based on estimated load. Existing Customers with Secondary Metered Service, shall have metering based on the actual average monthly peak load for the previous year. Standard Customers with an average monthly peak load of 50 kW or less shall be metered and billed on kilowatt-hours (“kWh”) only. Standard Customers with an average monthly peak load over 50 kW shall be metered and billed on monthly kW as well as kWh.

**C. Three Phase – Secondary Metered**

All Three Phase Standard Customers will be metered for energy usage in kWh and for peak monthly kW demand and/or monthly peak kVA, depending on the peak load and power factor.

**D. Primary Metered**

Where a Primary Metered Service is used, the Standard Customer shall own and maintain the entire Distribution System beyond the metering point, which will include poles, conductors and transformers.

**E. Totalized Metering**

When a Standard Customer requests totalizing in order to consolidate two or more Delivery Points at separate locations on one contiguous property, the following conditions shall apply:

- (i) the Standard Customer must own the distribution facilities, including transformation beyond the effective metering point. The effective metering point is defined as the location where primary metering is installed;
- (ii) totalizing will be accomplished by either primary or secondary metering, through the use of remote interrogation metering, or other similar units. The Standard Customer shall be required to pay the incremental costs of providing totalizing metering; and
- (iii) the total capacity required is less than the Delivery Point capacity limits noted in Section 2.1M.

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**F. Net Metering for an Embedded Generation Facility employing Renewable Energy Technologies, approved by the Ministry of Energy**

For load Connections, Hydro One shall offer a net metering option for load Customers installing a renewable technology, Embedded Generation Facility. There are size limitations for the installed capacity of such Generation Facilities as can be found in Hydro One's Net Metering Policy with metering as per the Hydro One Policy for "**Metering for Load Displacement Embedded Generators**".

Where there is an Embedded Generation Facility participating in the net metering program:

- (i) the Embedded Generation Facility must supply a single load Customer, located on the same contiguous property as the Embedded Generator;
- (ii) the Embedded Generator must pay Connection, Expansion and System Reinforcement costs to meet its peak demand, based upon its projected loads, in accordance with the economic evaluation performed by Hydro One using a discounted cash flow model in compliance with Appendix B of the Distribution System Code and described in Hydro One's policy NOP-33, "Capital Contribution for New or Modified Load Connections and Embedded Distribution Companies"; and
- (iii) the renewable energy technology must be approved by the Ministry of Energy.

Revenue metering standards consist of the following, based on the total on-site nameplate ratings of the Generating Facilities installed:

- (a) a two-register energy meter, measuring kWh in and kWh out; or
- (b) a two-register interval meter connected to the Customer's telephone line; or
- (c) a four-quadrant interval meter, connected to the Customer's telephone line.

The settlement period for net metering installations shall be based on Hydro One's Net Metering Policy.

**G. Central Metering**

Hydro One may, at its discretion, require that a Standard Customer with two or more buildings be metered by means of a central metering service. The Standard



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Customer shall be required to pay Hydro One the following labour and material charges:

- (i) for existing service under 45 kW the Standard Customer shall pay labour and material costs;
- (ii) for existing service over 45 kW the Standard Customer shall pay labour costs only;
- (iii) for new service under 45 kW the Standard Customer shall pay for instrument transformer costs; and
- (iv) for new service over 45 kW the Standard Customer shall not be required to pay for labour or material.

#### **H. Metering Pulses**

When Customers request metering pulses or signals for load management purposes, two options exist:

- (i) The Customer provides their own instrument transformers and signal control equipment in a separate cabinet on the load side of Hydro One's metering; or
- (ii) Hydro One will supply the pulses or signals on the following terms:
  - (a) the Standard Customer pays all costs to provide pulses and signals; and
  - (b) the control for pulse or signal will be brought to a Hydro One terminal block remote from the revenue metering. Consequently, the Customer will not have access to Hydro One's metering equipment.

#### **I. Multiple Residential Properties**

Where the owner of an existing bulk metered Multiple Residential Property chooses to convert to individual metered dwelling units, the costs of conversion will be the owner's responsibility. In such cases, the common facilities such as elevators, hall lights, exterior lighting, laundry equipment, central electric water heating, etc., shall be combined on a separate service and billed at the General Service rate with demand metering as appropriate.

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### **2.3.7.2. Current Transformer Boxes**

Standard Customers are responsible for supplying, owning, and maintaining meter bases, except for Three Phase services with Complex Metering Installations where Hydro One requires and supplies at no charge a “P” base enclosure. For services requiring additional metering such as instrument transformers, the Standard Customer is required to supply and install the following, all of which are subject to approval by the Electrical Safety Authority and Hydro One:

- (i) instrument transformer enclosures with minimum dimensions of 90cm x 90cm x 30cm;
- (ii) all required conduit as specified by Hydro One; and
- (iii) where appropriate, a self-contained 400 amp meter base complete with a 400 amp current transformer. Hydro One will provide the Standard Customer with an allowance for the cost of the current transformer.

For central metering services, a current transformer enclosure is not required.

### **2.3.7.3. Interval Metering**

#### **A. Conditions for Supplying Interval Metering**

Hydro One shall provide and install a MIST Meter for any existing Customer that has an average monthly peak demand greater than 1000 kW during a 12-month period.

Hydro One shall install a MIST Meter on any new installation that is forecasted by Hydro One to have an average monthly peak demand greater than 200 kW.

Existing Customers who are below the 1000 kW threshold may request an Interval Meter, by submitting a written request. Hydro One shall, at its discretion, determine whether this is a MIST Meter or MOST Meter. A Customer who does not qualify for an Interval Meter, as noted above, shall pay Hydro One for the difference between the cost of a standard Meter Installation and the cost of the Interval Meter installation, including the cost of equipment, labour and telecommunications.

#### **B. Interval-Metering Data**

While the meter data belongs to the Customer, Hydro One requires the information to settle the Customer’s electricity bill. Hydro One will maintain the usage profile of all Customers and shall make this information available to Customers provided that the Customer executes the Read Only Access Agreement. Key provisions of

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the Read Only Access Agreement are described in Appendix “A” to these Conditions of Service.

The Customer has the following three options to obtain Interval Meter data:

- (i) direct access – The Customer can elect to access the MIST Meter data directly using Standard Customer purchased software. Hydro One will provide the information required to access and use the meter data;
- (ii) Web access provided by Hydro One – when available, Customers will have access to their own Interval Meter data on the Internet using their own account specific password; and
- (iii) information provided by Hydro One – Customer may request interval data to be forwarded by Hydro One or its authorized agent, for a fee, levied in accordance with the Retail Settlement Code.

If a Customer requires real-time information from a MIST Meter, the Customer shall be responsible for installing and maintaining a telecommunications line at its own expense.

#### **2.3.7.4. Meter Reading**

If unable to access the premises, Hydro One shall attempt to arrange access to the premises at a time convenient for both Hydro One and the Customer. At its discretion, Hydro One may require the Customer to read the meter and provide the results to Hydro One.

If the Customer does not accommodate Hydro One’s request for meter reading or access, the Customer shall be informed in writing of its obligation to contact Hydro One and arrange appropriate access to the meters, or provide Hydro One with the required meter readings.

Hydro One reads meters on a monthly, bimonthly, quarterly, or annual frequency, depending on Rate classification and service size. Where Hydro One is unable, for any reason, to obtain a meter reading the Customer may be required to provide a meter reading.

Hydro One reserves the right to use an estimated meter read for both energy and demand quantities when actual readings are not scheduled or available.

To ensure accurate billing and proper operation, it is necessary for Hydro One to read, and visually inspect the meter, at least annually. In the event that Hydro One cannot access the meter for this purpose after the Customer has been contacted directly, Hydro One reserves the right to require a relocation of the meter at the

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Customer's expense. If the situation is not rectified, Hydro One may ultimately disconnect the Customer in accordance with Section 2.2, of these Conditions of Service.

#### **2.3.7.5. Final Meter Reading**

When a final meter reading is required for billing purposes, the Customer shall provide Hydro One with at least five (5) business days notice of the date the billing is to be discontinued to allow Hydro One to obtain a final meter reading as close as reasonably possible to the required date. Hydro One shall pay the cost of the final meter reading. The Customer shall provide access to Hydro One for this purpose. If access is not obtained, and a final meter reading is not possible, the Customer shall pay an amount based on estimated electrical demand and/or the electrical energy used since the last meter reading.

#### **2.3.7.6. Faulty Registration of Meters**

The security and accuracy of metering is governed by the federal *Electricity and Gas Inspection Act* and associated regulations, under the jurisdiction of Measurement Canada. Hydro One's revenue meters are required to comply with the accuracy specifications established by those regulations.

The entity billing a Customer, whether it is Hydro One or a Retailer, is responsible for advising the Customer of any meter error of which it becomes aware and its magnitude and of his or her rights and obligations under the federal *Electricity and Gas Inspection Act*. The billing entity is also responsible for subsequently settling actual payment differences with the Customer or Retailer.

In the event of incorrect electricity usage registration, Hydro One will rectify billing errors on the following basis:

##### **A. Overbilling**

Where a billing error, from any cause, has resulted in a Customer or Retailer being overbilled, and where Measurement Canada has not become involved in the dispute, Hydro One shall credit the Customer or Retailer with the amount erroneously billed. The credit amount remitted to the appropriate parties shall be the amount erroneously billed for up to a six-year period.

Where the billing error is not the result of Hydro One's standard billing practices, i.e., estimated meter reads, Hydro One shall pay interest on the amount credited, at the same rate of interest as paid on security deposits (Section 2.4.3).

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## **B. Underbilling**

Where a billing error, from any cause, has resulted in a Customer or Retailer being under billed, and where Measurement Canada has not become involved in the dispute, Hydro One shall charge the Customer or Retailer with the amount not previously billed. In the case of a year round or seasonal residential Customer who is not responsible for the error, the allowable period of time for which the Customer may be charged is two (2) years. For non-residential Customers and for all instances of willful damage, the relevant time period is the duration of the defect.

### **2.3.7.7. Meter Dispute Testing**

Measurement Canada has jurisdiction, under the federal *Electricity and Gas Inspection Act*, in a dispute between Hydro One and its Customer where the condition or registration of a meter or metering installation is in question. Hydro One will inform Customers of the assistance provided by Measurement Canada in dispute investigations.

Meter dispute testing is typically the last step in a multi-stage process between the Customer and Hydro One. The process typically begins with a Customer high bill inquiry, the object of which is to validate that the bill calculations, charges and bill determinants are accurate. The process may include any or all of the following steps, as required: collection of problem details from the Customer; analysis of billing details including calculation of charges and appropriateness of meter readings; comparison of estimated readings with past usage; obtaining a check meter reading; provision of information to assist the Customer understanding of and confidence in the bills; and field visit to the Customer premises to verify meter reading, meter data and test meter operation.

At any point in this process, if Hydro One staff determine suspect meter operation, a meter dispute test will be initiated. However, if Hydro One is satisfied with meter operation and accuracy of billing, and the Customer is not satisfied, the Customer will be referred to Measurement Canada.

If the services of Measurement Canada are requested by the Customer or Retailer to resolve the issue, Hydro One may charge the Customer for the costs of processing the application to Measurement Canada and removing and transporting the meter to a testing location. If the dispute is substantiated by Measurement Canada and the resolution is in the favour of the Customer, Hydro One shall bear such costs.

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## 2.4. Tariffs and Charges

### 2.4.1. Service Connection

To assign a Customer to the appropriate Rate classification, Hydro One considers the nature and use of the Customer's electricity service, as well as the density of the Customers connected to the Distribution line. The Distribution Services Rates for each classification are based on the cost of delivering electricity to that class of Customers and meeting their electricity supply needs.

The main Rate classifications are Residential-Year-Round, Seasonal Residential, Farm, Industrial Commercial, Industrial Commercial General Service, Industrial Commercial Sub Transmission, and Lighting (Street Light and Sentinel). The Rate classifications for Acquired Local Distribution Company Customers are Residential, General Service-Energy Billed, General Service-Demand Billed, Unmetered Scattered Load and Large Use. All Hydro One Rates charged for each Rate classification for Distribution Services, including, charges for services provided to specific Customers where the costs are not recovered through the Distribution Service Rates ("Miscellaneous Distribution Charges") and pass-through charges, are subject to OEB approval. In addition, Hydro One is required to pass through the OEB approved charges for Wholesale Market Services and Retail Transmission Services.

Hydro One Distribution Service Rates include a monthly service charge component and a volume-based component. For Demand Billed Customers, the volume Rate is a per kW charge. For Energy Only Customers, the volume Rate is a per kWh charge. The monthly service charge component is designed to recover some common costs of Distribution Services that are independent of electricity use. All other Distribution Service costs are recovered through the volume Rate.

Hydro One is required to collect rural and remote rate protection in accordance with the Regulations made pursuant to Section 79 of the *Electricity Act*; and Debt Retirement Charges set in accordance with Section 85 of the *Electricity Act*.

Hydro One also provides Distribution Services to Direct Customers and Embedded Distributors who may or may not be Market Participants.

The OEB approved Rates and charges for Distribution Services are as set out in the Rate schedules available at [www.HydroOneNetworks.com](http://www.HydroOneNetworks.com). Notice of Rate changes may be published in major local newspapers and shall be mailed to all Customers with the first bills issued using the revised Rates.

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## 2.4.2. Energy Supply

If there is a conflict between any of the following and any Applicable Laws, Hydro One will comply with the Applicable Laws.

### A. Standard Supply Service

Hydro One shall provide Customers connected to the Distribution System with access to electricity through Standard Supply Service. All Customers are Standard Supply Service Customers until Hydro One is informed of and completes the Customer transfer to a competitive Retailer, all in accordance with Section 10 Service Transaction Requests of the Retail Settlement Code.

Hydro One may, at its discretion, refuse to process a Service Transfer Request for a Customer to switch to a Retailer if that Customer is in arrears to Hydro One for Distribution Services and/or Standard Supply Service.

Where a Service Transfer Request is made, a switch bill will be issued to the Customer. This bill will be based on an actual meter read unless the Customer, Hydro One and the Retailer agree in writing to an alternative. The effective date of the service transfer shall be the next scheduled meter reading date unless a request is made for a special meter reading and Hydro One can accommodate the request. The OEB approved special meter read charge will apply.

All service transfers, except a return to Standard Supply Service, must be supported by the Customer's written authorization, a copy of which must be retained by the applicable competitive Retailer.

### B. Pricing of Standard Supply Service

Pricing of Standard Supply Service is dependent on Customer electricity usage and meter type as follows:

- (i) an Interval Metered Customer shall be billed for hourly electrical energy consumed based on the respective Hourly Ontario Electricity Price (HOEP); and
- (ii) all other Customers shall be billed for electrical energy based on the weighted average hourly spot market price (WAHSP) for electricity for the period over which the Customer is being billed. The weighting will be according to the hourly consumption of the Customers as estimated by Hydro One's Net System Load Shape (NSLS), or Hydro One streetlight-specific load shape in the case of streetlight Customers. The load shapes will be calculated according to the methodology prescribed in the Retail Settlement Code.

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### **C. Competitive Retailer Supplied Electricity**

Hydro One does not provide Standard Supply Service to a Distribution System connected Customer that has contracted with a Retailer for electricity supply. Hydro One remains obligated to provide Distribution Services to such Customer in accordance with these Conditions of Service. The Retailer-supplied Customer will be billed either by Hydro One under Distributor Consolidated Billing or by the Customer's designated Retailer under Retailer Consolidated Billing, as prescribed in the Retail Settlement Code.

### **D. Wheeling of Energy**

Customers considering delivery of electricity through the Hydro One Distribution System shall contact Hydro One for technical requirements. Hydro One does not presently have any approved Rates for the wheeling of energy.

## **2.4.3. Deposits**

For the purposes of this Section 2.4.3, residential Customers include Residential, Seasonal Residential and Energy Billed Farm Customers with a principal residence.

For the purposes of this Section 2.4.3, non-residential Customers include Farm with no principal residence, Industrial Commercial General Service, Industrial Commercial Sub Transmission, General Service-Energy Billed, General Service-Demand Billed, Large Use, Directs, Unmetered Scattered Loads and Lighting (Street and Sentinel)

### **A. Requirements for Security Deposit**

Hydro One may require a security deposit from a Customer unless the Customer has a good payment history of one year in the case of a residential Customer, five years in the case of a non-residential Customer in a less than 50 kW demand rate class or seven years in the case of a non-residential Customer in any other rate class. 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.

Security deposits may be required at the time the Customer initially applies for service, or subsequently when a Customer has failed to maintain a good payment history. The security deposit amount will be applied to the Customer's electricity account and appear as a charge on the next electricity bill issued.



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**B. Acceptable Forms of Security**

Hydro One will accept security deposits in either of the following forms, at the discretion of the Customer:

- (i) cash or cheque; or
- (ii) automatically renewing irrevocable letter of credit from a bank as defined in the *Bank Act*.

At the Customer's discretion, a security deposit required at the time of application for service may be paid in equal monthly installments over a period of up to six months. Customers wishing to pay in installments must contact Hydro One at 1-888-664-9376 to make such payment arrangements.

**C. Calculation of Security Deposit Amounts**

Billing Cycle Factors shall be 2.5 for monthly-billed Customers, 1.75 for bi-monthly billed Customers and 1.5 for quarterly-billed Customers.

Security deposit levels for new Customers shall be determined in the following manner:

Billing Cycle Factor X estimated bill based on Customer's average monthly load during most recent 12 consecutive months within the past two years.

Where 12 consecutive months of relevant usage information within the past two years is not available, the Customer's average monthly load shall be based on a reasonable estimate made by Hydro One.

**D. Limits on amount of security required**

**All rate classes:**

The maximum amount of a security deposit shall be calculated based on the Billing Cycle Factor multiplied by the estimated bill based on the Customer's average monthly load during the most recent 12 consecutive months within the past two years (or Hydro One's reasonable estimate of monthly load where insufficient history).

Where a Customer has a payment history which discloses more than one disconnection notice in a relevant 12-month period, Hydro One will use that Customer's highest actual or estimated monthly load for the purposes of calculating the security deposit amount.

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**Non-residential Demand Billed (> 50 kW) rate class:**

Despite the above, where the Customer provides Hydro One with a credit rating from a recognized credit rating agency, the maximum amount of security deposit shall be reduced in accordance with the following table. The table below uses Standard & Poor's ratings, but equivalent ratings from Moodies and Dominion Bond Rating Services will be accepted.

| Credit Rating (using Standard & Poor's Ratings) | Allowable Reduction |
|---|---------------------|
| AAA- and above or equivalent                    | 100 per cent        |
| AA-, AA, AA+ or equivalent                      | 95 per cent         |
| A-, From A, A+ to below AA or equivalent        | 85 per cent         |
| BBB-, From BBB, BBB+ to below A or equivalent   | 75 per cent         |
| Below BBB- or equivalent                        | 0 per cent          |

**Exception:**

Despite the above, for a non-residential > 5000 kW Customer who has established a good payment history for the relevant seven year period, Hydro One will return only 50 per cent of the security deposit held.

**E. Review and Updating of Security Deposits**

Hydro One will review and update security deposits at least once each calendar year to determine whether the entire amount is to be returned to the customer due to establishment of a good payment history for the relevant period of time, or whether the amount is to be adjusted based on recalculation of the maximum amount of the security deposit under 2.4.3 C or 2.4.3 D above. Where some or all of the security is to be returned to the Customer, Hydro One will promptly credit the Customer's account including applicable interest.

Customers receiving more than one disconnection notice in a relevant 12-month period shall be required to provide a security deposit or increase the amount of the existing security deposit.

**F. Interest on Security Deposits**

Interest is payable on cash/cheque security deposits and shall accrue monthly commencing on receipt of the total deposit required. The interest rate shall be at the Prime Business Rate as published on the Bank of Canada Web site, less two (2) per cent, updated quarterly, to a minimum of zero per cent.

Interest due will be paid out quarterly, or on return of the security deposit or closure of the account, whichever comes first. Interest will be paid out as a credit to the account.

**G. Waiver/return of security deposit for Good Payment History**

At Hydro One’s discretion, residential Customers who do not have a payment history with Hydro One for the relevant time period, may be exempted from providing security at application for service. In these cases, security shall be required if the Customer fails to maintain a good payment history.

Security deposits shall be waived or returned for all other Customers demonstrating good payment history with Hydro One for the relevant period of time.

For all Customers except non-residential > 5000 kW, a security deposit requested by Hydro One shall be waived on receipt by Hydro One from the Customer, of a satisfactory credit check from TransUnion, Equifax or Dunn and Bradstreet credit reporting agencies. Evaluation of the credit check as satisfactory or not, shall be at the sole discretion of Hydro One.

**Good Payment History Criteria**

All of the following criteria must be met in order to demonstrate a good payment history:

- no more than one disconnection notice;
- no more than one NSF cheque or dishonoured pre-authorized payment;
- no collection or disconnection trips.

Good Payment History Relevant Time Periods are the most recent period of time with at least some of the time occurring in the previous 24 months.

**Relevant Time Period**

In order for Hydro One to waive or refund a security deposit, good payment history criteria must be maintained by the Customer for the following time periods:

Residential Customer: one year’s Good Payment History

Non-residential Customer < 50 kW: five years’ Good Payment History

Non-residential Customer > 50 kW: seven years’ Good Payment History

Non-residential Customer > 5000 kW rate class: after seven years’ Good Payment History only 50 per cent of the security deposit held will be returned. The balance of the security deposit will be retained by Hydro One until closure of the account.

Security deposits shall not be applied to active account arrears and shall not constitute payment of an outstanding account, in whole or part. If Hydro One is in

possession of a cash security deposit when the account is terminated, the deposit plus accrued interest, or applicable portion thereof, shall be returned to the Customer through a credit applied to the final bill or a cheque, at Hydro One's discretion. Hydro One will return any excess deposit amount to the Customer directly and within six (6) weeks after account closure. Non-cash security will be applied after the final bill due date, if full payment is not received from the Customer.

**H. Enforcement where security deposit not paid**

Payment of security deposits identified as a condition of service or continuing service, will be enforced through collection activities for amounts due, up to and including disconnection of electrical service.(See Section 2.2 of these Conditions of Service)

**I. Security from Embedded Distributors**

Embedded Distributors will be required to post security deposits with Hydro One according to the following:

**Maximum Security Deposit Amount**

Wholesale Market Participant

Security deposit amount will be calculated based on highest monthly non-competitive electricity costs billed by Hydro One multiplied by the Billing Cycle Factor of 2.5.

Not a Wholesale Market Participant

Security deposit amount will be calculated based on Billing Cycle Factor of 2.5 multiplied by the highest monthly non-competitive electricity costs plus competitive electricity costs using the price estimate used by the IMO for the purpose of determining maximum net exposures and prudential support obligations for Distributors.

**Security Deposit Reductions for Good Payment History**

Hydro One will reduce the security deposit amount required from an Embedded Distributor based on the following good payment history time periods that are supported by a reference letter from Ontario Power Generation Inc. or the IMO and furnished by the Embedded Distributor:

- (i) 20 per cent reduction for 2 years;
- (ii) 30 per cent reduction for 3 years;
- (iii) 40 per cent reduction for 4 years; and

- (iv) 50 per cent reduction for 5 years

### **Review and Adjustment of Security**

Hydro One shall review security deposit amounts on a periodic basis to determine whether:

- (i) a portion of the security deposit is to be returned to the customer based on the number of years of good payment history demonstrated; or
- (ii) the security deposit amount is to be adjusted based on a recalculation of the maximum security deposit amount.

### **J. Acceptable Forms of Security**

Hydro One shall accept security deposits in the form of cash or cheque, or automatically renewing, irrevocable letter of credit from a bank as defined in the *Bank Act*, or a combination thereof, at the discretion of the Customer.

## **2.4.4. Billing**

In this Section 2.4.4, references to monthly, bi-monthly, quarterly, and annually are notional and approximate time periods only. They are not to be construed as calendar-based time periods.

### **A. Billing Frequency**

Depending on Rate classification and service size, Customers are billed on a monthly, bimonthly, or quarterly frequency.

### **B. Low Use Billing Suspension Credit**

Billing suspension of any account may be granted for low use farm and general service with less than 2,500 kWh per year that was connected prior to January 1, 1996. The Customer must sign an agreement annually. The suspension is for either a four-month or six-month period and the Customer will be credited in an amount equal to the monthly service charge multiplied by the number of months suspended. A charge equal to the suspension credit will be applied if the Customer exceeds the limit of 2,500 kWh per year or takes power during the identified period of suspension. In addition to the charge, the Customer will be billed for the kWh consumed in excess of 2,500 kWh per year.

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**C. Use of Estimates**

In months where a bill is issued, but no reading is obtained, Hydro One will estimate energy and demand in order to determine billing quantities. The estimate is based on historical usage for the premise, or a pre-determined quantity if there is no historical usage information available.

Customers may avoid receiving bills based on estimated meter readings if they provide Customer-obtained meter reads that pass validation checks and are provided according to processes and timing established by Hydro One for billing purposes.

**D. Pro-ration of Accounts**

Accounts will be pro-rated where the bill to a Customer is for a period shorter or longer than the standard billing period or where rates have been revised effective on a date not coincident with the Customer's billing or meter reading date.

**E. Budget Billing Plan**

A budget billing plan is available to all Standard Supply Service Customers and retailer-enrolled Customers on Distributor Consolidated billing. To help smooth electricity costs over the year, the plan bills an equal portion of the previous year's charges per bill period and then reconciles the balance owing in the anniversary month. Periodic adjustments may be made to the regular budget bill amount due to Rate or usage changes.

The budget billing plan is not available to Customers who are demand-billed or whose meters are read monthly.

**F. Transformer Loss Allowance**

A transformer loss allowance is applicable to Customers, excluding Embedded Distributors and Direct Customers, requiring a billing adjustment for transformer losses as a result of being metered on the primary side of a transformer. The OEB approved transformer loss allowance is as set out in the Rate schedules available at [www.HydroOneNetworks.com](http://www.HydroOneNetworks.com).

**G. Customer-Supplied Transformation Allowance**

Customer-supplied transformation allowance is applicable to Standard Customers and Sub-transmission Customers providing their own transformers. The OEB

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approved Customer-supplied transformation allowance is as set out in the Rate schedules available at [www.HydroOneNetworks.com](http://www.HydroOneNetworks.com).

#### **H. Annual Monitoring of Electricity Usage**

For energy only metered customers, annual consumption will be monitored to identify services that have grown beyond 150,000 kilowatt-hours annually and require a demand meter to be installed.

For demand metered customers, measured demand is monitored during the calendar year to determine whether the account should be reclassified for billing purposes. The review occurs in the first quarter of the year with the measurement period being January 1 through December 31 of previous year and average monthly demand is calculated based on the measurements taken for bills issued within that time period.

Reclassification of an account, with no retroactive adjustment, will occur effective the next scheduled bill after the annual review, if the average monthly demand over the calendar year crosses the 50 kW threshold for demand billing, or the 5000 kW threshold between General Service, Sub-transmission Customers or “T” class customers and Direct Customers or Large Users.

Alternatively, where a demand metered customer requests Hydro One to do a review, the calculation will be based on the average monthly demand over the most recent 12 month period and the account will be reclassified, as appropriate, effective the next scheduled bill following the review.

### **2.4.5. Payments and Overdue Account Interest Charges**

#### **A. Payment Options**

Customers may pay their electricity bills using any of the following methods: cheque or money order mailed with the remittance stub portion of the bill to Hydro One at the address on the stub; in person at most Canadian financial institutions; through automated banking machines, telebanking or Internet bill payment services offered through the Customer’s financial institution. All payments should be in Canadian dollars.

Hydro One also offers a pre-authorized payment option.

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**B. Late Payment Charges**

Customers are responsible for ensuring that Hydro One receives payment within twenty-one (21) days after the billing date on the statement. A late payment charge may be charged on overdue accounts whether the bill is based on a meter reading or by Hydro One's estimate where meter reading has not occurred. The current OEB approved late payment charge is set at 1.5 per cent compounded monthly (19.56 per cent per year). Where a partial payment has been made on or before the due date, the late payment charge will apply only to the amount of the bill outstanding at the due date.

**2.5. Customer Information****A. Retail Settlement Code Requirements**

Hydro One shall provide current and historical usage information to Customers and retailers in accordance with Chapter 11 of the Retail Settlement Code.

Customers with remotely read Interval Meters shall have access to meter usage data in accordance with Section 2.3.7.3 or over the Internet after having obtained a password from Hydro One for secure access.

**Current Usage Data**

Customers with cumulative volume, demand and non-remotely read Interval Meters shall receive their current usage data on their electricity bill from Hydro One.

Customers with remotely read or non-remotely read Interval Meters shall have access to meter usage data in accordance with the Read Only Access agreement to be executed by Hydro One and the Customer and in accordance with the standards set out in the Retail Settlement Code. Key provisions of the Read Only Access Agreement are described in Appendix "A" to these Conditions of Service.

Hydro One will provide access to a Customer's meter or meter information under the following conditions:

- (i) Hydro One will select the access windows it requires to read the meter;
- (ii) if Hydro One's access to the meter is hindered or a Customer's access to the meter corrupts usage information, Hydro One may suspend a Customer's right to access until any outstanding problems are resolved;



- (iii) a Customer shall pay the reasonable cost of any software, hardware and other services required for a Customer to obtain direct access to meter information. This may include installation of a secondary meter access system;
- (iv) a Customer shall bear any cost incurred by Hydro One to correct problems caused by a Customer’s direct access to the meter;
- (v) if a Customer assigns his or her right to direct meter access to a Retailer or third party, the Customer shall be responsible for the actions of the assigned party.

**Historical Information**

Provision of Customer-specific information to retailers through the Electronic Business Transaction (EBT) system shall be provided at no charge. Requests to deliver data directly to Retailers and Customers, if not delivered through the EBT System, shall be honoured twice a year, at no direct charge to a Retailer or Customer. Additional requests shall also be honoured, but Hydro One may, at its discretion, charge a reasonable fee for such additional requests. A request is considered to be data delivered to a single address.

Hydro One will provide a Customer with at least 12 months, where available, of historical usage information, information about the Customer’s meter configuration, and payment information (“Historical Information”). The Historical Information can be released to the Customer or any third party designated by the Customer, subject to the following:

- (i) if the third party is a Retailer, the Customer has provided the Retailer with written authorization for the release; or
- (ii) if the third party is someone other than a Retailer, the Customer shall have provided Hydro One with written authorization for the release.

**B. Protection of Privacy**

Hydro One collects information, including Personal Information, primarily from its Customers but it may also collect from other sources including credit bureaus or personal references. The information collected is primarily:

- information establishing identity (for example: name, address, phone number, date of birth, social insurance number etc.);
- information related to the provision of electricity and/or distribution services by Hydro One and other electricity distributors; and

- information about financial behaviour such as payment history and credit worthiness.

Hydro One may use and disclose the information described above for the following purposes:

- (a) to establish and maintain responsible commercial relations, including assessing Customer credit history from time to time for the purposes of determining whether Hydro One requires a security deposit;
- (b) to understand Customer needs and eligibility for products and services;
- (c) to recommend particular products and services to meet a Customer's needs;
- (d) to develop, enhance, market or provide electricity products and services;
- (e) to manage and develop Hydro One's businesses and operations;
- (f) to meet legal and regulatory requirements; and
- (g) to provide Customers with information about the electricity market and rates.

Hydro One does not trade or sell your Personal Information to others. Hydro One shall not use or disclose Personal Information for purposes other than those for which it was collected, except with the consent of the individual or as required by law.

The information will be used and disclosed internally within Hydro One by and among staff members (for example, our customer care staff and our internal auditors) and to Hydro One's service providers that need the information in the performance of their duties and where the use and disclosure is necessary and proper in the discharge of Hydro One's business. Hydro One subjects its service providers to strict confidentiality provisions that have been designed to protect the privacy and security of your information.

Hydro One may also disclose Customer information to service providers for purposes of having them conduct surveys on Hydro One's behalf. Customers may choose not to have their information released by Hydro One to a service provider for such purposes by contacting 1-888-664-9376.

The Licence requires that Hydro One not disclose information regarding a Customer to any other party without the written consent of the Customer, except where such information is required to be disclosed:

- (i) to comply with any legislative or regulatory requirements, including the conditions of the Licence;
- (ii) for billing, settlement or market operation purposes;
- (iii) for law enforcement purposes; or
- (iv) to a debt collection agency for the processing of past due accounts of the Customer.

Hydro One may disclose information regarding a Customer where the information has been sufficiently aggregated such that the Customer’s particular information cannot reasonably be identified.

Hydro One retains Personal Information only as long as necessary for the fulfillment of the purposes described in this Section.

Customers may obtain access to their Personal Information held by Hydro One at any time and review its content and accuracy, and have it amended as appropriate. However, access may be restricted as permitted or required by law. Customers can request access by contacting 1-888-664-9376.

Hydro One will occasionally collect your Personal Information when you visit the [www.hydroone.com](http://www.hydroone.com) website. This information is collected, used and disclosed under the same circumstances and according to the same policies and procedures as information you provide to Hydro One in an off-line environment.

Further information about Hydro One’s practices and procedures concerning the collection, use and disclosure of Personal Information can be found in Hydro One’s Privacy Code (available at [www.HydroOneNetworks.com](http://www.HydroOneNetworks.com)).

**C. Customer Obligations**

Customers have the obligation to provide Hydro One with information that is true, complete, and correct. The information is used to provide Customer service, deliver and/or supply energy, manage Customer accounts and assess credit history regarding the need for a security deposit. Hydro One may verify the accuracy of all information provided and may obtain additional credit information from a credit-reporting agency as required.

**SECTION 3 CUSTOMER CLASS SPECIFIC**

**3.1. Residential and Farm**

Under Section 79 of the *Ontario Energy Board Act* and associated regulations, qualifying year round residences and farms are eligible to receive rural or remote rate protection. The monthly service charge amount for eligible Customers is reduced by the applicable rural or remote rate protection.

**A. Residential-Year-Round**

This Rate classification is applied to a Customer’s main place of abode and may include additional buildings served through the same meter, provided they are not rental income units. To be classified as year round residential, all of the following criteria must be met:

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- (i) the property must be the Customer's principal residence as defined in the *Income Tax Act*, and the Customer must state that fact in writing;
  - (ii) the Customer must live in this residence for at least eight continuous months of the year;
  - (iii) the address of this residence must appear on the Customer's driver's licence and credit card invoice and as the Customer's mailing address on the Customer's electric bill and property tax bill, etc; and
  - (iv) Customers who are eligible to vote in Provincial or Federal elections must be enumerated for voting purposes at the address of this residence.

Multi-unit residential establishments such as apartment buildings supplied through one service (bulk metered) normally shall be classified as Industrial Commercial General Service; however, up to four residential units may, at Hydro One's discretion, be classified as Residential-Year-Round.

**A.1. Residential UR2**

Customers classified as Residential UR2 are year-round residences in an urban density zone or Farm Single Phase Energy Billed Customers in an Urban Density Zone.

**A.2. Residential R1**

Customers classified as Residential R1 are year-round residences in a High Density Zone.

**A.3. Residential R2**

Customers classified as Residential R2 are year-round residences in a normal density zone.

**A.4. Seasonal Residential R3**

This Rate classification includes any residential service not meeting the residential-year-round criteria. As such, the seasonal residential class includes cottages, chalets, and camps.

Customers classified as Seasonal Residential R3 are residences that have seasonal occupancy in High Density Zone.

**A.5. Seasonal Residential R4**

This Rate classification includes any residential service not meeting the residential-year-round criteria. As such, the seasonal residential class includes cottages, chalets, and camps.

Customers classified as Seasonal Residential R4 are residences that have seasonal occupancy in Normal Density Zone.

**A.6. Residential (Acquired Local Distribution Companies)**

All service supplied to single-family dwelling units for domestic or household purpose shall be classified as residential service. Multi-unit residential establishments such as apartment buildings supplied through one service (bulk metered) will normally be classified as general service, but, at Hydro One’s discretion, up to four residential units may be classified as residential.

Where electricity service is provided to combined residential and business (including agricultural usage) and the wiring does not provide for separate metering, the classification shall be at the discretion of Hydro One based on such considerations as the estimated predominate consumption.

**B. Farm**

This Rate classification is applicable to properties actively engaged in agricultural production as defined by Statistics Canada. Services to year-round pumping stations or other ancillary services remote from the main farm shall also be classed as farm. The Farm Service Rate classification does not include tree, sod, or pet farms.

**B.1. Farm Single Phase F1**

Single Phase F1 Farm Customers are actively engaged in agricultural production, in areas other than Urban Density Zones.

**B.2. Farm Three Phase F3**

Three Phase F3 Farm Customers are actively engaged in agricultural production, in areas other than Urban Density Zones.

**C. Low Use Secondary Service**

Applicable to separately metered services that were connected prior to January 1, 1996 and located on the same contiguous property as the main or primary service, supplied from the same transformer, with the same owner and consuming less than

the threshold levels specified in the following table. The distribution basic monthly service charge is not applied.

| <b>Primary Service Classification</b> | <b>Low Use Secondary Service Classification</b> | <b>Secondary Service Annual Usage Threshold</b> |
|---------------------------------------|---|---|
| R1<br>R2                              | R3, R4<br>G2, F (non-RRP)                       | <15000 kWh/ year                                |
| R3<br>R4                              | R3, R4<br>G2, F (non-RRP)                       | <500 kWh/year                                   |
| G<br>F                                | R3, R4<br>G2, F (non-RRP)                       | <2500 kWh/year                                  |

**D. Connection and Upgrade Charges**

A Residential, Seasonal Residential or Farm Customer who makes a written request for a Connection, and whose building lies along Hydro One’s existing distribution lines, shall pay Hydro One Connection charges in accordance with Section 2.1.1.

A Residential, Seasonal Residential or Farm Customer who makes a written request for a Connection and whose building is within Hydro One’s service area shall pay Hydro One Connection charges in accordance with Section 2.1.2.

A Residential, Seasonal Residential or Farm Customer who requests an upgrade in connection assets at its premises shall pay the net cost of upgrading the connection assets that is in excess of the cost of supplying distribution transformation or metering. The cost of modifications to the Distribution System due to the upgraded Connection will be in accordance with Section 2.1.2.

**E. Ownership and Operational Demarcation Point**

For Secondary Services wholly owned and maintained by Hydro One, the ownership and operational demarcation point shall be located at:

- (i) the top of the Customer’s service entrance stack for overhead connections;
- (ii) the line side of the Customer’s meter base for underground connections; and
- (iii) the metering point for a central-metered service.

For Secondary Services wholly owned and maintained by the Customer, the ownership and operational Demarcation Point is the secondary connection at the transformer or the service bus.

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Maintenance of the portion of the Secondary Service owned by Hydro One includes repair and like-for-like replacement of a wire or cable that has failed irreparably. The Customer is responsible for all civil work, supports, vegetation and landscaping associated with any such repair or replacement of the portion of Secondary Service owned by Hydro One.

For Primary Service Residential and Farm Customers, the ownership demarcation point shall be located:

- (a) at the secondary terminals of the transformer, when the transformer is owned by Hydro One;
- (b) at the supply terminals of the Customer's primary disconnecting device when the transformer is owned by the Customer; or
- (c) no greater than 30 metres from the point of entry onto the property where a private distribution system has been installed on the Customer's premises.

Where the Customer has ownership of a primary disconnecting device, this device shall be the operational demarcation point, which shall be under the operating control of Hydro One.

#### **F. Customer Supplied Secondary Wire**

The Customer shall install, own, and maintain the secondary conductor under any of the following conditions:

- (i) conductor terminations are inside the Customer's building;
- (ii) conductor is installed beyond the service entrance;
- (iii) conductor is connected to a Primary Service; or
- (iv) conductor is a non-standard installation.

#### **G. Residential, Seasonal Residential and Farm Single Phase F1 Customers**

##### **Voltage**

For residential, seasonal residential and Farm Single Phase F1 Customers, the nominal supply voltage shall be 120/240 Volt single-phase.

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### **Metering**

To accommodate Hydro One's meter installation, the Customer shall make provision as follows:

- (i) Where the rating of a Customer's main disconnecting device does not exceed 200 A the Customer shall provide a 120/240 V, 200 A, single phase 4-jaw outdoor meter socket connected on the line side of the main disconnecting device.
- (ii) Where the rating of a Customer's main disconnecting device does not exceed 400 A the Customer shall provide an outdoor combination meter socket and metering transformer enclosure connected on the line side of the main disconnecting device and equipped with:
  - 120/240 V, 10 Amp - 4-jaw meter socket with automatic circuit-closing device; and
  - 400 Amp revenue-metering current transformer.

The meter installation shall be installed in a location acceptable to Hydro One.

For metering installed on poles, the pole will be installed, owned and maintained by the Customer.

### **H. Farm Three Phase F3 Customers**

#### **Voltage**

For Farm Three Phase F3 Customers, the nominal supply voltage shall be 120/208 volts 4 wire or 347/600 volts 4 wire.

#### **Metering**

To accommodate Hydro One's meter installation, the Customer shall provide acceptable equipment in accordance with one of the following arrangements, as determined by Hydro One:

- (i) 208/120 V, 200 A, 3-phase 7-jaw meter socket connected on the load side of the main disconnecting device; or
- (ii) 600/347 V, 100 A, 3-phase 7-jaw indoor meter socket with an insulated neutral jaw, and connected on the load side of the main disconnecting device.



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- (iii) The meter installation shall be installed in a location that is acceptable to Hydro One.

### **3.2. Industrial Commercial**

These Rate classifications are applicable to any service that does not fit the description of the year-round residential, seasonal residential or farm classes. Generally, it is composed of commercial, industrial, educational, administrative, auxiliary and government type services. It includes combination type services where a variety of uses are made of the service by the owner of one property, and all multiple services except residential with up to four units.

#### **A. Industrial Commercial General Service**

These Rate classifications are applicable for Industrial Commercial customers not directly supplied by the Sub-transmission System.

##### **A.1. Industrial Commercial General Service, Urban Density UG2**

This Rate classification is applicable to Single or Three Phase Industrial Commercial General Service or Farm Customers located in an Urban Density Zone.

##### **A.2. Industrial Commercial General Service, Single Phase G1**

This Rate classification is applicable to Industrial Commercial General Service Single Phase Customers that are not located in an Urban Density Zone.

##### **A.3. Industrial Commercial General Service, Three Phase G3**

This Rate classification is applicable to Industrial Commercial General Service Three Phase Customers not located in an Urban Density Zone.

##### **A.4. Lighting**

This Rate classification is applicable to street lighting and unmetered sentinel lights.

#### **B. Industrial Commercial Sub-transmission or T-Class**

This Rate classification is applicable to Industrial Commercial Customers supplied directly from the Sub-transmission System.

**C. General Service (Acquired Local Distribution Companies)**

All service supplied to premises other than those classified as residential, lighting or large use shall be classified as general service.

**D. Low Use Secondary Service**

Applicable to separately metered services that were connected prior to January 1, 1996 and located on the same contiguous property as the main or primary service, supplied from the same transformer, with the same owner and consuming less than the threshold levels specified in the following table. The distribution basic monthly service charge is not applied.

| <b>Primary Service Classification</b> | <b>Low Use Secondary Service Classification</b> | <b>Secondary Service Annual Usage Threshold</b> |
|---------------------------------------|---|---|
| R1<br>R2                              | R3, R4<br>G2, F (non-RRP)                       | <15000 kWh/ year                                |
| R3<br>R4                              | R3, R4<br>G2, F (non-RRP)                       | <500 kWh/year                                   |
| G<br>F                                | R3, R4<br>G2, F (non-RRP)                       | <2500 kWh/year                                  |

**E. Large Use (Acquired Local Distribution Companies)**

Individual Customers whose monthly measured maximum demand (kW) averaged over the most recent 12 consecutive months is equal or greater than 5,000 kW shall be classified as a large use Customer.

**F. Connection and Upgrade Charges**

A General Service Customer who makes a written request for a Connection, and whose building lies along Hydro One’s existing distribution lines shall pay Hydro One Connection charges in accordance with Section 2.1.1.

A General Service Customer, who makes a written request for a Connection and whose building is within Hydro One’s service area shall pay Connection charges in accordance with Section 2.1.2.

A General Service Customer who requests an upgrade in connection assets at its premises shall pay Hydro One the net cost of upgrading the connection assets that is in excess of the cost of supplying distribution transformation or metering. The Customer shall be required to enter into a Connection and Cost Recovery

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Agreement. The cost of modifications to the Distribution System, due to the upgraded Connection, will be in accordance with Section 2.1.2.

**G. Ownership and Operational Demarcation Point**

For Secondary Service General Service Customers, the ownership and operational demarcation point shall be located as follows:

- (i) where the Customer's conductors emerge from the service head or mast on overhead Secondary Services, or at the secondary terminal (spade) of the transformer, or at the secondary connection pedestal located at the property line, as determined by Hydro One at the Customer's location; or
- (ii) on underground Secondary Services, at the secondary terminal (spade) of the transformer.

For Primary Service General Service Customers, the ownership demarcation point shall be located:

- (a) at the secondary terminals of the transformer, when the transformer is owned by Hydro One;
- (b) at the supply terminals of the Customer's primary disconnecting device when the transformer is owned by the Customer; or
- (c) no greater than 30 metres from the point of entry onto the property where a private distribution system has been installed on the Customer's premises.

Where the Customer has ownership of a primary disconnecting device, this device shall be the operational demarcation point, which shall be under the operating control of Hydro One.

**H. Voltage**

For Secondary Service General Service Customers, Hydro One supplies electricity at the following nominal voltages and phases, where available:

- (i) 347/600Y Volts 3-phase 4 wire;
- (ii) 120/208Y Volts 3 phase 4 wire; or
- (iii) 120/240 Volts 1-phase.

The Customer shall consult with Hydro One early to confirm availability of specific voltages within the Hydro One Distribution System.

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For Primary Service General Service Customers, Hydro One supplies electricity at the following nominal voltages and phases, where available:

- (a) 44,000 Volts – 3 Phase 3 Wire;
- (b) 16,000/27,000 Volts – 3 Phase 4 Wire;
- (c) 14,400/25,000 Volts – 3 Phase 4 Wire;
- (d) 8,000/13,800 Volts – 3 Phase 4 Wire;
- (e) 4,800/8,320 Volts – 3 Phase 4 Wire; or
- (f) 2,400/4,160 Volts – 3 Phase 4 Wire

## **I. Metering**

### **Metering Equipment**

To accommodate Hydro One's meter installation, the Customer shall provide acceptable equipment in accordance with one of the following arrangements, as determined by Hydro One:

#### **Self-Contained Metering Up to 200 A**

A self-contained meter installation at low voltage where the rating of the Customer's main disconnecting device does not exceed 200 A shall be provided with:

- (i) 120/240 V, 200 A, 1-phase 4-jaw outdoor meter socket connected on the load side of the main disconnecting device;
- (ii) 208/120 V, 200 A, 1-phase 5-jaw indoor meter socket connected on the load side of the main disconnecting device;
- (iii) 208/120 V, 200 A, 3-phase 7-jaw meter socket connected on load side of the main disconnecting device; or
- (iv) 600/347 V, 100 or 200 A, 3-phase 7-jaw indoor meter socket with an insulated neutral jaw, and connected on the load side of the main disconnecting device.

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**120/240 V, 400 A**

A General Service single-phase transformer-type meter installation at 120/240 V where the rating of the Customer's main disconnecting device ranges from greater than 200A up to 400 A shall be provided with:

- (i) 120/240 V, 10 A, 5-jaw outdoor meter socket with an automatic circuit-closing device;
- (ii) indoor instrument transformer enclosure; and
- (iii) 19 mm conduit from the instrument transformer enclosure to the meter socket.

**Three-Phase Less than 500 kW**

A three-phase transformer-type meter installation that is not equipped with interval meters and where the monthly average peak demand during a calendar year is forecasted by Hydro One not to exceed 500 kW shall be provided with:

- (i) an acceptable outdoor meter enclosure;
- (ii) an indoor instrument transformer enclosure; and
- (iii) 25 mm conduit from the instrument transformer enclosure to the meter enclosure.

**Three-Phase Greater than 500 kW**

A transformer-type meter installation where the monthly average peak demand during a calendar year is forecast by Hydro One to exceed 500 kW and where the rating of the Customer's main disconnecting device does not exceed 3000 A at low voltage is required to have an interval meter and shall be provided with:

- (i) an acceptable meter enclosure;
- (ii) an indoor instrument transformer enclosure;
- (iii) 31 mm of conduit from the instrument transformer enclosure to the meter enclosure; and
- (iv) a voice grade direct access telephone line that is active 24 hours every day, seven days per week, and protected by a 13 mm conduit from the telephone entrance equipment into the meter enclosure.

### **Instrument Transformer Enclosure**

A Customer who requires a transformer-type meter installation shall provide a metal instrument transformer enclosure that is:

- (i) equipped with a hinged door, provision for securing of the transformers to the enclosure, and padlock hasp or other means of rendering the enclosure inaccessible to unauthorized persons;
- (ii) connected on the load side of the main disconnecting device; and
- (iii) sized as follows:

- 120 Volt single phase service: Over 200 Amperes up to and including 400 Amperes - 1.0 m x 1.0 m x 0.3 m (36" x 36" x 12"); Over 400 Amperes - 1.2 m x 1.2m x 0.3m (48" x 48" x 12")
- 120/208 Volt three phase four wire service: Over 200 Amperes up to and including 600 Amperes - 1.2 m x 1.2 m x 0.3 m (48" x 48" x 2")
- 347/600 Volt three phase four wire services: Over 200 Amperes up to and including 600 Amperes - 1.2 m x 1.2 m x 0.3 m (48" x 48" x 12")

Where a cabinet is required for meters only, the dimensions will be 0.6 m x 0.6 m x 0.3 m (24" x 24" x 12"); and

- (iv) provided with one of the following meter loop arrangements - Spare conductors not less than 450 mm in length, equipped with connectors and terminated at each bar-type current transformer connection point, or three-phase conductors installed through ring-type current transformers, or other acceptable provision for connection of current transformers.

### **Multi-Occupancy Metering**

The meter installation for a multiple occupancy structure where the Customer requires individual meters and where the rating of the main disconnecting device exceeds 400 A shall satisfy the following requirements.

- (i) Meters shall be installed in a central service room with access as per Section 1.7.1 Space and access.
- (ii) The central service room shall be separated from the remainder of the building by an approved fire separation.

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- (iii) Any splitter trough cover shall be hinged to open downward and equipped with provision for padlock and seal.
  - (iv) A full-sized neutral supply conductor shall be extended from any splitter trough to each meter socket.
  - (v) The conductors to each meter shall be provided with a separate sub-service box.
  - (vi) Sub-service boxes shall be identified with an approved address or unit number and the same number shall identify the service panel inside the unit.

### **3.3. Direct Customers**

This Rate classification is applicable to Direct Customers.

#### **A. Connection and Upgrade Charges**

A Direct Customer, who makes a written request for a Connection and whose building is within Hydro One's service area shall pay Connection charges in accordance with Section 2.1.2.

A Direct Customer who requests an upgrade in connection assets at its premises shall pay Hydro One the net cost of upgrading the connection assets that is in excess of the cost of supplying distribution transformation or metering. The Customer shall be required to enter into a Connection and Cost Recovery Agreement. The cost of modifications to the Distribution System, due to the upgraded Connection, will be in accordance with Section 2.1.2.

#### **B. Ownership and Operational Demarcation Point**

For Direct Customers, the ownership and operational demarcation point shall be specified in the Connection Agreement.

#### **C. Voltage**

The Customer shall consult with Hydro One early to confirm availability of specific voltages within the Hydro One Distribution System.

For Direct Customers, Hydro One supplies electricity at the following nominal voltages and phases, where available:

- (i) 44,000 Volts – 3 Phase 3 Wire;

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- (ii) 16,000/27,000 Volts – 3 Phase 3 Wire;
  - (iii) 14,400/25,000 Volts – 3 Phase 3 Wire; or
  - (iv) 8,000/13,800 Volts – 3 Phase 3 Wire.

**D. Metering**

For Direct Customers, metering shall be specified in the Connection Agreement.

**3.4. Embedded Distributors**

This Rate classification is applicable to Embedded Distributors who may or may not be Market Participants.

The reliability of supply and the voltage level at the Delivery Point from the Distribution System to an Embedded Distributor’s distribution system shall be as good as or better than what is provided to Hydro One’s other distribution Customers.

The Embedded Distributor shall provide load forecasts or any other information related to the Embedded Distributor’s system load to Hydro One, as determined and required by Hydro One. Hydro One shall not require any information from another Distributor unless it is required for the safe and reliable operation of either the Distribution System or to meet Hydro One’s licence obligations.

Hydro One will make every reasonable effort to respond promptly to another Distributor’s written request for a Connection to the Distribution System and agrees to comply with all of the requirements of Connection as identified in section 6.3 of the Distribution System Code.

The Embedded Distributor seeking a Connection will be charged for all costs of consultations, preparation of estimates, system impact studies and design. The Connection costs, costs of system modifications and of commissioning and testing necessary to connect the Distributor as well as all ongoing administration, settlement and maintenance costs will be included in the DCF calculation. The Distributor will provide a load forecast acceptable to Hydro One, which will be used in the determination of the distribution revenues collected over the revenue horizon. Any shortfall calculated by the DCF calculation will be the responsibility of the Distributor seeking the Connection.

The Embedded Distributor may be required to sign a Connection and Cost Recovery Agreement.



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**A. Connection and Upgrade Charges**

An Embedded Distributor, who makes a written request for a Connection shall pay Connection charges in accordance with Section 2.1.2.

An Embedded Distributor who requests an upgrade in connection assets at its premises shall pay Hydro One the net cost of upgrading the connection assets that is in excess of the cost of supplying distribution transformation or metering. The Customer shall be required to enter into a Connection and Cost Recovery Agreement. The cost of modifications to the Distribution System, due to the upgraded Connection, will be in accordance with Section 2.1.2.

**B. Ownership and Operational Demarcation Point**

For an Embedded Distributor, the ownership and operational demarcation point shall be specified in the Connection Agreement.

**C. Voltage**

The Embedded Distributor shall consult with Hydro One early to confirm availability of specific voltages within the Hydro One Distribution System.

For Embedded Distributor, Hydro One supplies electricity at the following nominal voltages and phases, where available:

- (i) 44,000 Volts – 3 Phase 3 Wire;
- (ii) 16,000/27,000 Volts – 3 Phase 3 Wire;
- (iii) 14,400/25,000 Volts – 3 Phase 3 Wire; or
- (iv) 8,000/13,800 Volts – 3 Phase 3 Wire.

**D. Metering**

For Embedded Distributors, metering shall be specified in the Connection Agreement.

**3.5. Embedded Generation**

All Embedded Generators shall execute a Connection Agreement. Embedded Generators connected to the Distribution System prior to the date of these Conditions of Service shall, subject to any agreement to the contrary between the Embedded Generator and Hydro One, execute a Connection Agreement with Hydro One within a reasonable period of time. During the time when such an agreement

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is not yet in place, the Generator will be deemed to have an implied contract with Hydro One. The terms of the implied contract are these Conditions of Service, the Electricity Distribution Rate Handbook, the Hydro One rate schedules, the Hydro One Distributors licence and the Distribution System Code.

In accordance with Section 2.2 of these Conditions of Service, Hydro One may disconnect any Embedded Generator that does not execute a Connection Agreement.

Hydro One shall not allow generator connections to the Distribution System in a manner that may adversely affect power quality, reliability or the safety of Hydro One's personnel or Customers.

The Embedded Generator shall be responsible for all costs associated with Hydro One performing studies, developing and implementing plans for risk mitigation that are to the satisfaction of Hydro One.

If the Generator proposes to materially change the mode of operation, the installed capacity and /or the protective devices, the Generator must submit the information required for reassessment of the impact of the operation of the facility prior to making such changes.

**A. General Technical Information Requirements**

All Embedded Generators shall provide Hydro One with the documentation specified in the Application for Connection of Generating Facilities to ensure that the Distribution System is adequately protected from potential damage or increased operating costs resulting from the connection of the Embedded Generation Facility:

Embedded Generators connected to the Distribution System prior to the date of these Conditions of Service shall have the technical information required in the application and assessment process on file and provide the information to Hydro One upon request.

**B. Interface Protection and Isolating Devices**

The Embedded Generator shall provide an interface protection that minimizes the frequency and severity of disturbances on the Distribution System and the impact to the reliability and power quality of service to other Customers. The Embedded Generation Facilities must also meet the technical requirements as identified in the document "Technical Requirements for Generators Connecting to Hydro One's Distribution System." Additional requirements may be necessary to address unique situations.

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The Embedded Generator shall provide, install and maintain a disconnecting device at the connection point with the Distribution System for the purpose of isolating the Embedded Generation Facility in case of Emergency and for work protection. The disconnecting device shall be installed in accordance with the Electrical Safety Code.

### **C. Metering for Embedded Generation Facilities**

#### **Metering Installations – Installed after July 14, 2000**

The metering shall be installed at the Demarcation Point of connection of the Embedded Generation Facility to the Distribution System. The point of demarcation for an Embedded Generation Facility is the primary live line clamp or lines switch that is installed on or at Hydro One's Distribution line. If this is not practical, Hydro One shall apply loss factors to the generation output in accordance with the loss factors applied for Retail settlements and billing.

The Embedded Generator shall install Four-Quadrant Interval Meter in accordance with the Distribution System Code and Hydro One's standard metering requirements. The Embedded Generator shall provide Hydro One with the technical details of the Meter Installation.

An Embedded Generator that may, at any time, deliver power to the Distribution System for the purposes of selling electricity shall be responsible for the ownership, installation and maintenance (using a Registered Meter Service Provider), of an approved meter. This excludes an approved net metering installation (see Sections 2.3.6.1 and 2.3.7.1 F). If this requirement is revised based on future regulations, the Customer shall pay to replace such meters.

#### **Metering Installations – Installed Prior to July 14, 2000**

Where there is an existing Meter Installation for an Embedded Generation Facility, the Embedded Generator shall take ownership of the Meter Installation in accordance with Hydro One's requirements by no later than the meter seal expiry date. The Embedded Generator shall provide Hydro One with the technical details of the metering installations for review, if requested.

Embedded Generation Facilities that receive energy e.g. for station use or back-up supply, shall be placed in the appropriate Rate class and billed for the energy consumed.

### **D. Transformers**

Any step-up transformation equipment required to step-up the Embedded Generation Facility's output voltage to the primary voltage of Hydro One's

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Distribution line shall be supplied, installed, owned and maintained by the Embedded Generator.

For Customers connected to the Distribution System that wish to install an Embedded Generation Facility with a total installed generation capacity of less than 10 kW, Hydro One may, at its sole discretion, permit the Embedded Generation Facility to be connected through Hydro One's existing transformer. In such cases, the Embedded Generator shall be responsible for any and all damage to the Hydro One Facilities and Equipment caused by the operation of the Embedded Generation Facility.

#### **E. Maintenance Schedules**

The Embedded Generator must implement and adhere to a regular scheduled maintenance plan to assure both Hydro One and the Embedded Generator that the connection devices, protection and control systems are maintained in good working order. The provisions of said maintenance plan are to be listed in the Connection Agreement. The Embedded Generator must conduct a re-verification at least every 48 months (or as specified in the Connection Agreement) and provide a written report to Hydro One signed by professional licensed engineer. A verification report of maintenance activities including the operation of devices shall be retained by the Embedded Generator and shall be provided to Hydro One upon request.

Hydro One, in its sole discretion, may require the Customer to permit Hydro One to witness the re-verification of any protections that could adversely affect the Distribution System. The Embedded Generator shall pay for the re-verification and provide Hydro One a copy of the report giving the results of the re-verification of the protections.

#### **F. Reporting Requirements**

All Embedded Generators over 100kVA shall report any significant event to Hydro One within five business days. The Connection Agreement may include a list of events deemed significant and provide a standard report format.

The Embedded Generator shall keep a written log of the operation of its protections that result in the tripping of its interrupting devices. On request, the Embedded Generator must provide a copy of the log to Hydro One. The log shall contain, at a minimum, the following information:

- (i) date and time of event/operation of protections;
- (ii) which relay or protection feature of the relay initiated the trip;
- (iii) conditions and unit output at the time of the trip that may be related to the operation (e.g. lightning, outage of feeder etc.).

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## **G. Capital Contribution**

When Hydro One is required to add new Hydro One Facilities and Equipment, alter existing Hydro One Facilities and Equipment, or increase the capacity of the Distribution System to connect a new Embedded Generation Facility (an “Expansion”), Hydro One will perform an economic evaluation to determine the Embedded Generator’s required capital contribution for the equipment, labour and ongoing maintenance costs of the Expansion (the “Expansion Costs”). Hydro One will use the Discounted Cash Flow Model and assume that future revenue will be zero.

## **H. Compliance**

All equipment of Embedded Generators connected, operating or procured before July 14, 2000 is deemed to be in compliance with Hydro One’s performance requirements except for the requirements of the Electrical Safety Authority and isolating device requirements identified in section 3.5.2.

Hydro One may require that the equipment deemed compliant above be brought into actual compliance with Hydro One’s performance requirements within a timeframe established by Hydro One, but not to exceed 12 months, where, in Hydro One’s sole opinion, there is:

- (i) a material deterioration of the Distribution System reliability resulting from the performance of the Embedded Generator’s equipment;
- (ii) material negative impacts on the power quality of an existing or a new Customer resulting from the performance of the equipment at the Embedded Generation Facility; or
- (iii) a material increase in Generating capacity at the site where the equipment deemed compliant is located.

## **I. Disconnection of Embedded Generation Facility**

Hydro One has the right to disconnect an Embedded Generation Facility from its Distribution System where, where in the sole opinion of Hydro One, any of the following conditions, exist:

- (i) there is a material deterioration of the Distribution System reliability resulting from the performance of the Embedded Generator’s equipment;

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- (ii) there is a material negative impact on the quality of power of an existing or a new Customer resulting from the performance of the equipment at the Embedded Generation Facility;
  - (iii) the Embedded Generator has failed to re-verify the protection and control systems every 48 months or as specified in the Connection Agreement or failed to submit the report within 30 days;
  - (iv) the Embedded Generator’s report of the re-verification of the protection and control systems shows deficiencies that are unacceptable to Hydro One;
  - (v) the Embedded Generator has made material changes in the capacity and /or the mode of operation of the Generation Facility, and the impact to the Distribution System is deemed unacceptable to Hydro One;
  - (vi) the Embedded Generator has failed to meet any technical requirements, including those identified in the document “Technical Requirements for Generators Connecting to Hydro One’s Distribution System.”; or
  - (vii) the Embedded Generator has failed to provide any documentation as specified in the application and assessment process upon request.

### **3.6. Embedded Market Participant**

An Embedded Market Participant is a Customer who is registered as a Market Participant with the IMO and whose facility is not directly connected to the IMO Controlled Grid but is connected to the Distribution System. All Embedded Market Participants within the service jurisdiction of Hydro One, once approved by the IMO are required to inform Hydro One in writing of their approved status 60 days prior to their participation in the IMO-administered market.

A Connection Agreement, including an operating schedule, will be required between an Embedded Market Participant and Hydro One.

An Embedded Market Participant will be responsible for the ownership, installation and maintenance of the meter and contracting the services of a Registered Meter Service Provider. Responsibility for an existing Meter Installation will transfer from Hydro One to the Embedded Market Participant on the meter seal expiry date.

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### **3.7. Embedded Distributor**

Refer to Section 3.4 of these Conditions of Service.

### **3.8. Unmetered Connections**

There are certain instances where Connections can be provided without metering. These loads are generally small in size and consistent in magnitude of load. Hydro One reserves the right to review all cases and may require that a meter be installed at its sole discretion.

Services that can be unmetered include cable TV amplifiers, telephone switching devices, phone booths, bus shelters, rail way crossing signals, traffic signals, and other small fixed loads. Only loads of less than 5 kW can be set up as unmetered. The Customer shall provide detailed manufacturer information and documentation with regard to electrical demand or consumption of the proposed unmetered load. A completed load study acceptable to Hydro One may be required for determination of load and hours of usage.

At Hydro One's discretion, an agreement may be required between the Customer and Hydro One that identifies the Customer's obligations and responsibilities in notifying Hydro One of changes to existing equipment or new equipment and Connections added to the Distribution System by the Customer.

For installations on Hydro One owned poles, Hydro One must approve the method of attachment and location of installations and the owner must enter into a Joint Use Agreement.

The billing of unmetered Connections will be based on estimated usage.

All unmetered Connections fall under the Industrial Commercial, Industrial Commercial General Service or Lighting Rate classifications.

Unmetered Connections may also include the following:

#### **3.8.1. Street Lighting**

This section pertains to the distribution and supply of electrical energy for street lighting. Street lights are devices owned by or operated for the road authority and/or the municipal corporation.

The energy consumption for street lights is estimated based on Hydro One's profile for street lighting load, which provides the amount of time each month that the street lights are operating. The energy charge is based on installed load.

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Street lighting plant, facilities, or equipment owned by the Customer are subject to Electrical Safety Authority requirements.

Charges related to the connection of Street Lighting shall be paid by the Customer, at time and material rates.

The method of attachment and location of new lighting installations on its line poles is subject to Hydro One's approval, and the streetlight owner must enter into an agreement to use such poles. Hydro One will make the electrical service connection of all streetlights to the Distribution System.

The normal service voltage will be 120/240 volts, single-phase, three-wire.

The Customer will provide the secondary conductor to the supply point. Hydro One will install and connect the service conductor at the supply point.

### **3.8.2. Decorative Lighting**

This section pertains to the distribution and supply of electrical energy for decorative street lighting installations. Such installations could be lighting for festive occasions or streetscaping. These are privately owned and maintained and subject to ESA and Hydro One service conditions.

This section does not apply to street lighting that is owned by or operated by the road authority and/or the municipal corporation.

Hydro One shall determine if metering is required on a case-by-case basis with respect to the demand, load profile, location, accessibility, duration of the Connection, and municipal agreement.

The nominal service voltage will be 120/240 volts, single phase.

The method and location of the supply will vary and will be established for each application through consultation with Hydro One.

Charges for part time or decorative seasonal lighting include an energy charge calculated at dollars/kWh/month. Minimum billing will be for one month (Dollars per kWh x # of fixtures x kWh).

At Hydro One's discretion, an agreement may be required between the Customer and Hydro One that identifies the Customer's obligations and responsibilities in notifying Hydro One of new equipment and connections added to the Distribution System by the Customer.



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### **3.8.3. Cablevision Power Supplies**

This section pertains to the distribution and supply of electrical energy for cablevision power units. The standard service with no accessories (heaters or air conditioners, etc.) can be unmetered. A completed load study will be required otherwise the account will be set up on full name plate rating. Energy consumption will be based on connected wattage on the line side power supply and based on twenty-four hours of use.

Power units that have additional accessories such as heaters or air conditioners, etc. shall require metering.

Each power supply will be set up as an individual account.

The service voltage will be 120 volts, single phase, two wire, maximum 15 amp.

The method and location of supply will vary and will be established for each application through consultation with Hydro One.

### **3.8.4. Traffic Signals**

This section pertains to the distribution and supply of electrical energy for traffic signals and crosswalks. These are the devices owned and maintained by the road authority and/or the municipal corporation.

The service may be unmetered for small intersections while larger loads will be metered. Energy consumption will be based on the connected wattage and the calculated hours of use.

The service voltage will be 120/240 volts, single phase, three wire.

The method and location of the supply will vary and will be established for each application through consultation with Hydro One.

The Customer will provide the secondary conductor to the supply point. Hydro One will install and connect the service conductor at the supply point.

## **SECTION 4 GLOSSARY OF TERMS**

“Acquired Local Distribution Company” means a distribution company or a distribution system acquired by Hydro One since April 1, 1999.

“Affiliate Relationships Code” means the code, issued by the OEB and in effect at the relevant time, which among other things, establishes the standards and conditions for the interaction between electricity distributors or transmitters and their respective affiliated companies;

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“Applicable Laws” means any and all applicable laws, including environmental laws, statutes, codes, licensing requirements, treaties, directives, rules, regulations, protocols, policies, by-laws, orders, injunctions, rulings, awards, judgments, or decree or any requirements or decision or agreement with or by any governmental or governmental department, commission, board, court authority or agency;

“Basic Connection” means a Connection of a Building that lies Along that can be connected without requiring an Expansion;

“Billing Cycle Factor” means a factor applied to a bill amount in order to normalize to the length of the bill period plus forty-five (45) days for the purposes of calculating security deposit requirements, i.e., a monthly bill is adjusted by a Billing Cycle Factor of 2.5, a bi-monthly bill is adjusted by a Billing Cycle Factor of 1.75 and a quarterly bill is adjusted by a Billing Cycle Factor of 1.5;

“Bi-monthly Billing” means a notional and approximate sixty day (60) period for a billing cycle, not necessarily aligned with calendar months;

“Building that Lies Along” means a Customer property or parcel of land that is directly adjacent to or abuts onto the public road allowance where Hydro One has Hydro One Facilities and Equipment of the appropriate voltage and capacity;

“Common Line” means that portion of a line or private property that is owned by Hydro One and is used to serve more than one Customer;

“Complex Metering Installation” means a metering installation where instrument transformers, test blocks, recorders, pulse duplicators and multiple meters may be employed;

“Connection” means the process of installing and activating connection assets in order to distribute electricity to a Customer;

“Connection Agreement” means the agreement entered into between Hydro One and a person whose Customer Equipment is or is to be connected to the Distribution System that delineates the conditions of the Connection and delivery of electricity to that Connection;

“Connection and Cost Recovery Agreement” means an agreement entered into between Hydro One and a person connected to its Distribution System that describes the work to be performed by Hydro One in connecting the Customer, the cost of same, any required capital contributions and/or revenue guarantees;

“Customer” means a person that has contracted for or intends to contract for connection of a building or an Embedded Generation Facility. This includes developers of residential or commercial sub-divisions and Embedded Distributors;

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“Customer Equipment” means all electrical and mechanical equipment used by the Customer and does not include any Hydro One Facilities and Equipment;

“Demand Billed Customer” means a demand metered Customer with average monthly peak demand greater than 50 kW over the most recent calendar year that is read monthly and billed on kW demand as well as kWh energy;

“Demand Meter” means a meter that measures a Customer’s peak usage during a specified period of time;

“Demarcation Point” or “Delivery Point” means the physical location at which Hydro One responsibility for operational control and ownership of Distribution equipment including connection assets ends;

“Direct Customer” means a Customer other than a Large User, a Sub-transmission Customer or an Embedded Distributor, whose monthly measured maximum demand averaged over the most recent calendar year or whose forecasted monthly average demand over twelve consecutive months is equal to or greater than 5000 kW;

“Disconnect” or “Disconnection” means a deactivation of connection assets that results in cessation of Distribution Services to a Customer;

“Distribute” or “Distribution” with respect to electricity, means to convey electricity at voltages of 50 kV or less;

“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 Loss Factor” means the factor(s) by which metered loads must be multiplied such that when summed it equals the total measured load at the supply point(s) to the Distribution System;

“Distribution Services” means services related to the distribution of electricity and the services the OEB 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 Standards” means Hydro One’s distribution standards;

“Distribution System” means Hydro One’s system for distributing electricity, and includes any structures, equipment or other things used for that purpose. The Distribution System is composed of the main system capable of distributing electricity to many Customers and the connection assets used to connect a Customer to the main Distribution System;

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“Distribution System Code” means the code, issued by the OEB, and in effect at the relevant time, which, among other things, establishes the obligations of a 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;

“Distributor” means a person who owns or operates a distribution system;

“Distributor Consolidated Billing” is as described in the Retail Settlement Code;

“Electricity Act” means the *Electricity Act*, 1998, S.O. 1998, C.15, Schedule A, as amended;

“Electricity Distribution Rate Handbook” means the document issued by the OEB that outlines the regulatory mechanisms that will be applied in the setting of Distributor’s Rates;

“Electrical Safety Authority” or “ESA” means the person or body designated under the regulations made pursuant to the *Electricity Act* as the Electrical Safety Authority;

“*Electrical Safety Code*” means the code referred to in O. Reg. 164/99, as amended;

“Electricity System” means the integrated power system and all facilities connected to that system;

“Embedded Distributor” means a Distributor that is provided electricity from the Distribution System;

“Embedded Generator” or “Embedded Generation Facility” means a Generator whose Generation Facility is connected to the Distribution System;

“Emergency” means any abnormal system condition that requires remedial action to prevent or limit loss of a Distribution System or supply of electricity that could adversely affect the reliability of the Electricity System;

“Energy Only Customer” means any Customer with average monthly peak demand of 50 kW or less over the most recent calendar year that is billed for electricity service on kWh energy only;

“Expansion” is a situation in which Hydro One needs to construct new facilities for its Distribution System or increase the capacity of existing Hydro One Facilities and Equipment in order to be able to connect a specific Customer;

“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, lockout or other labour dispute of that party’s employees,

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damage or destruction by the elements, accident to the works of that party, fire explosion, war on the Queen's enemies, legal act of the public authorities, insurrection, Act of God or inability to obtain essential services or to transport materials, products or equipment because of the effect of similar causes on that party's suppliers or carriers;

“Four-Quadrant Interval Meter” means an Interval Meter that records power injected into the Distribution System and the amount of electricity consumed by the Customer;

“General Service” means the Rate classification applicable to any service that does not fit the description of the year-round residential, seasonal residential or farm classes. Generally, it is composed of commercial, industrial, educational, administrative, auxiliary and government type services. It includes combination type services where a variety of uses are made of the service by the owner of one property, and all multiple services except residential with up to four units.

“Generate” or “Generating”, with respect to electricity, means to produce electricity or provide ancillary services, other than ancillary services provided by a transmitter or Distributor through the operation of a transmission or distribution system;

“Generation Facility” means a facility for Generating electricity or providing ancillary services, other than ancillary services provided by a transmitter or Distributor through the operation of a transmission or distribution system, and includes any structures, equipment or other things used for that purpose;

“Generator” means a person who owns or operates a Generation Facility;

“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;

“High Density Zone” means an area containing 100 or more Customers with a line density of at least 15 Customers per kilometre. All classes of Customers are included in the density count;

“Hydro One Facilities and Equipment” or “Plant” means Hydro One's meters, wires, poles, cables, transformers, any other structures, equipment, all other appliances and equipment or other things used for distributing electricity;

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“IMO” means the Independent Electricity Market Operator established under the Electricity Act;

“IMO Controlled Grid” means the transmission systems with respect to which, pursuant to agreements, the IMO has the authority to direct operation;

“Interval Meter” means a meter that measures and records electricity use on an hourly or sub-hourly basis;

“Large User” means an individual Customer in the service area of an Acquired Local Distribution Company whose monthly measured maximum demand (kW) averaged over the most recent calendar year or whose forecasted monthly average demand over twelve consecutive months is equal to or greater than 5000kW;

“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 Participant” means a person who is authorized by the Market Rules to participate in the IMO-administered markets or to cause or permit electricity to be conveyed into, through or out of the IMO-controlled grid;

“Market Rules” means the rules made under Section 32 of the Electricity Act;

“Measurement Canada” means the Special Operating Agency established in August 1996 by the *Electricity and Gas Inspection Act* (Canada);

“Meter Installation” means the meter and, if so equipped, the instrument transformers, wiring, test links, fuses, lamps, loss of potential alarms, data recorders, telecommunication equipment and spin-off data facilities installed to measure power past a meter point, provide remote access to the metered data and monitor the condition of the installed equipment;

“Metering Services” means installation, testing, reading, and maintenance of meters;

“MIST” refers to “Metering inside the Settlement Timeframe”;

“MIST Meter” means an Interval Meter from which data is obtained and validated within a designated settlement timeframe;

“Monthly Billing” means a notional and approximate 30-day period for a billing cycle, not a calendar month;

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“MOST” refers to “Metering Outside the Settlement Timeframe”;

“MOST Meter” means an Interval Meter from which data is only available outside of the designated settlement timeframe;

“Multiple Residential Properties” means a property, which provides separate living accommodation for two or more families. It does not include properties used for short-term occupancy such as hotels, motels, etc.;

“Normal Density Zone” means an area other than an Urban or High Density Zone;

“OEB” means the Ontario Energy Board;

“Ontario Energy Board Act” means the *Ontario Energy Board Act*, 1998, S.O. 1998, C.15, Schedule B, as amended;

“Personal Information” means any factual or subjective information, recorded or not, about an identifiable individual and this includes information in any form such as: age, name, ID numbers, income, ethnic origin, or blood type, opinions, evaluations, comments, social status, or disciplinary actions. Personal information does not include the name, title, business address or telephone of an employee of an organization.

“Plant” or “Hydro One Facilities and Equipment” means Hydro One’s meters, wires, poles, cables, transformers, any other structures, equipment, all other appliances and equipment or other things used for Distributing electricity;

“Point of Supply”, with respect to an Embedded Generation Facility, means the Connection point where electricity produced by the Embedded Generation Facility is injected into the Distribution System;

“Present Value” means the current value of a future amount of money;

“Primary Metered Service” means a Connection whose meter point is located on the primary side of a distribution transformer;

“Primary Service” means a Connection directly to Hydro One’s primary facilities. The Customer owns all conductors, supports and civil works located on its property;

“Private Property” means any property owned by a Customer or a third party and does not include any public street or highway;

“Public Holidays” mean the days designated by Hydro One from time to time. Until otherwise designated, the Public Holidays are: New Year’s Day, Labour Day, Good Friday, Thanksgiving Day, Easter Monday, Christmas Day, Victoria Day,

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Boxing Day, Canada (Dominion) Day, and the Civic Holiday (as celebrated in Metropolitan Toronto);

“Qualified Contractor” means a contractor qualified to deal with electrical hazards in accordance with the requirements of the Occupational Health & Safety Act, (Ontario) as amended and all applicable regulations thereto including, Construction Projects – O. Reg. 213/91;

“Quarterly Billing” means a notional and approximate 90-day period for a billing cycle, not necessarily aligned with calendar months;

“Rate” means any rate, charge or other consideration, and includes a penalty for late payment;

“Refunded Administration Service” Prior to the Distribution System Code coming into force, new Customers requiring an Expansion for Connection were required to pay all costs of the Expansion. For a fee, Hydro One offered a service to monitor the line, to collect from any new Customers connecting to the original Expansion a fair share of the original costs and to administer a refund to the original or contributor or the present property owner. This service was provided in 5 year terms and could be renewed for additional 5 year terms upon additional payments of the fee. Customers who did not opt for a Refund Administration Service were not eligible for rebates if new Customers were added to the original expansion. Refund Administration Service is no longer offered to new Customers requiring Expansions for Connection.

“Registered Meter Service Provider” means a Person that provides, installs, commissions, registers, maintains, repairs, replaces, inspects and tests Metering Installations and is approved and registered by Measurement Canada and the IMO;

“Retail”, with respect to electricity means,

- a) to sell or offer to sell electricity to a Customer;
- b) to act as agent or broker for a Retailer with respect to the sale or offering for sale of electricity, or
- c) to act or offer to act as an agent or broker for a Customer with respect to the sale or offering for sale of electricity;

“Retail Settlement Code” means the code issued by the OEB and in effect at the relevant time, which, among other things, establishes a Distributor’s obligations and responsibilities associated with financial settlement among Retailers and Customer and provides for tracking and facilitating Customer transfer among competitive Retailers;

“Retailer” means a person who Retailers electricity;



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“Retailer Consolidated Billing” is as described in the Retail Settlement Code;

“Secondary Metered Service” means a Connection whose meter point is located on the secondary side of a distribution transformer;

“Secondary Service” means a Connection to the low voltage side of Hydro One’s transformer located on the Distribution System. Hydro One may own the conductor and the Standard Customer always owns all supports and civil works on the Customer’s property;

“Service Transfer Request” is as described in the Retail Settlement Code;

“Single Phase” means a system that supplies a single alternating current electricity supply;

“Standard Customer” means any Customer who is not a Sub-transmission Customer, Large User, Direct Customer, Embedded Distributor or an Embedded Generator;

“Standard Supply Service” means the service approved by the OEB and in effect at the relevant time, 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*;

“Standard Supply Service Code” means the code, issued by the OEB, and in effect at the relevant time, which, among other things, sets the minimum conditions that a Distributor must meet in carrying out its obligation to sell electricity under Section 29 of the *Electricity Act* unless otherwise stated in its Licence;

“Sub-transmission Customer” or T-Class Customer – means an individual Customer that is typically served from Hydro One’s sub-transmission system whose monthly measured maximum demand (kW) averaged over the most recent calendar year, or whose forecasted monthly average demand over twelve consecutive months is less than 5000 kW;

“Sub-transmission Service” means a service related to the Distribution of electricity supplied at voltages above 13 kV, 3 wire but less than 50 kV, 3 wire for which a charge or Rate has been approved by the OEB;

“Sub-transmission System” means a system related to the Distribution of electricity supplied at voltages above 13 kV, 3 wire but less than 50 kV, 3 wire;

“Three Phase” means a system having three distinct alternating currents 120 degrees between each phase;

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“Unaccounted for Energy” means all energy losses that cannot be attributed to Distribution losses. These include measurement error, errors in estimates of Distribution losses and, energy theft and non-attributable billing errors;

“Unmetered Loads” means electricity consumption that is not metered and is billed based on estimated usage;

“Urban Density Zone” means an area containing 3,000 or more Customers with a line density of at least 60 Customers per kilometre. All classes of Customers are included in the density count;

“Wholesale Market Participant”, means a person that sells or purchases electricity or ancillary services through the IMO administered markets.

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## Appendix A

### A. Description of Certain Agreements

#### I. Connection and Cost Recovery Agreement

Section 2.1.7B. of the Conditions of Service describes the Customers that are required to enter into a Connection and Cost Recovery Agreement (the “CCRA”) with Hydro One. Key provisions in the CCRA are:

- a description of the work to be performed by Hydro One including specifications such as capacity and voltage range and work to be performed by the Customer;
- final ownership demarcation for Connection;
- requirement that Customer obtain all necessary approvals for the construction and Connection, including ESA approval, except where specifically noted that Hydro One is obligated to obtain the approval;
- property requirements, e.g. easements;
- requirement that both parties perform their work in accordance with Good Utility Practice, in compliance with the Conditions of Service, the Distribution System Code, all Applicable Laws and using duly qualified and experienced people;
- an estimate of the cost (plus applicable taxes) of the work to be performed by Hydro One;
- capital contribution requirements (if any) and associated payment schedule;
- annual revenue requirements to be met by Customer including financial and non-financial default conditions;
- true-up methodology and applicability for capital contribution and revenue guarantee(s) to reflect the difference between the actual cost and the estimate;
- Customer may be required to furnish security satisfactory to Hydro One, including deposit;
- liability to each other limited to damages that arise directly out of the wilful misconduct or negligence in meeting their respective obligations under the CCRA;
- deferral, cancellation or termination clauses that the Customer pays Hydro One for the cost of the work performed to date and the cost associated with the winding up of the work; and
- a requirement to execute certain other agreements before the actual Connection is made, e.g. a Connection Agreement.

#### II. Customer Service Contract

If the Customer is not required to execute a CCRA, the Customer will be required to execute a Customer Service Contract. Key provisions of the Customer Service Contract are:

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- a description of the work to be performed by Hydro One including specifications such as capacity and voltage range and work to be performed by the Customer;
  - final ownership demarcation for Connection;
  - requirement that Customer obtain all necessary approvals for the construction and Connection, including ESA approval, except where specifically noted that Hydro One is obligated to obtain the approval;
  - property requirements, e.g. easements;
  - requirement that both parties perform their work in accordance with Good Utility Practice, in compliance with the Conditions of Service, the Distribution System Code, all Applicable Laws and using duly qualified and experienced people;
  - an estimate of the cost (plus applicable taxes) of the work to be performed by Hydro One;
  - a requirement that the Customer reimburses Hydro One for costs and expenses in certain circumstances e.g. where the Customer changed the condition of the Service Location or the Electrical System;
  - Hydro One and the Customer only liable for damages that arise directly out of the wilful misconduct or negligence and HONI's total liability is limited to the aggregate amounts paid for the Work by the Customer to the date of such negligent act or wilful misconduct.

### **III. Subdivision Agreement**

Developers are required to execute a Subdivision Agreement in respect of the Connection of a subdivision to the Distribution System. Key provisions of the Subdivision Agreement are:

- a description of the work to be performed by Hydro One, including inspection of Developer's contractor's work;
- detailed description of the work to be performed by the Developer;
- requirement that Developer obtain all necessary approvals for the construction and Connection, including ESA approval, except where specifically noted that Hydro One is obligated to obtain the approval;
- property requirements, e.g. easements;
- an estimate of the cost (plus applicable taxes) of the work to be performed by Hydro One;
- security deposit and capital contribution requirements;
- requirement that Developer provide evidence of Developer's proposed contractor's previous experience and satisfactory performance prior to contractor beginning the installation of the Electrical Distribution System;
- obligation to transfer Electrical Distribution System and the Line Extension constructed by the Developer to Hydro One free and clear for one dollar;
- Developer required to warrant the Electrical Distribution System and the Line Extension constructed by the Developer to be free from defects for two (2) years following energization and must provide a letter of credit to secure these obligations;

- Hydro One’s liability limited to damages that arise directly out of the wilful misconduct or negligence of Hydro One; and
- Developer to maintain certain specified types of insurance with minimum limits during term of the Subdivision Agreement.

**IV. Connection Agreements (Load, LDC, Embedded Generator > 10 kW):**

Section 2.1.7C. of the Conditions of Service describes the Customers that are required to enter into a Connection Agreement with Hydro One. The Distribution Connection Agreement sets out the terms upon which Hydro One has agreed to offer and the Customer has agreed to accept connection service. Key provisions and requirements of Hydro One’s Connection Agreement are:

- Terms, conditions and obligations of the parties as prescribed under the Distribution System Code;
- lists all necessary contact names and telephone numbers of both parties to ensure proper communication;
- the demarcation of the ownership and operating control of equipment as between Hydro One and the Customer;
- description of the language and procedures to be used for communications between the parties in normal and emergency situations;
- technical description of the Customer’s installed protection equipment;
- the single line diagram provided by the Customer that identifies the interface of the Customer's facilities with the Distribution System;
- the description of the metering information;
- the tariff applications by supply point as well as payment requirements;
- the levels of maintenance and testing to be performed by both parties;
- the circumstances under which the Customer can be disconnected from the Distribution System for financial or non-financial defaults;
- the specific technical requirements applicable for a particular type of Customer:
  1. Load Customers: includes Hydro One’s requirements with respect to disconnection devices, system design and protection, metering and grounding, capacity of each connection point, motor size and starting and operating requirements;
  2. Embedded Generators > 10 kW: includes Hydro One’s requirements with respect to disconnection devices, step-up transformers, instrument transformers, protection systems, fault levels and protection coordination, telecommunications, metering, grounding, commissioning and verification of generation facilities, provision of as-built drawings; and
  3. Embedded LDC’s: includes Hydro One’s requirements with respect to disconnection devices, protection and coordination and metering as well as the data to be provided by the Embedded LDC when making requests for additional supply, capacity of each embedded connection point, requirements for load forecast information to be provided by LDC for each connection point for use in supply

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- planning studies, and may include specific thresholds for embedded load connections, e.g. load/motor sizes, for system impact assessment studies;
  - performance requirements for various power quality items such as voltage variations, unbalances, voltage and current harmonics;
  - for most Customers, description of metering, instrument transformer, meter programming and meter communications requirements as well as specification of site specific losses;
  - the name of the Customer’s Registered Meter Service Provider; and
  - settlement terms for Embedded Generators > 10 kW, where generator accepts Standard Supply Service from Hydro One and Hydro One purchases power from the Embedded Generator, including, Embedded Generator contact names for settlement purposes and banking information for automated transfers.

**V. Connection Agreements (Micro-Embedded Load Displacement Generator ≤ 10 kW)**

Section 2.1.7.C of these Conditions of Service describes the Customers that are required to enter into a Connection Agreement with Hydro One. A micro-embedded load displacement generation facility must enter into a standard Connection Agreement prior to connection to the Distribution System. The standard Connection Agreement is as prescribed in the Distribution System Code, Appendix E “Micro-Embedded Load Displacement Generation Facility Connection Agreement”.

**VI. Read Only Access Agreement To Interval Meters**

If a Customer who is not a Market Participant requires remote electronic access to their interval meter recorders, the Customer must execute a Read Only Access Agreement (“ROA”). The ROA allows Customers to have remote electronic access to their interval meter recorders for the purposes of obtaining kilowatt hour and kilovar hour billing meter quantities. Key provisions of the ROA Agreement are:

- Customer is only permitted to use software, at their expense, and communications protocols, specifically approved by Hydro One;
- Customer access is limited to daily interrogations, within a time frame specified by Hydro One;
- Hydro One does not provide assistance for reading or interpretation of Metering Information; and
- Customer may only have one third party, who has been approved by Hydro One, to have remote access to the metering data on its behalf.

**VII. Access Agreements**

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Customers requiring on-going access to Hydro One Facilities and Equipment to operate or maintain Distribution equipment including wholesale revenue metering must enter into an Access Agreement. Key provisions of an Access Agreement are:

- requirement to comply with Hydro One’s security protocol and Access Policy and Procedures;
- requirement to provide a list of employees, temporary employees, agents, subcontractors and licencees (the “Customer Personnel”) requiring access;
- Customer responsible for ensuring that Customer Personnel have adequate Electrical Safety Awareness Training;
- Customer required to use the contact number provided by Hydro One to enter and exit Distribution facility;
- describes the limitations on access within operational areas within the Distribution facility; and
- Customer is responsible for any and all losses to persons (including death) including Customer personnel or property when accessing the specified Hydro One Facilities and Equipment.

**B. How to Obtain Copies of the Above-Referenced Agreements**

To obtain a copy of any of the above-referenced agreements, please contact Hydro One during its normal business hours: Monday to Friday from 7:30 am to 8 pm. E.T. at 1-888-664-9376. You will be directed to the appropriate Distribution Account Executive or Distribution Planner.